Final Record of Decision

United States
Department of
Agriculture

Forest Service

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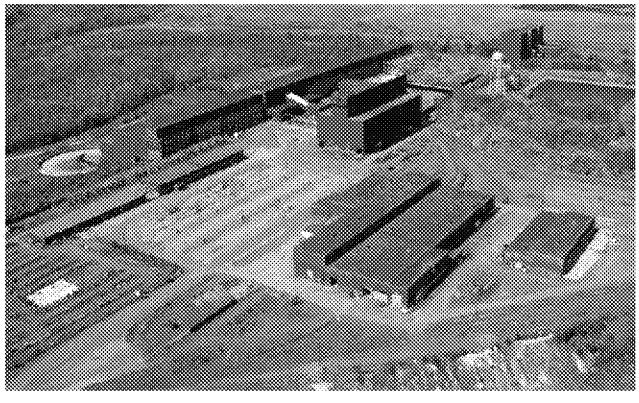
NorthMet Project Land Exchange

Superior National Forest

St. Louis and Lake Counties, Minnesota



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Introduction

This Final Record of Decision (final decision or Final ROD) documents the decision for a land exchange between Poly Met Mining, Inc. (PolyMet) and the Superior National Forest and is based on the Final Environmental Impact Statement (FEIS) for the NorthMet Mining Project and Land Exchange. The lands considered for conveyance to PolyMet are National Forest System (NFS) lands and administered as part of the Superior National Forest. The lands are underlain by the NorthMet ore body.

PolyMet controls the mineral rights to the NorthMet ore body through long term mineral leases and proposes to build an open-pit mine to recover these minerals. The United States owns the remainder of the property rights, including the surface that would be removed to access the minerals as proposed by PolyMet.

This land was purchased by the United States Forest Service (USFS), for National Forest purposes, under the authority of the Weeks Act. The USFS has taken the position that the mineral rights that were reserved when lands were conveyed to the United States in 1935 do not include the right to surface mine as proposed by PolyMet. Due to the inconsistency between National Forest management objectives and PolyMet's intended mining operations, in the absence of such an exchange, the Forest Service is not willing or able to authorize such private, surface mining operations on lands of the Superior National Forest.

PolyMet disagrees with the USFS position and argues that the mineral rights it seeks to utilize provide for access to the minerals by any mining method, including open pit or surface mining. This conflict raises the possibility of litigation that has no certain outcome and could set a judicial precedent regarding other Weeks Act lands acquired in the same deed.

A land exchange would eliminate this fundamental conflict.

A final decision on the land exchange will not authorize PolyMet's mining proposal to occur. Other governmental entities have the responsibility and authority to make decisions related to permitting the mining project, primarily the State of Minnesota and the U.S. Army Corps of Engineers (for specific permits, see FEIS Table 1.4-1). The Forest Service assumes no responsibility for enforcing laws, regulations or policies under the jurisdiction of other governmental agencies.

In the land exchange, the federal government will acquire other land that will be managed as a part of the Superior National Forest and maintain surface resources that can be managed for multiple resource values.

My decision is limited to whether or not to authorize the land exchange pursuant to 36 CFR 254 Subpart A. This document describes my decision, rationale for the decision, and alternatives considered in reaching the decision on the land exchange.

Purpose and Need for the Land Exchange

The purpose and need for the land exchange is to eliminate the conflict between PolyMet's desire to surface mine and the USFS ownership and management of NFS lands, by exchanging federal lands for non-federal lands that have equal value. Section 3.3 of the FEIS provides a detailed description of the proposed land exchange. As stated at FEIS Section 1.3.2.2:

> "The purpose for the USFS is to meet desired conditions in the Superior National Forest Land and Resource Management Plan (Forest Plan) (USFS 2004b), including ensuring the proposed land exchange Proposed Action eliminates existing conflict and ensuring mineral resources are produced in an environmentally sound manner contributing to economic growth.

In regards to desired conditions for land exchange and mineral development, the Superior National Forest's Forest Plan includes the following direction:

> "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)

> "D-MN-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." (Forest Plan, Minerals, pg. 2-9)

PolyMet intends to exercise private mineral rights that were reserved when lands were conveyed to the United States and has proposed the development of a surface mine. This land was purchased by the USFS, for National Forest purposes, under the authority of the Weeks Act. The USFS has taken the position that the mineral rights that were reserved do not include the right to surface mine as proposed by PolyMet. PolyMet disagrees with the USFS position and argues that the mineral rights it seeks to utilize provide for access to the minerals by any mining method, including open pit or surface mining. This conflict raises the possibility of litigation that has no certain outcome and could impact tens of thousands of acres of other National Forest System lands conveyed under the same deeds. A land exchange would resolve this fundamental conflict.

In the absence of such an exchange, the Forest Service is not willing or able to authorize such private, surface mining operations on lands of the Superior National Forest, due to the inconsistency between National Forest management objectives and PolyMet's intended mining operations.

The Forest Service is willing to consider conveying the land to PolyMet in exchange for land of equal value that would become a part of the Superior National Forest. Such an exchange would give PolyMet the property rights it needs to pursue its surface mining proposal, while at the same

time allowing the Forest Service to be compensated by acquiring other land, of equal value, that could be managed as a part of the Superior National Forest. See Section 2.3.3 for more information."

Setting

Northeastern Minnesota is beautiful. People want to live here, raise families, earn livings, and enjoy their lives. People want to come here to rejuvenate and recreate. Lives here are connected to the land economically, emotionally, and spiritually. People care what happens to their communities and their environment.

Northeastern Minnesota is unique. Its forests are diverse, widespread, scenic, and full of water. Water permeates and distinguishes the forests' ecological qualities. Our forests may be defined by mixtures of conifers and hardwoods, but they are special because of the thousands of lakes, streams, and wetlands. Water is always very close, flowing on and below the surface, flowing to either side of the Laurentian Divide to Lake Superior or Hudson Bay.

This amazing ecological landscape was the catalyst for the establishment of the Superior National Forest, a large part of the ecologic and economic landscape in northeastern Minnesota. Throughout its existence, the Superior has had an important role in the region's forestry, recreation, wildlife, fishery, wilderness, and mineral resource management. Beginning in 1909, by a series of Presidential proclamations, about 42% of current Superior National Forest lands were reserved from the public domain. As such, they have been continuously owned by the United States. The remaining 58% of Superior National Forest lands were acquired through purchase, donation or exchange. These lands were patented (first conveyed) by the United States to non-federal owners. Thereafter, title was transferred between non-federal parties, until the lands were again acquired by the United States to administer as part of the NFS. After land has been patented, it is possible for individual property rights to become separated through a deed reservation or conveyance of a partial interest. In Minnesota, it is not uncommon for mineral rights to have been historically severed from the remainder of property. The result is that the mineral interests are held by someone other than the surface owner.

The Secretary of Agriculture is granted the authority to acquire lands through various acts of Congress. On the Superior National Forest, many lands were purchased pursuant to the Act of March 1, 1911, also known as the Weeks Act. 16 USC 515. This 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. It also authorizes the exchange of national forest land or timber having acquired land status for non-Federal lands. 16 USC 516. All of the national forest lands in the federal parcel proposed for exchange in this project have Weeks Act status pursuant to The Weeks Act Status for Certain Lands Act of September 2, 1958 (16 USC 521a).

Non-Ferrous Mining Proposed

Northeastern Minnesota holds the Mesabi Iron Range. For nearly 10,000 years Native Americans in the western Lake Superior basin quarried and produced tools from silica-rich lithics (stone) such as Knife Lake Siltstone and cherts from the Gunflint and Vermilion Iron Formations. In addition, Native Americans also extracted and produced tools and non-utilitarian items from near-surface copper deposits along the shores of Lake Superior and utilized glacially redistributed copper in a much wider area.

For the past 100 years commercial iron (ferrous) mining and mineral exploration have also been economic forces and ways of life here. Iron Range mining is clearly evident across the region and a prominent part of the landscape. Exploration activities are well known and they have identified extensive copper-nickel deposits within the Duluth Complex geologic formation. The Duluth Complex extends across the region arcing from Duluth to Hoyt Lakes, crossing the United States-Canadian border, to Thunder Bay, Ontario. It contains one of the world's largest known undeveloped accumulations of copper-nickel-platinum-group-metals (PGMs).

Most of the known copper-nickel-PGMs in the complex are found in dispersed deposits along the northern margin of the complex. NorthMet is one of these deposits and it is the first site in Minnesota proposed for extracting commercial, non-ferrous, metals from the Duluth Complex. PolyMet controls 100 percent of the NorthMet ore body through long-term mineral leases. The company proposes to build an open-pit mine to recover these metals.

Overview of Agency Consideration for the Proposed Mining

Between 2005 and 2009, the U.S. Army Corps of Engineers (USACE) and the Minnesota Department of Natural Resources (MDNR), as Co-leads evaluated PolyMet's original mining proposal (see Figure Final ROD-1). This process culminated in October 2009 with the publication of the NorthMet Project Draft Environmental Impact Statement (DEIS) that analyzed the project as it was then proposed by PolyMet. After issuing the DEIS, the Co-lead Agencies—responding to public, other state and federal agencies' comments and concerns, including the United States Environmental Protection Agency and tribal government—developed an alternative proposal in consultation with PolyMet that sought to resolve several major environmental concerns and permitting barriers raised during the DEIS process. This alternative was subsequently adopted by PolyMet and became the current NorthMet Mining Project Proposed Action. During review of the DEIS it was determined that the land exchange was a connected action to the mining proposal. Under state and federal regulations, multiple actions or projects that are connected actions must be considered in total in preparing an EIS[1]. As a result,

[1] Connected actions are described in the Council on Environmental Quality NEPA Regulations at 40 CFR 1508.25 as: "(1) Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they: (i) Automatically trigger other actions which may require environmental impact statements. (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously. (iii) Are interdependent parts of a larger action and depend on the larger action for their justification."

in 2010, the USFS joined as a third Co-lead Agency for the purpose of analyzing the Land Exchange Proposed Action as a connected action to the mining proposal. Since that time, the three Co-lead Agencies have engaged in a joint federal-state process to consider PolyMet's project proposal and the land exchange (see Figure Final ROD-1). Coincident review of these connected actions contributed to the Co-lead Agencies' decision to prepare a Supplemental Draft Environmental Impact Statement (SDEIS). The SDEIS included updated analysis of environmental impacts based on the revised NorthMet Mining Project Proposed Action and added the Land Exchange. It was published in December 2013 and public comments were solicited during a 90-day comment period ending in March 2014.

The Final Environmental Impact Statement (FEIS) was developed to address public comments received on the SDEIS and to inform the completion of the Co-lead Agencies' EIS process under the National Environmental Policy Act (NEPA) and the Minnesota Environmental Policy Act (MEPA).

Guidance in the Forest Service Land Exchange Handbook 5409.13, Section 33.41 states:

> 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.

The FEIS discloses the effects of the land exchange and the mining project and informs my decision on the land exchange.

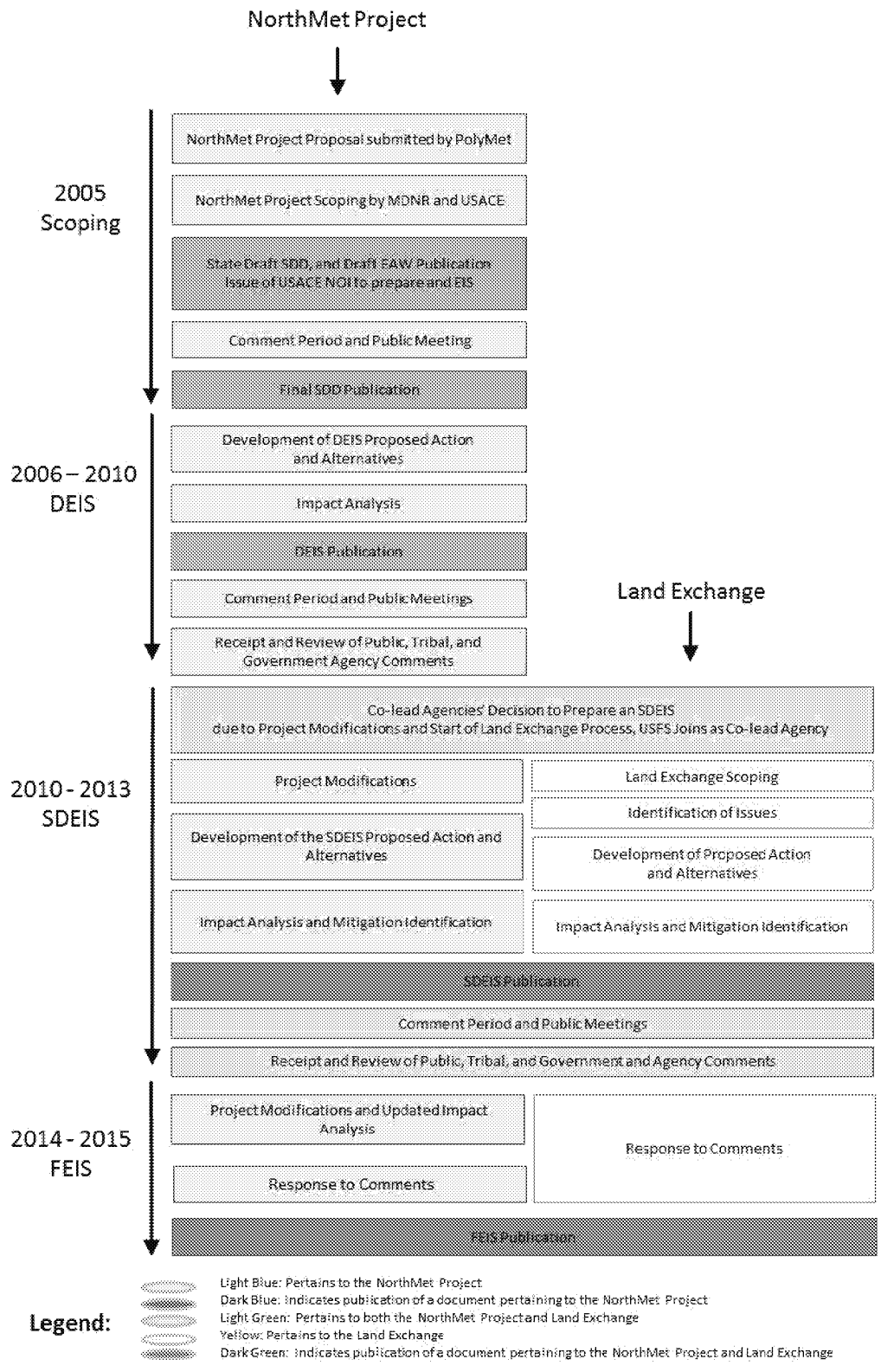

Figure Final ROD-1. NorthMet Mining Project and Land Exchange EIS Development Process

The Decision

Throughout this decision, the real estate parcels are described using General Land Office (GLO) acreages and aliquot parts. The General Land Office (now incorporated into the Bureau of Land Management) was an office of the United States government in charge of the survey, sale or other disposition, and patenting of public lands. GLO surveys are the official record of the boundaries and contents of public lands. For this reason, the legal land descriptions of the parcels considered for exchange are based on GLO records. Such records may not match the acreage of effects analysis presented in the FEIS because those analyses were performed using Geographic Information System ("GIS") data. GIS data are computed geometrically using mapping software. They provide a reasonable estimate of effects and the differences between alternatives. In this decision, unless acreage figures are noted as GLO, they are GIS acres based on effects analysis in the FEIS. Acreage figures are described in whole numbers in this decision; a summary of land parcels may be found in Final ROD Table 1. The complete legal description of the lands is attached in Final ROD Appendix A (federal lands) and Final ROD Appendix B (non-federal lands).

The FEIS Land Exchange Proposed Action includes five non-federal tracts and one federal tract for exchange (see FEIS Section 3.3.2 and FEIS Table 3.3-2). My decision is to implement the Land Exchange Proposed Action with modification.

Based on the current real estate appraisal, the Land Exchange Proposed Action was modified. The one modification I am making to the Land Exchange Proposed Action is that Tract 5, McFarland Lake, is not included in the exchange. The Land Exchange Proposed Action as modified includes the acquisition of four of the non-federal tracts in exchange for the federal tract. By eliminating Tract 5, the Land Exchange Proposed Action as modified reduces the cash equalization payment under equal value requirements of 36 CFR 254.3. Tract 5 was identified as lowest priority in part because it has no wetlands which would help meet the requirements of Executive Order 11990 regarding no net loss of wetlands to the federal estate (Non Federal Parcel Prioritization document, project record). Dropping additional tracts to completely eliminate the need for any cash equalization is not possible as the remaining tracts are necessary to meet Executive Order 11990 (Forest Service Land Exchange Handbook 5409.13, Section 33.43c). See Final ROD Table 1 and Final ROD Map 1 for the tracts included in my decision.

Specifically, my decision for the Land Exchange Proposed Action as modified includes[2]:

1. The United States will convey 6,650 acres (GLO) of federal land located in St. Louis County, Minnesota. Final ROD Table 1 and Final ROD Map 2 provide detailed information on the size and location of the federal tract.

[2] FEIS Section 3.3.2.1 provides further details on the federal tract and FEIS Section 3.3.2.2 provides further details on the non-federal Tracts 1, 2, 3 and 4.

2. The United States will acquire 6,690 acres (GLO) of non-federal lands. Final ROD Table 1 and Final ROD Maps 3 and 4 provide detailed information on name, size, and location of the non-federal tracts.

3. Existing reservations and third party equities on the federal tracts include the following list[3]. The footnotes explain what will occur under my decision:

   - FLPMA Road Easement issued to Northshore Mining Corp.[4]
     T59N, R13W Sections 4 &5
     T60N, R13W Sections 33 & 34

   - FLPMA Power Transmission Line issued to Northshore Mining Corp.[5]
     T59N, R13W Sections 4 &5
     T60N, R13W Sections 33 & 34

   - Electric Transmission Line issued to Minnesota Power[6]
     T59N, R13W Sections 17 & 18

4. Final implementation of the land exchange is contingent upon a 30-day oversight by the House Committee on Agriculture and the Senate Committee on Agriculture, Nutrition, and Forestry (Section 17(b) of the National Forest Management Act of 1976). In addition, Secretary of Agriculture approval is required for Weeks Law land exchanges when the value of the Federal land is $250,000 or more (FSH 5409.13 Section 35.1).

5. This land exchange meets the value requirements of 36 CFR 254.3. For the Land Exchange Proposed Action as modified, the value of the non-federal lands is within 25% of the value of the federal land (FSH 5409.13 Section 34.1). The federal lands have an appraised value of $3,658,000 and the non-federal lands have an appraised value of $4,083,000. A cash equalization payment of $425,000 will be made to the non-federal party as provided under 36 CFR 254.12. The cash equalization that will be made as part of this decision is 11.6 percent of the value of the federal land.

6. Most mineral rights within the federal lands to be exchanged are privately held. The United States owns 181 acres (GLO) of mineral rights on lands that are not part of the NorthMet Mining Project Proposed Action mine pits but are included in the exchange.

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[3] There are no existing reservations or third party equities on the non-federal tracts.
[4] PolyMet has agreed to honor existing uses by Northshore Mining Corp. The Forest Service authorization will be terminated.
[5] PolyMet has agreed to honor existing uses by Northshore Mining Corp. The Forest Service authorization will be terminated.
[6] PolyMet has agreed to honor the existing use by Minnesota Power. The Forest Service authorization will be amended to remove the section that crosses federal land to be exchanged.

The USFS will reserve these federal mineral rights, which are located near the eastern boundary of the federal lands north of Dunka Road and near the southeast corner of the federal lands south of Dunka Road (see FEIS, Figure 3.2-3).

7. The United States will acquire mineral rights on the Hunting Club lands (Tract 4). Mineral rights on Tracts 1, 2 and 3 will remain held by non-federal parties after the United States acquires the surface ownership.

Final ROD Table 1. Description and Acreage of Tracts[7] Included in the Land Exchange Proposed Action as Modified Decision

Tract	Parcel Name	Description (4th P.M.)	Total Acres (GLO)
Federal lands		T.60N., R13W (Secs. 33-35) T.59N, R.13W (Secs. 1-6) T.59N, R.12W (Sec. 6) T.59N, R.13W (Secs. 7-12) T.59N, R.12W (Sec. 7) T.59N, R.13W (Secs. 17, 18)	6,650.2
Non-federal lands			6,690.4
Tract 1	Hay Lake Lands	T.59N, R.16W (Secs. 9, 16, 19, 20-22, 27-33)	4,651.5
Tract 2	Lake County North	T.57N, R.11W (Secs. 5, 6)	199.5
	Lake County South	T.56N, R.9W (Sec. 17)	120.0
Tract 3	Wolf Lands 1	T.57N, R.11W (Sec. 8)	120.0
	Wolf Lands 2	T.58N, R.10W (Secs. 15, 22)	760.0
	Wolf Lands 3	T.59N, R.9W (Secs. 30, 31)	279.4
	Wolf Lands 4	T.59N, R.9W (Secs. 7, 8, 17, 18)	400.0
Tract 4	Hunting Club Lands	T.66N, R.17W (Sec. 7)	160.0

[7] See Final ROD Appendices A (federal lands) and B (non-federal lands) for land lists which include legal descriptions.

Rationale for the Decision

In describing this decision, I considered the environmental effects of each alternative disclosed in the FEIS for the land exchange and the mining project. I considered how well each alternative would meet the USFS's Purpose and Need identified in Section 1.3.2.2 of the FEIS. I have consulted with tribal governments about their interests regarding land in the 1854 Ceded Territory. I have carefully reviewed the project record, including the comments submitted on the scoping report and the SDEIS. I considered all of the issues raised, scientific information in the project record, resource specialist input to the FEIS, competing interests and values of the public, and the interactions between various resources and interests following the direction of 36 CFR 254, Subpart A.

As I considered the analysis in the FEIS and the project record, including the Major Differences of Opinion (FEIS Chapter 8 and Appendix C), along with public comments, I recognize that large scale mining operations such as the proposed NorthMet mine are not without inherent risk and uncertainty. I also recognize that as I craft this decision there are unknowns, such as the myriad of final permitting and financial assurance specifications for mining activities on the land to be conveyed. However, through the permitting process administered by the U.S. Army Corps of Engineers, Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, Minnesota Department of Health and other government entities; legal requirements for the protection of the environment and human health and financial assurance will be met (FEIS Section 1.4.4 and Table 1.4-1; FEIS Table 7.2.4-1).

Compliance with regulation and law related to development, construction, operation and reclamation of mining activities on the land to be conveyed is not discretionary and my reasonable assumption as I move forward with consideration of the effects and decision on the land exchange is that the mandatory requirements of relevant policy, regulation and law related to the mining project will be met. Fulfillment of these responsibilities, as described in the FEIS, is a premise of the environmental effects concerning reasonably foreseeable future use of the federal land to be conveyed to PolyMet under the land exchange. The NEPA requires a "hard look" at potential effects using available information. For this decision I particularly looked to the analysis in the FEIS related to potential impacts from the mining project on remaining National Forest System lands to inform my decision. I believe the FEIS and project record provide that hard look, disclosing potential effects of the construction, operation and reclamation of the proposed mine and of the land exchange. In addition, the FEIS describes monitoring requirements and potential mitigation measures related to the mining project which will ensure continued compliance with regulatory requirements and future protection of National Forest System resources from mining impacts.

While the State of Minnesota, the U.S. Army Corps of Engineers and other government entities will use their own criteria and their distinct regulatory authorities to make their determinations after my decision is made, the FEIS and existing body of law provide the information I need to

make a reasoned choice among the alternatives and an informed decision on the land exchange at this time.

Forest Plan Direction and Purpose and Need

The land exchange meets the Purpose and Need by meeting desired conditions in the Superior National Forest Land and Resource Management Plan (Forest Plan) (USFS 2004b), including ensuring the land exchange eliminates existing conflict (D-LA-1, Forest Plan p. 2-51). Further guidelines for land exchanges to meet the intent of D-LA-1 are described in Forest Plan Guidelines G-LA-2 and G-LA-3. The land exchange also meets the Purpose and Need by ensuring mineral resources are produced in an environmentally sound manner contributing to economic growth (D-MN-2, Forest Plan p. 2-9).

Forest Plan Desired Condition D-LA-1 states:

> "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, p. 2-51)

Forest Plan Guideline G-LA-2 provides priorities to guide land acquisitions (Forest Plan pp. 2-51 to 2-52):

> Priority 1 (a, b, and c are not listed in order of importance)
>
> 1(a) Land needed for habitat for federally listed endangered, threatened, proposed, or candidate species or for Regional Forester Sensitive Species.
>
> 1(b) Land needed to protect significant historical and cultural resources, when these resources are threatened or when management may be enhanced by public ownership.
>
> 1(c) Land needed to protect and manage administratively or Congressionally designated, unique, proposed, or recommended areas.
>
> Priority 2 (a thru f are not listed in order of importance)
>
> Key tracts that would promote more effective management and would meet specific needs for management, such as:
>
> 2(a) Land that enhances recreation opportunities, public access, and aesthetic values.
>
> 2(b) Land needed to enhance or promote watershed restoration or watershed improvements that affect the management of NFS land riparian areas.
>
> 2(c) Environmentally sensitive and/or ecologically rare lands and habitats.

2(d) Wetlands.

2(e) Land and associated riparian ecosystems on water frontage such as lakes and major streams.

2(f) Land needed to achieve ownership patterns that would lower resource management costs.

Priority 3

3(a) All other land desirable for inclusion in the National Forest System.

Guideline G-LA-3 provides priorities to guide land conveyances (Forest Plan, pp. 2-52):

The following National Forest System land is generally not needed for other resource management objectives and is potentially available for conveyance through exchange or other means (not listed in order of importance).

(a) Land inside or adjacent to communities or intensively developed private land, and chiefly valuable for non-National Forest System purposes.

(b) Parcels that would serve a greater public need in state, county, city, or other federal agency ownership.

(c) Inaccessible parcels isolated from other National Forest System land and intermingled with private land.

(d) Parcels that would reduce the need for landline maintenance and corner monumentation, result in more logical and efficient management, and improve land ownership pattern.

(e) Tracts that would be difficult or expensive to manage due to right-of-way problems, complex special use permits, or tracts with significant property boundary issues.

(f) On a case-by-case basis, land beneath or adjacent to resorts and summer home groups, currently under special use permits, may be considered for conveyance.

In regards to desired conditions for mineral development, the Forest Plan states:

"D-MN-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." (Forest Plan, Minerals, p. 2-9)

My decision to implement the Land Exchange Proposed Action as modified conveys land to PolyMet in an equal value exchange (land plus an equalization payment) for land that will become part of the Superior National Forest. This exchange eliminates the conflict between the

USFS surface management and PolyMet's proposal to surface mine, meeting the intent of Forest Plan Desired Condition D-LA-1.

My decision further meets Forest Plan Desired Condition D-LA-1 in the following ways:

- Results in a 40-acre (GLO) net gain in NFS lands (Final ROD Table 2. Final ROD Table 2 displays details about outcomes of the Proposed Action as modified).
- Improves the spatial arrangement of NFS lands by reducing the amount of ownership boundaries to be managed by 33 miles (Final ROD Table 2).
- Improves management effectiveness by exchanging federal lands with no public overland access for non-federal lands that will overall have public overland access, especially for Tracts 1 and 4 (Final ROD Table 2; see also FEIS Section 5.3.11).
- Results in federal cost savings by eliminating two easements and their associated administration costs (see **The Decision**).

The non-federal lands to be acquired meet several of the priorities identified in Forest Plan Guideline G-LA-2. Tract 1, the Hay Lake tract, meets G-LA-2 Priority 1(c) criteria by adding 307 acres to the administratively proposed candidate Research Natural Areas (FEIS Table 5.3.1-1). Candidate Research Natural Areas (cRNA's) are managed by preserving and maintaining areas for ecological research, observation, genetic conservation, monitoring, and educational activities (Forest Plan pp. 3-34 and 3-37). The Hay Lake tract also meets several G-LA-2 Priority 2 criteria for public access, watershed protection, ecologically rare habitats, wetlands, water frontage, and improved ownership patterns. Tracts 2, 3 and 4 meet G-LA-2 Priority 2 criteria for access, wetlands, and improved ownership patterns (FEIS Section 3.3.1.1).

The federal tract to be conveyed meets several of the priorities identified in Forest Plan Guideline G-LA-3. The federal tract to be conveyed is adjacent to intensively developed private land including ferrous mining areas, meeting G-LA-3(a). The federal tract has no public overland access, is mostly isolated from other National Forest System land, and is mostly surrounded by private land; meeting G-LA-3(c). Landlines will be reduced through conveyance of the federal parcel, specifically by including the lands to the west of the mining area, meeting G-LA-3(d). Two easements will be eliminated, meeting G-LA-3(e). See FEIS Section 3.3.1.1.

Issues raised during the objection process included concerns relating to Forest Service compliance with the NEPA regulations[8] (i.e., avoiding or minimizing environmental harm). In response the Reviewing Officer of those objection concerns provided instruction to include information stating that all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted. Final ROD Appendix C section C.2.5 identifies that

[8] 40 CFR § 1505.2(c): State whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not. A monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation.

information in the FEIS and also addresses the monitoring and enforcement of mitigation avoiding and minimizing environmental harm.

All practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, meeting direction under 40 CFR 1505.2(c). Mitigation measures to avoid or minimize environmental harm are identified and incorporated in the analysis disclosed throughout the FEIS.

FEIS Section 3.2.2 NorthMet Project Proposed Action states that the NorthMet Project Proposed Action has been defined by PolyMet Project Description Version 9 (PolyMet 2015a) and includes design elements and mitigation measures identified in the management plans described within the section. These management plans contain mitigation measures that are part of the NorthMet Project Proposed Action and would be adjusted as appropriate during final design and permitting.

Monitoring efforts incorporated into the NorthMet Proposed Action are in the management plans identified in FEIS section 3.2.2. These plans include:

- Wetland Management Plan (PolyMet 2015c)
- Air Quality Management Plan – Mine (PolyMet 2014m)
- Air Quality Management Plan – Plant (PolyMet 2014n)
- Rock and Overburden Management Plan (PolyMet 2015h)
- Water Management Plan – Mine (PolyMet 2015r)
- Water Management Plan – Plant (PolyMet 2015i)
- Flotation Tailings Management Plan (PolyMet 2015n)
- Residue Management Plan (PolyMet 2014r)
- Reclamation Plan (PolyMet 2015g)

In addition, FEIS section 3.2.3.3.4 Refinement of the Proposed Action after the 2013 SDEIS identifies increasing the number of bedrock monitoring wells north of the Mine Site to monitor bedrock groundwater elevations and understand bedrock groundwater flow direction. Section 5.2.2.3.6 Monitoring provides detailed information on monitoring efforts related to water analysis shown in section 5.2.2.

The FEIS also discloses that the mining project will contribute to the regional economy and provide job opportunities (FEIS Section 5.2.10 Summary). While my decision is for the land exchange only, the future use on the conveyed land, the NorthMet Mining Project, meets the intent of Forest Plan Desired Condition D-MN-2.

Public Interest Determination

A land exchange may be approved only when the Forest Service determines that the proposed exchange is in the public interest. 36 CFR 254.13(a).

Pursuant to 36 CFR 254.3(b)(2), to determine that a land exchange "well serves the public interest," the Forest Service decision-maker must find:

> "(i) The resource values and the public objectives served by the non-Federal lands or interests to be acquired must equal or exceed the resource values and the public objectives served by the Federal lands to be conveyed, and
>
> (ii) The intended use of the conveyed Federal lands will not substantially conflict with established management objectives on adjacent Federal Lands, including Indian Trust lands."

In accord with 36 CFR 254.3(b), in my consideration of the public interest, I must give "full consideration:"

(1) "[T]o the opportunity to achieve better management of Federal lands and resources;"
(2) "[T]o meet the needs of State and local residents and their economies;" and
(3) "[T]o secure important objectives, including but not limited to"
    a. "[P]rotection of fish and wildlife habitats, cultural resources, watersheds, and wilderness and aesthetic values;"
    b. "[E]nhancement of recreation opportunities and public access;"
    c. "[C]onsolidation of lands and/or interests in lands, such as mineral and timber interests, for more logical and efficient management and development;"
    d. "[C]onsolidation of split estates;"
    e. "[E]xpansion of communities;"
    f. "[A]ccomodation of existing or planned land use authorizations (§ 254.4(c)(4));"
    g. "[P]romotion of multiple-use values;"
    h. "[I]mplementation of applicable Forest Land and Resource Management Plans;" and
    i. "[F]ulfillment of public needs."

This regulatory framework outlines and defines the relevant considerations for the public interest determination, including those environmental effects, as disclosed by the FEIS, which importantly inform my decision.

While my decision is only for the land exchange, I have considered the effects of both the mining project and the land exchange as documented in the FEIS in making this public interest determination. The effects of the mining project along with the conveyance of federal lands are considered for "the resource values and the public objectives served by the Federal lands to be conveyed" (36 CFR 254.3(b)(2)(i)) and "the intended use of the conveyed Federal lands" (36 CFR 254.3(b)(2)(ii)). The non-federal lands to be acquired are considered for "the resource values and the public objectives served by the non-Federal lands or interests to be acquired" (36 CFR 254.3(b)(2)(i)).

Effects of the Land Exchange are disclosed in the FEIS Sections 5.3 and 6.3 and are summarized in FEIS Section 7.3. In particular, Section 7.3.5 of the FEIS (especially Table 7.3.5-1 Public Interest Factors That Must be Considered for the Land Exchange Proposed Action) presents comparison of how the alternatives address the public interest factors for a land exchange. Effects of the Proposed NorthMet Mining Project are disclosed in FEIS sections 5.2 and 6.2 and summarized in section 7.2 (especially Table 7.2.4-1 Comparison of Environmental Consequences by Alternative).

Final ROD Table 2 displays how all of the public interest factors would be potentially affected by the Land Exchange Proposed Action as modified[9]. The public interest factors are affected in varying ways by the land exchange itself and by the proposed mining project on the conveyed lands. In making my public interest determination findings, I highlight outcomes related to public interest factors I find most relevant to the public interest determination for this land exchange.

Public Interest Determination-Findings (36 CFR 254.3(b)(2))

36 CFR 254.3(b)(2)(i)

I have given full consideration to the factors at 36 CFR 254.3(b) in making this required finding:

> "(i) The resource values and the public objectives served by the non-Federal lands or interests to be acquired must equal or exceed the resource values and the public objectives served by the Federal lands to be conveyed"

There are a variety of resources and values both on the lands conveyed and those acquired. In any land exchange there are clearly things "gained" by the federal estate and clearly things "lost" to the federal estate. The full consideration of the resource values and public interest objectives resulting from this exchange can be found in Final ROD Table 2 and in the FEIS. Below I highlight the consideration of several key factors I considered in the determination of 36 CFR 254.3(b)(2)(i).

Watersheds and Wetlands

I know that some people are concerned that the acres of wetlands on the acquired lands are not all within the St. Louis Watershed and as such do not serve as an adequate replacement for those wetlands lost due to construction of the mine. Mitigation will be required for wetland loss on the conveyed lands proposed to be mined (FEIS Section 5.2.3). The U.S. Army Corps of Engineers

[9] As discussed under **Findings Required by Other Laws-NEPA**, Final ROD Table 2 is very similar to FEIS Table 7.3.5-1.

will make a decision on issuing a permit for dredge and fill of wetlands, and all associated wetland mitigation requirements for Section 404 of the Clean Water Act.

Still, people are concerned that the federal land to be conveyed contains a large contiguous wetland complex with an intact upland. Such a complex offers additional value beyond simply the accounting of the number of acres (FEIS Section 5.3.3.1.2). The non-federal lands to be acquired also contain high quality wetlands with ecological value and are parts of larger intact wetland complexes (FEIS Section 5.3.3.1.2). Some of these wetlands will also receive protection under the candidate Research Natural Area designation in the Forest Plan. cRNA's are managed by preserving and maintaining areas for ecological research, observation, genetic conservation, monitoring, and educational activities (Forest Plan pp. 3-34 and 3-37). Loka Lake cRNA was established recognizing a high quality lowland black spruce and tamarack swamp (FEIS Section 5.3.4.2). This exchange will contribute 172 acres to Loka Lake cRNA and will result in a 505 acre net increase of wetlands to the federal estate.

Enhancement of Recreation Opportunities and Public Access

The federal parcel is mostly surrounded by private land, lacks public overland access and experiences little if any current recreation, hunting or gathering use. The acquired lands will overall have water and public overland access for recreation, hunting and gathering, especially Tracts 1 and 4. This contrast highlights the improvement in public access and recreation opportunities as an outcome of the land exchange (FEIS Sections 5.3.1 and 5.3.11).

My decision results in a net gain of 94 acres of public water lake with public water frontage available for public and tribal use. The frontage of Mud Lake is within the federal parcel being conveyed to PolyMet. Mud Lake has no overland public access. The frontage of Hay Lake and Little Rice Lake are being acquired in Tract 1. Both Hay Lake and Little Rice Lake will have public overland access for public and tribal use.

Cultural Resources

I understand there are cultural resources on the federal land that would be adversely affected by the mining project. While these effects will be addressed and mitigated in the Memorandum of Agreement through the National Historic Preservation Act Section 106 consultation process (see **Findings Required by Other Laws-National Historic Preservation Act**); I recognize that even with mitigation the mine adversely affects historic properties such as Mesabe Widjiu (Laurentian Divide), Spring Mine Lake Sugarbush, Beaver Bay – Lake Vermillion Trail Segment, Erie Mining Company Concentrator Building, and Erie Mining Company Landscape Historic District. I also recognize while there may be cultural resources on the non-federal parcels, they are not known at this time. The non-federal parcels have not been surveyed but would be prior to any ground disturbing management activities. Any cultural resources discovered on the non-federal parcels will receive greater protection under federal ownership than under current ownership (FEIS Section 5.3.9.2.2).

Consolidation of Lands, Efficient Management and Consolidation of Split Estates

As described in the **Purpose and Need**, there is a conflict between surface and mineral estates on the federal parcel. This conflict is eliminated by the land exchange. Not all of the non-federal lands to be acquired include the mineral rights. However, the risk of conflict between mineral and surface rights on the federal lands is high due to the presence of privately owned mineral rights and economically developable minerals and USFS surface ownership. My decision will reduce this risk by exchanging the high-risk federal lands for predominantly low-risk non-federal lands (FEIS Section 5.3.1.2.5). There is a low potential presence of subsurface mineral resources on the non-federal tracts (FEIS Section 5.3.1.2.5).

The exchange results in a net reduction of 33.3 miles of Forest boundary to be managed. Reducing boundary lines simplifies management of NFS lands (Final ROD Table 2).

The exchange results in federal cost savings by eliminating two easements and their associated administration costs (see **The Decision**).

Wildlife and Plants

One of the instructions that the Reviewing Officer included in her response to the objection concerns was related to the project's effects on Threatened and Endangered Species and Regional Forester Sensitive Species. The instructions to address these concerns were to review the project record and make the following adjustments as needed:

a) reconcile differences between the FEIS and the Biological Evaluation
b) provide context for the project's impacts on the species
c) clarify and/or provide the appropriate scale of the analysis.

Review of the project record indicated discrepancies between the FEIS and the BE and the need for clarification. Final ROD Appendix C section C.2.1 addresses these discrepancies in detail.

In the case of analysis for floating marsh marigold the FEIS and BE use the term "population" differently. While the FEIS is consistent in how it uses the term, the BE changes terminology and begins to interchange the term "population" for the word "cluster". Although the BE is confusing in its usage of terms, the effects determination of "may impact individuals but no trend to federal listing" remains accurate.

Final ROD Appendix C section C.2.1 also clarifies the context and scale used for the analysis for RFSS. For Superior National Forest BEs, the "planning area" (generally equivalent to the forest boundary) is typically the larger context against which the local impacts are compared because National Forests have been required to maintain the diversity of plant and animal communities and the persistence of native species in the plan area. In some instances the NorthMet Project BE used the state of Minnesota as the larger context which is a less appropriate choice. In Appendix C, APPC Table 1 addresses the RFSS plants known to be on the Federal lands in the project area

using the Superior National Forest boundary as the larger context. This information provides clarity on and context for the analysis for RFSS plants known to be on the Federal lands in the project area.

Four wildlife species with known occurrences at the mine site are identified in the BE that could be directly impacted by the NorthMet Mining Project Proposed Action. These species are northern goshawk, great gray owl, bald eagle and three-toed woodpecker. With plant species it is much easier to quantify known numbers of locations. With bird species it can be difficult to know an actual number of individuals in an area. However, we have monitoring estimates of number of nests/territories across the Superior National Forest and statewide for northern goshawk. We also have observations of great gray owl, bald eagle, and three-toed woodpecker nests.

While there are no known bald eagle or three-toed woodpecker nests on or near the federal lands to be exchanged, there are nests/territories for northern goshawk and great gray owl. Appendix C, APPC Tables 2 and 3 provide clarity on and context for the analysis for RFSS wildlife known to occur at the mine site, the Federal lands in the project area.

Other instructions that the Reviewing Officer included in her response to the objection concerns was to review effects on wildlife corridors, Threatened Endangered and Sensitive (TES), Regional Forester Sensitive Species (RFSS), and species of concern, and clarify tradeoffs involved with exchanging and acquiring land. Final ROD Appendix C section C.2.2 addresses this instruction in detail.

Wildlife Corridors
The FEIS discusses effects to wildlife corridors under 6.0 Cumulative Effects, section 6.2.5.4.2 Wildlife Travel Corridors. Final ROD Table 2 summarizes those effects. The FEIS shows that the NorthMet Project Proposed Action would impact two of 18 (10%) mapped wildlife corridors.

From initiating operations through reclamation at year 20, the two corridors would be minimally impacted from noise and activity. Cessation of mining activities and the reclamation should restore most wildlife movement through these corridors since there would have been little direct habitat impact to these corridors.

TES and RFSS
In addressing this instruction it is clear that the determinations in the Biological Evaluation and the Biological Assessment are still correct.

Species of Concern
Moose came up throughout the project analysis process as a species of concern. Potential effects to their habitat is important to consider as a public interest factor relating to wildlife habitat overall.

Discussions on moose and potential effects are found in FEIS Chapters 4-5 and disclosed as important prey for the gray wolf in the Biological Assessment. As disclosed in Chapter 5.3.5, the NorthMet Project Land Exchange will result in a decrease of mature mixed forest types on the federal estate that may provide thermal cover for moose during warm seasons of the year, but an increase in moose preferred foraging habitats, including early successional forests, brushland, and aquatic environments resulting from the land exchange. Overall, the analysis documents that preferred moose habitat increases on federal lands from the current condition with the land exchange. Effects to moose are summarized in Final ROD Table 2.

Finding for 36 CFR 254.3(b)(2)(i)

For the reasons discussed above and the further details provided by Final ROD Table 2 and in the FEIS, I find that the overall resource values and the public objectives served by the non-Federal lands or interests to be acquired exceed the resource values and the public objectives served by the Federal lands to be conveyed.

36 CFR 254.3(b)(2)(ii)

I have also given full consideration to the factors at 36 CFR 254.3(b) in making this required finding:

> (ii) The intended use of the conveyed Federal lands will not substantially conflict with established management objectives on adjacent Federal Lands, including Indian Trust lands."

Regarding 36 CFR 254.3(b)(2)(ii), it is important to consider the context of adjacent lands. The conveyed federal lands are located adjacent to historic mining projects on the Mesabi Iron Range and are mostly surrounded by privately held land used for mining and other industrial purposes; portions of the east and southwest areas of the federal lands are bordered by Superior National Forest lands. Access to the federal lands is primarily via Dunka Road, which is privately owned, and the former LTVSMC railroad by permission of private landowners. Privately owned properties to the north and west of the federal lands have been extensively affected over the years by surface mining, including mine pits, waste rock stockpiles, Tailings Basins, processing facilities, railroad grades, and other general mining activities (FEIS Section 3.3.2.1; FEIS Figure 3.3.2). On the broader landscape of northeastern Minnesota, extensive national forest lands surround the conveyed federal parcel (FEIS Figure 3.3-1).

I have considered the effects of the intended use of the conveyed Federal lands-the NorthMet Mining Project. Because of the scale and nature of the mining project, the area of potential effects to national forest lands is large. I realize there is the possibility of pollution or other impacts from the mine affecting adjacent national forest lands. However, the FEIS analysis indicates that with the application of the design features and mitigation measures included in the mining project and as to be implemented in the permitting process, regulatory requirements for

the protection of the environment and human health will be met (FEIS Section 1.4.4 and Table 1.4-1; FEIS Table 7.2.4-1).

Water Quality

Modeling

Water quality modeling performed supporting the effects analysis of the Mining Project summarized in the FEIS, indicates that water treatment systems in some form and at some scale would be needed indefinitely at the Mine Site and Plant Site. Water monitoring would persist as long as treatment is needed. Actual treatment requirements would be assessed on a reoccurring basis throughout operations and closure based on results of ongoing discharge, performance, and water resource monitoring, ensuring continuous protection of groundwater and surface water quality and compliance with applicable laws and regulations. It is acknowledged that operation, maintenance, and periodic replacement of environmental controls would be required after closure of the mine. The analysis in the FEIS indicates that the mining project will result in no significant effects to water quality, and no significant changes to groundwater and surface water flows (FEIS Executive Summary-NorthMet Project Effects on Water Resources). See FEIS Section 5.2.2 for more details.

PolyMet modeled groundwater flow of the NorthMet Mine Site and surrounding area using the U.S. Geological Survey MODFLOW. The model was also used to estimate groundwater inflows to the proposed NorthMet pits. The model outputs assumed artificially high Northshore pit lake elevations that would lead to conservatively high groundwater inflows to the proposed NorthMet pits during Northshore operations and before the NorthMet pits refill in order to ensure correct sizing and effectiveness of the proposed wastewater treatment facility (WWTF) system. Comments and analysis from the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) contend that a north groundwater flowpath from proposed NorthMet pits to Northshore pits could occur after the NorthMet pits refill if Northshore pit water levels representing current and future operations and closure are considered.

The Co-lead Agencies consider northward flow unlikely, however they cannot exclude the possibility of a future northward flowpath from the proposed NorthMet pits to the Northshore pits (in a watershed of the BWCAW). Permitting agencies (FEIS Table 1.4-1) will require monitoring from the start of actual NorthMet mining operations to supply more reliable information necessary to understand the flow direction. If needed, contingency mitigation can be implemented using this monitoring information to preemptively stop a northward flowpath and prevent its potential impacts. The FEIS identifies and discusses water-level monitoring and contingency mitigation measures in Sections 5.2.2.3.5, 5.2.2.3.6, and 6.2.2.3.1.

The Reviewing Officer for objection concerns addressed the adequacy of MODFLOW's use to predict which direction ground water could potentially flow from the proposed NorthMet mine. Based on the thorough work of the review team, and her own consideration of this issue, the

Reviewing Officer found that the Forest Service has met its legal obligations on this topic, including those obligations under NEPA. It is clear that opposing science has been considered, and adaptive management is in place if northward flow of groundwater is detected.

Water Quality and Wild Rice

Issues raised during the objection process included concerns relating to how potential impacts to water quality could subsequently affect the quality of wild rice beds. When reviewing the objection concerns, the Reviewing Officer recognized that the project record demonstrates a thorough review of the existing condition and potential effects on wild rice beds. However, much of the discussion in the record about water quality (especially in terms of mercury and sulfide), and the protections included in the proposed action for mining operations, may not have been readily connected to the conclusions reached on potential impacts to wild rice. Thus, I was instructed to provide a synopsis of the sulfide abatement program and the critical roles the MDNR and MPCA permit monitoring have in the long-term protection of wild rice beds downstream of the project area.

Final ROD Appendix C section C.2.3 comprehensively addresses this instruction by:

- Clarifying differences between sulfide and sulfate in MPCA sulfide management
- Identifying project sulfate "abatement program" engineering elements
- Identifying permits specifically related to regulating water quality related to wild rice
- Providing a summary of adaptive management plans at the plant site
- Identifying how water quality standards will be met through MDNR and MPCA permit administration
- Clarifying the routing of Colby Lake water and ability to meet mercury effluent standard

Indian Trust Land

While the adjacent lands do not include Indian Trust lands, the adjacent national forest lands are within the 1854 Ceded Territory and the Fond Du Lac Reservation is downstream of the proposed mine. The Superior National Forest facilitates the exercise of Treaty rights on national forest lands within the 1854 Ceded Territory (Forest Plan Desired Condition D-TR-3, Forest Plan p. 2-37).

I considered the effects of the mining project on the exercise of 1854 Treaty rights on adjacent national forest lands. FEIS Section 5.2.10.2.6 discloses that "there is no expected change in fish mercury concentrations, and no subsequent change in human health risks related to fish consumption." Also, "Construction and operation of the NorthMet Project Proposed Action is not likely to significantly reduce overall availability of 1854 Treaty resources that are typically part of subsistence activities in the 1854 Ceded Territory." FEIS Section 5.2.9.2.2. See **1854 Treaty** in this decision for further discussion.

The land exchange results in a net gain in national forest land acreage to the 1854 Ceded Territory and increased access to those national forest lands. Given the fundamental conflict between the USFS and PolyMet over appropriate use and management of the conveyed lands, and the risk that a mine could be developed in the absence of an exchange, I believe the Proposed Action as modified best ensures continued access to approximately the same acreage of federal lands within the 1854 Ceded Territory on which Band members can exercise their treaty rights.

Consolidation of Split Estates

The federal tract is currently a split estate. The Federal Government owns the surface and, with the exception of 181 acres[10], PolyMet owns the mineral rights (or subsurface estate). With the exchange, a single owner will own both the surface and the subsurface of the conveyed lands[11] which consolidates the estate and eliminates the conflict between the surface and mineral estates.

Regarding the non-federal lands, the United States will acquire mineral rights on the Hunting Club lands (Tract 4). The United States will have consolidated ownership of the surface and mineral rights on Tract 4 as a result of the land exchange. Mineral rights on Tracts 1, 2 and 3 will remain held by non-federal parties. The potential for conflict on these tracts is reduced as compared to the high-risk federal lands (FEIS Section 5.3.1.2.5). There is a low potential presence of subsurface mineral resources on the non-federal tracts (FEIS Section 5.3.1.2.5).

State and Local Residents, Their Economies and Financial Assurance

The mining project would result in an active mining operation that would generate federal, state, and local tax revenue, in addition to employment. The NorthMet Mining Project would generate as many as 500 direct jobs during peak construction and 360 direct jobs during operation. These direct jobs would generate additional indirect and induced employment, estimated to be 332 additional construction-phase jobs and 631 additional operations-phase jobs (FEIS Section 5.2.10-*Summary*).

I understand there is concern about whether the public might at some point in the future become financially responsible for water treatment or other costs associated with the mine. FEIS Section 3.2.2.4 provides available details regarding financial assurance. PolyMet would be responsible

[10] The United States owns 181 acres (GLO) of mineral rights on lands that are not part of the NorthMet Mining Project Proposed Action mine pits but are included in the exchange. The USFS would reserve these federal mineral rights, which are located near the eastern boundary of the federal lands north of Dunka Road and near the southeast corner of the federal lands south of Dunka Road (see FEIS Section 3.3.2.1 and FEIS Figure 3.2-3). Consolidation of the split estate on these 181 acres is not necessary to eliminate the conflict between the surface and mineral estates.

[11] With the exception of the 181 acres described in footnote #10.

for financial assurance costs. As stated in Minnesota Rules 6132.1200, Subpart 5, financial assurance criteria require that funds must not be dischargeable through bankruptcy and are fully binding and enforceable under state and federal law. Minnesota Rules 6132.1200, Subpart 7 state that the Permit to Mine could be suspended or revoked if the proponent does not comply with financial assurance criteria.

PolyMet would be held accountable for maintenance and monitoring required under the permit issued by the MDNR and would not be released until all conditions have been met. PolyMet would be required to provide financial assurance to MDNR (managed independently) for closure and maintenance costs as a contingency if PolyMet or the operating company at that time were unable to fulfill the obligations under the Permit to Mine.

Protection of wilderness

The mining project and land exchange do not adversely affect Wilderness. See **Findings Required by Other Laws**-1964 Wilderness Act for more information.

Accommodation of existing or planned land use authorizations

Forest Plan objectives on national forest lands and zoning/land use designations on other ownerships adjacent to the conveyed federal lands were considered for any conflicts in management objectives. No substantial conflicts were identified. (FEIS Section 5.2.1.2.1 and 5.2.1.2.2; see also **Finding Required by Other Laws-National Forest Management Act**).

Finding for 36 CFR 254.3(b)(2)(ii)

For the reasons discussed above and the further details provided by Final ROD Table 2 and in the FEIS, I find that intended use of the conveyed Federal lands will not substantially conflict with established management objectives on adjacent Federal Lands, including Indian Trust lands.

Public Interest Determination

In consideration of all of the factors discussed in this decision, I find that in total the public interest is well served with this exchange.

Environmentally Preferable Alternative

The environmentally preferable alternative is the alternative that will best promote the national environmental policy as expressed in the NEPA's Section 101. Ordinarily, the environmentally preferable alternative is that which causes the least harm to the biological and physical environment; it also is the alternative which best protects and preserves historic, cultural, and natural resources (36 CFR 220.3). 40 CFR 1505.2 (b) requires that the record of decision specify the alternative or alternatives considered to be environmentally preferable.

For this project the No Action Alternative is the environmentally preferred alternative. Under the No Action Alternative there would be no NorthMet Mining Project Proposed Action or Land Exchange Proposed Action. Refer to FEIS Sections 3.2.3.2 and 3.3.3.1 for a discussion on the No Action alternative.

NEPA requires that the No Action Alternative be evaluated for Environmental Impact Statements. This alternative describes that the Land Exchange Proposed Action would not take place. Under the Land Exchange No Action Alternative, no lands would be exchanged and the NorthMet Mining Project Proposed Action would not proceed. Since the open pit mining in NorthMet Mining Project Proposed Action would not occur, the risks of potential environmental effects of mining would not occur.

Although the Land Exchange No Action Alternative is the environmentally preferred action, I did not select it because it does not meet the USFS purpose and need for the land exchange. It does not address the conflict resolution needed between the USFS position that the mineral rights that were reserved do not include the right to surface mine as proposed by PolyMet, and PolyMet's position that the mineral rights it seeks to utilize provide for access to the minerals by any mining method, including open pit or surface mining.

In turn, the No Action Alternative increases the likelihood that PolyMet will initiate litigation against the United States, asserting that the private mineral rights that PolyMet seeks to exercise include the right to open pit mine on National Forest System land. Such litigation has no certain outcome. The risk exists that litigation could result in a situation where the mining project is proposed and evaluated for approval without any non-federal land acquired in a land exchange. Further, a judicial decision adverse to the United States (e.g., finding an open pit mining right included within the mineral rights reserved in the deeds to the United States) could set a judicial precedent regarding other Weeks Act lands.

Other Alternatives Considered

The environmental consequences of Land Exchange No Action Alternative and Land Exchange Alternative B are evaluated along with the Land Exchange Proposed Action in Chapters 5 and 6 of the FEIS. The effects analysis of these alternatives is summarized in FEIS Chapter 7 which compares the effects between alternatives.

Land Exchange No Action Alternative

See discussion under **Environmentally Preferred Alternative.**

Land Exchange Alternative B

Land Exchange Alternative B was derived from the Mine Site Exchange Only Alternative that was developed to address concerns raised during scoping (refer to FEIS Section 3.3.3.3 Alternatives Considered but Eliminated from Detailed Analysis). This alternative would convey fewer acres of federal lands for fewer acres of non-federal land.

An issue that was raised through scoping for the proposed land exchange was that the USFS did not need to exchange the entire tract of federal lands included in the Land Exchange Proposed Action to accommodate the proposed Mine Site and development. Commenters noted that not all of the acres proposed for exchange would be needed for developing the NorthMet Mining Project Mine Site. Commenters stated that if there would be a land exchange, the USFS should exchange only the minimum amount of National Forest System lands needed for the Mine Site. The Land Exchange Alternative B addresses this issue by only including lands necessary for the Mine Site with less emphasis on minimizing the amount of USFS landlines and consolidating National Forest System lands ownership patterns. Compared to the Land Exchange Proposed Action as modified, 1,816 fewer acres (GLO) of National Forest System lands would be exchanged as part of Land Exchange Alternative B.

Land exchanges are based on equal value; consequently, because there would be fewer federal acres conveyed, there would be fewer acres of non-federal land that would be acquired. The federal government would convey 4,834 acres (GLO) of federal lands to PolyMet, and the USFS would no longer manage these lands. The federal government would acquire 4,652 acres (GLO) of non-federal lands in one parcel, Tract 1.

The configuration of the smaller federal parcel is considered the smallest the boundary can be while still meeting the underlying Purpose and Need for the Land Exchange (see FEIS Figure 3.3-2).

I did not select this alternative because the remaining federal tract north of the Dunka Road and west of the proposed mine site would become an isolated piece of federal land with limited or difficult access through private property (see FEIS Figure 3.3-2). This does not meet the purpose and need as well as the Land Exchange Proposed Action as modified since keeping an isolated piece of land with difficult access does not the meet the intent of Forest Plan Desired Condition D-LA-1.

Alternatives Considered but Eliminated from Detailed Analysis

The following alternatives were considered, but have been eliminated from further consideration because the proposals could not be acted upon at this time, were represented in the alternatives analyzed in detail, or did not meet the Purpose and Need. These alternatives are discussed in FEIS Section 3.3.3.3.

Direct Purchase Alternative

This alternative, as called for in USFS guidance (FSH 5409.13, Section 33.41a), would involve the USFS directly purchasing the non-federal tracts—i.e., the privately owned tracts identified for exchange to help meet USFS management objectives. The direct purchase alternative would not resolve the conflict between the United States and the proposed development of the private mineral estate at the federal parcel. For this reason, this alternative would not meet the Purpose and Need of the proposed Land Exchange, and thus it was eliminated from further consideration.

Single Contiguous Non-federal Parcel

PolyMet's proposed assemblage of land for the exchange was based on the standards and guidelines for land adjustment in the Forest Plan. The acquisition of a single contiguous non-federal parcel was not one of the priority criteria. Instead, the Forest Plan defines the desired condition for land adjustment in terms of the overall amount and spatial arrangement of National Forest System lands within the proclamation boundary along with criteria identified by Forest Plan Guideline G-LA-2. Moreover, PolyMet was not able to identify any single large tracts of land for sale. Therefore, this alternative was eliminated from further consideration.

Other Non-federal Lands

The exchange of the federal lands for multiple non-federal tracts that have wetlands and habitat more similar to the federal lands than the proposed non-federal lands was eliminated from detailed consideration for several reasons. The Land Exchange Proposed Action was designed to the extent possible with lands that were available for acquisition and that met Forest Plan standards and guidelines for land adjustment. Without identifying specific lands, this alternative is theoretical only and would not meaningfully add to the range of alternatives considered. Therefore, this alternative was eliminated from detailed analysis.

Mine Site Exchange-Only

The Mine Site exchange-only alternative would have conveyed fewer acres of federal lands and was developed to address comments raised during the scoping period. Under this alternative, the federal government would have conveyed only the federal land that would actually be used for the NorthMet Mining Project Proposed Action.

The Mine Site proposal identifies the minimum area physically needed for mine features. However, environmental assessment of the NorthMet Mining Project Proposed Action identified the potential for air quality impacts at the Mine Site boundary that would exceed air quality regulatory requirements (Minnesota Rules 7009.0020). Compliance with air quality regulatory requirements is shown at the ambient air boundary - which is generally at the property line. Since effects to air quality dissipate with distance, modeling of air quality impacts showed that a larger land exchange area would allow PolyMet to meet air quality regulatory requirements. Consequently, this alternative was eliminated from further consideration because it would not provide an adequate area to meet air quality requirements. It was modified to Land Exchange Alternative B described in FEIS Section 3.3.3.2 and further evaluated in the SDEIS.

Full Exchange with Restrictions

Consistent with the Land Exchange Proposed Action, under this alternative, the federal government would have conveyed the entire federal tract (6,650 acres (GLO)), but would have placed use restrictions on a portion of the conveyed lands. This alternative was initially developed by the USFS during the 2009 Feasibility Analysis for the Land Exchange to compensate for a wetland imbalance when only the non-federal Tract 1 and Tract 5 were being proposed by the applicant as part of the Land Exchange Proposed Action. This imbalance has

since been resolved through the addition of Tracts 2, 3, and 4 to the Land Exchange Proposed Action. Therefore, this alternative was eliminated from detailed analysis as it would have had substantially similar effects to alternatives already analyzed.

Underground Mining Alternative

The potential for an underground mine to be developed on federal lands (through permitting) instead of the proposed surface mining was raised by public comment through both the Land Exchange scoping process and the comment periods for both the DEIS and SDEIS. Commenters suggested that a land exchange would not be needed if underground mining was proposed for the NorthMet Deposit.

Underground mining was considered at the DEIS, SDEIS and again at the FEIS stage and was eliminated as an alternative to the NorthMet Mining Project Proposed Action because it was found to be economically infeasible (refer to FEIS Section 3.2.3.4 and FEIS Appendix B). Consequently, it is not a reasonable alternative to the Land Exchange Proposed Action.

Forest Service Authorization of Private Open Pit Mining on National Forest System Land

Hypothetically, an owner of the land could authorize the surface mining by a mineral rights holder, even when that mineral rights holder has no property right to such mining methods due to limitations of the severance deed. However, with respect to the United States' ownership interest in National Forest System lands, any such action taken by the USFS would have to be authorized by federal law. Stated more specifically, any USFS authorization of private open pit mining on the Superior National Forest would have to be made pursuant to and in accordance with federal statutory authority. Additionally, any such action would need to be consistent with the management objectives of the Superior National Forest. The USFS does not believe that such authority or consistency exists with respect to the lands conveyed to the Federal Government in 1935 and PolyMet's proposal for an open pit mine.

Tribal Consultation

Government to Government Consultation

I have consulted with the Fond du Lac, Bois Forte and Grand Portage Bands of Chippewa along with the 1854 Treaty Authority and the Great Lakes Indian Fish and Wildlife Commission through the development of this project proposal. I realize the Bands have deep concerns about this project, which were identified through consultation since 2006.

Government to government consultation specifically on the land exchange with PolyMet started in 2009 after approval of the Land Exchange Feasibility Analysis. This consultation continued through proposed land exchange public scoping in 2010 and through development of the SDEIS and FEIS.

Objectives for consultation included meeting Forest Plan Objective O-TR-2: "Maintain a consistent and mutually acceptable approach to government-to-government consultation that provides for effective Tribal participation and facilitates the integration of tribal interests and concerns into the decision making process (Forest Plan p. 2-38)." Government to government consultations took place through annual and periodic meetings between Tribal Chairpersons and the Forest Supervisor throughout the environmental review process. The Superior National Forest will continue to fulfill government to government tribal consultation commitments.

The tribal governments were also designated as Cooperating Agencies per 40 CFR 1501.6 in the preparation of the EIS beginning in February 2005 with Bois Forte and Fond du Lac Bands, and including Grand Portage beginning in May 2008. Work with the Bands as Cooperating Agencies continued through preparation of the FEIS. For example, there were twice monthly Cooperating Agency conference calls with staff to identify and understand concerns and issues since 2013. I appreciate the expertise that the tribal governments brought to the EIS process. Their involvement has led to changes in the project design and in the display and understanding of effects. The concerns and technical comments shared by the tribal governments are many, and FEIS Chapter 8, Major Differences of Opinion, displays a summary of some of these concerns as understood by the Co-lead Agencies. Highlighted among these include technical comments about the effects analysis in the EIS, and concerns about resources of importance to the Bands. These include water quality, plants and animals important in hunting and gathering, and others. Although these differences of opinion persist between the Bands and the Co-leads, I do understand the concerns and the nature of the differences.

At the completion of the objections review process and after I received the Reviewing Officer's instructions I continued to consult and engage in government to government relations with the Bands. On September 7, 2016 members of my staff and I met with representatives from the Bands, 1854 Treaty Authority, and GLIFWC to discuss the outcomes of the objection review and how to move forward in completing the Final ROD for the NorthMet Project Land Exchange.

At this meeting the Bands expressed several concerns for me to consider relating to objection points submitted by the Bands (Fond du Lac and Grand Portage) and GLIFWC. The Reviewing Officer's July 11, 2016 objections response letter, this Final ROD, and Final ROD Appendix C address these consultation topics. Topics included:

- Issue the Final ROD after PolyMet has obtained necessary permits allowing them to operate an open pit mine. In this way, the Bands felt that the Forest Service would better meet its trust responsibilities under the 1854 Treaty by retaining the option to not complete the land exchange should the permits not be issued. (See Reviewing Officer's objection response letter and see **1854 Treaty** Below.)
- Be aware of the distinctive nature of issues relating to water quality such as water quality effects on wild rice or water quality, distinguishing between the effects of mercury and sulfide. (See Final ROD Appendix C section C.2.3.)

- Consider values of ecosystem services in thinking about economic effects of the project. (See Final ROD Appendix C section C.2.4.)
- Fully address impacts to wildlife corridors and moose in the project record and the Final ROD. (See **Public Interest Determination-Findings (36 CFR 254.3(b)(2)), Wildlife.)**
- Continue to engage with the Bands in completing the NHPA section 106 process. (See **National Historic Preservation Act.**)

I understand that the decision I am making and its timing may not wholly satisfy the viewpoints and opinions expressed over the course of our consultations. However, I have taken to heart the dialogue on the issues we have had throughout the analysis process. I appreciate the professional expertise and societal insights that we have shared throughout our ongoing consultation.

NHPA Section 106 Consultation

In addition to ongoing government to government tribal consultation on many projects across the Superior National Forest, the federal Co-lead Agencies have actively consulted with the federally recognized Bands that have expressed an interest in consulting on the NorthMet Mining Project and Land Exchange. This consultation is on historic properties pursuant to requirements of Section 106 of the National Historic Preservation Act. Historic properties affected by the NorthMet Mining Project Proposed Action have been identified and the impacts to those properties have been assessed. This also includes an assessment of actual use of those historic properties, as well as other resources in the area of potential effect, by tribal members. The consultation process under Section 106 is described in FEIS Section 4.2.9. A Memorandum of Agreement (MOA) has been completed and is part of the NorthMet Project Land Exchange project record. USFS and USACE (federal Co-lead agencies); Minnesota State Historic Preservation Office (MnHPO), and the Advisory Council on Historic Preservation (ACHP) have signed the MOA. PolyMet (project proponent) has signed the MOA as an invited signatory. The Fond du Lac and Grand Portage Bands of Lake Superior Chippewa and the Bois Forte Band of Chippewa have been invited to sign as concurring parties.

Historic properties that are adversely affected include Mesabe Widjiu (Laurentian Divide), Spring Mine Lake Sugarbush, Beaver Bay – Lake Vermillion Trail Segment, Erie Mining Company Concentrator Building, and Erie Mining Company Landscape Historic District.

There are adverse effects to these properties due to loss of sites and proximity to proposed activities. These effects will be mitigated through actions identified in the MOA developed for this project.

Effects on cultural resources and culturally significant natural resources are addressed in the Cultural Resources sections in FEIS Chapters 4, 5, and 6.

The Reviewing Officer also provided instructions to complete consultation required under the National Historic Preservation Act (NHPA) Section 106 process and meet all the regulatory

requirements of 36 CFR Part 800 prior to signing the Final ROD. Appendix C section C.2.6 describes the outcome of the process and the project record documents appropriate consideration of historic, tribal, and cultural resource issues.

After the Draft ROD was issued in November 2015, the ACHP requested to participate in the development of the MOA on May 2, 2016. All of the consulting parties including ACHP, contributed to the development of the final MOA.

The USFS and USACE have signed the MOA along with MnHPO, ACHP, and PolyMet. As of this date, the Bands have not signed the MOA. Since the Bands are participating as concurring signatories, they are not required to sign the MOA to fulfill requirements under section 106.

1854 Treaty

The federal and non-federal tracts involved in the land exchange are located within the 1854 Ceded Territory. The Superior National Forest facilitates the exercise of Treaty rights on national forest lands within the 1854 Ceded Territory (Forest Plan Desired Condition D-TR-3, Forest Plan p. 2-37).

I understand that the opportunity to exercise treaty rights will be lost on the conveyed federal parcel. While little information is available on current tribal uses within the federal parcel, I understand that some opportunities could be reduced such as gathering plants associated with coniferous bogs (FEIS Section 5.3.9.2.1). I have also heard from the Bands a concern that the conveyed federal parcel is contiguous whereas the acquired non-federal lands are located in multiple parcels throughout the Superior National Forest.

However, the non-federal lands also contain ecological and social values and are within the 1854 Ceded Territory and will thus be subject to Treaty rights reserved by the Bands (FEIS Section 5.3.9.2.2). The non-federal lands are adjacent to existing national forest lands, so the land exchange results in larger contiguous blocks of national forest in these areas (FEIS Figures 3.3-3 and 3.3-4). In addition, there will be a net gain of federal lands (40 acres GLO) and a net gain of wetlands under federal ownership (505 acres) available for tribal use within the 1854 Ceded Territory. Overall, public overland access to the acquired lands is available for tribal use, especially on Tracts 1 and 4, whereas public overland access is not available for tribal use on the conveyed land (FEIS Section 5.3.1.2.1).

There is also a net gain in public lake with public water frontage available for tribal use under my land exchange decision. The frontage of Mud Lake, within the federal parcel, is being conveyed to PolyMet. Mud Lake has no public overland access. The frontage of Hay Lake and Little Rice Lake are being acquired in Tract 1. Under my decision, Hay Lake and Little Rice Lake have public overland access available for tribal use. There will be a net gain of 94 acres of public water lake with public water frontage available for tribal use as an outcome of the exchange (Final ROD Table 2).

While there will be no change in public wild rice harvest opportunities available for tribal use as a result of my decision, there will be an increase of about 126 acres of wild rice beds within federal estate boundaries (FEIS Section 5.3.2.2.2; Final ROD Table 2).

In regards to effects of the mine itself, FEIS Section 5.2.10.2.6 discloses that "there is no expected change in fish mercury concentrations, and no subsequent change in human health risks related to fish consumption." Also, "Construction and operation of the NorthMet Project Proposed Action is not likely to significantly reduce overall availability of 1854 Treaty resources that are typically part of subsistence activities in the 1854 Ceded Territory." FEIS Section 5.2.9.2.2.

Finally, if I had selected the No Action alternative, the risk exists that litigation could result in a situation where the mining project is proposed and evaluated for approval without any non-federal land acquired in a land exchange (see **Purpose and Need**).

I realize that the land in the 1854 Ceded Territory is considered homeland for the Bands and that is reflected in their grave concern over proposed mining. I believe that my decision on the land exchange best ensures that Band members will continue to have access to and will be able to exercise treaty rights on approximately the same total acreage within the 1854 Ceded Territory.

In consideration of all of these factors and the analysis in the FEIS, I believe my decision is the best practicable way to both eliminate the conflict between the USFS surface management and PolyMet's proposal to surface mine on the federal parcel and achieve a net increase in accessible federal land within the 1854 Ceded Territory. My decision meets Forest Plan direction for Tribal Rights and Interests (Forest Plan pp. 2-37 and 2-38).

Public Involvement

We heard a wide range of interests and concerns from the public. I understand many people in local communities, throughout Minnesota, and in this country have strong feelings and viewpoints about this project. I have done my best to listen to and understand the interests and concerns. I have discussed some of the key issues raised in public comment in the **Rationale for the Decision**.

Land Exchange Scoping

As discussed in FEIS Section 2.3.1, the USACE and USFS published a Notice of Intent (NOI) to prepare an SDEIS; this NOI discussed both the intent to prepare an SDEIS, which would supplement the 2009 DEIS, and the inclusion of the Land Exchange Proposed Action as a connected action. The NOI identified that the comment period would be held for 45 days and provided notification that scoping comments were limited to the Land Exchange Proposed Action.

Open house scoping sessions were held in Aurora, Minnesota on October 26, 2010 and in New Brighton, Minnesota, on October 27, 2010. At each open house, representatives from the USFS, USACE, MDNR, PolyMet, and the Co-lead Agencies' third-party consultant provided information on the NEPA process, the NorthMet Mining Project Proposed Action and Land Exchange Proposed Action, and how to provide scoping comments.

SDEIS Publication

The SDEIS was made available to the public through notification in the December 9, 2013 EQB Monitor (Volume 37, Number 25) and December 13, 2013 (Volume 78, Number 240) Federal Register (FR). The notification informed the public that paper copies of the SDEIS were available for review at MDNR offices and public libraries in Grand Rapids, Hibbing, Hoyt Lakes, Babbitt, Duluth, Minneapolis, and St. Paul. Executive Summaries of the document and compact disks containing the full version of the SDEIS were provided upon request, and the entire document was also made available via the MDNR's website. Executive Summaries or full copies on paper or disk were distributed to parties on the Minnesota Environmental Quality Board (MEQB) distribution list as well as additional interested parties.

Comment Period and Public Meetings

The MEQB notification also identified that the 90-day comment period would end on March 13, 2014. Instructions and contact information were provided for submittal of public comments.

Following the release of the SDEIS, public meetings were held in Duluth, Minnesota, on January 16, 2014, Aurora, Minnesota, on January 22, 2014, and St. Paul, Minnesota, on January 28, 2014, to gather public comments on the SDEIS.

Receipt and Review of Public and Agency Comments

Public and agency comments on the SDEIS were collected during the 90-day comment period. Submissions came from federal, state, and local government agencies, tribal entities, local businesses, non-governmental organizations, private individuals, and PolyMet. Approximately 58,000 comment submissions were received by the Co-lead Agencies during the 90-day comment period.

Each submission was reviewed and individual unique comments were identified. The comments were then grouped into relevant topic areas and further categorized into comment themes. This process is described in more detail in FEIS Appendix A.

Consideration of Public Comments Received on the SDEIS

The SDEIS comments were considered and addressed through FEIS text edits and clarifications, project design modifications, and updated analysis where deemed appropriate. The comment themes were addressed with responses, as were each individual Cooperating Agency comment. A description of the process taken to consider, manage, and respond to the submissions,

comments, and themes, as well as copies of the comments, themes, and responses are provided in FEIS Appendix A.

Findings Required by Other Laws

My decision meets the requirements of all applicable laws, regulations and executive orders. Exchanges are authorized by the Weeks Act of March 1, 1911 (36 Stat. 961 as amended; U.S.C. 516), the Federal Land Exchange Facilitation Act of August 20, 1988 and the Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2755 as amended; 43 U.S.C. 1701, 1715, 1716, 1717).

National Environmental Policy Act (NEPA)

As discussed under **Rationale for the Decision**, I realize there is concern and disagreement regarding the predicted effects disclosed in the EIS (especially of the effects of the mining project) from some members of the public, interested organizations, tribal government, and others. I have heard from other interested people and organizations who expressed concerns that the analysis has taken too long.

The Co-Leads have worked to address concerns with the project design and effects analysis through progressive modifications over the 10 year public involvement and environmental review process (see Figure Final ROD-1). Even with this work, there remains vehement disagreement and differences of opinion regarding technical aspects of the effects analysis, the design of the project, whether the predicted effects are considered acceptable, and the alternative to select.

While I realize there are deep differences of opinion and strongly voiced concerns, the effects analysis in the FEIS and the entirety of the public involvement process meets NEPA requirements and provides adequate information for me to make a decision on the land exchange.

I also considered how dropping Tract 5, McFarland Lake lands from the non-federal tracts would potentially alter the effects disclosure of the Proposed Action in the FEIS. Dropping Tract 5 will have no change on the mining project or the effects of the mining project disclosed in the FEIS. Regarding the land exchange, a comparison of Final ROD Table 2 and FEIS Table 7.3.5-1 indicates minimal changes for almost all of the factors evaluated in the public interest determination, which reflect a wide range of analysis in the FEIS. In addition, dropping Tract 5 is within the range of the alternatives evaluated in the FEIS since Alternative B and No Action disclose effects where Tract 5 is not acquired. The effects of the Land Exchange Proposed Action as modified are within the range of effects disclosed in the FEIS.

National Forest Management Act

The Forest Service is currently operating under the 2012 Planning Rule. As required by section 219.15(d) of the 2012 Planning Rule, this project is consistent with the direction found in the 2004 Forest Plan.

I considered the best available science in making my decision. The project record demonstrates a thorough review of relevant scientific information, consideration of responsible opposing views, and, where appropriate, acknowledgment of incomplete or unavailable information, scientific uncertainty, and risk.

As discussed under **Rationale for the Decision**, the land exchange meets the intent of Forest Plan direction, including D-LA-1, G-LA-2, G-LA-3 and D-MN-2.

I also considered additional relevant Forest Plan direction in making my decision:

Management Areas:

The federal parcel to be conveyed to PolyMet in my decision is in the General Forest and General Forest-Longer Rotation Management Areas (FEIS Table 4.3.1-1). Lands in these Management Areas are available for conveyance by exchange (O-GF-4, Forest Plan p. 3-7; O-LR-4, Forest Plan p. 3-11).

G-GF-4 (Forest Plan p. 3-8) and G-LR-4 (Forest Plan p. 3-12) are Forest Plan Guidelines for the General Forest and General Forest Longer Rotation Management Areas. These Guidelines state: "Generally, on lakes with 80 percent or greater public ownership, NFS water frontage land will be retained or will only be conveyed to a public land management entity." The federal parcel is located within these Management Areas, and contains Mud Lake which has greater than 80% public ownership. I am deviating[12] from G-GF-4 and G-LR-4 by conveying the water frontage land of Mud Lake within the federal parcel to PolyMet. The analysis in the FEIS discloses the effects of conveying the federal tract containing Mud Lake to PolyMet and the effects of acquiring Tract 1, which contains Hay Lake and Little Rice Lake (see FEIS Section 5.3.2). There will be a net gain of 1.7 miles of shoreline under federal ownership and 94 acres of public water lake with public water frontage as an outcome of the exchange (Final ROD Table 2). Even though I am deviating from these two Forest Plan Guidelines, this outcome is a net gain in NFS water frontage. Accordingly, the purpose of these Guidelines to conserve lake shores in federal ownership is better met as an outcome of the land exchange.

The non-federal tracts to be acquired by the United States in my decision are in the General Forest, General Forest-Longer Rotation, Riparian Emphasis and candidate Research Natural Area Management Areas. Acquisitions are allowed in these Management Areas (O-GF-4, O-LR-4, G-RE-3, and G-RNA-5; Forest Plan Chapter 3). In particular, acquisition of lands to be added to the candidate Research Natural Areas is identified as 'Priority 1' in Forest Plan Guidelines G-LA-2 and G-RNA-5 and will allow the Forest Service to manage these lands to conserve their ecological and other values in the long-term.

Other Forest Plan direction:

[12] My decision may deviate from a Forest Plan Guideline as described at Forest Plan p. 1-8.

With my decision, the federal parcel will become the property of PolyMet, and Forest Plan direction will no longer apply to the property. Nonetheless, we evaluated the effect of the mining project and land exchange on Forest Plan direction related to larger areas on the landscape.

- S-WS-1 (Forest Plan, p. 2-13): When the disturbance of the NorthMet mining project is considered, the amount of upland open and young forest in the 6th level watersheds overlapping the mining area would be below the 60% threshold identified in this Standard (NorthMet S-WS-1 review, project record).
- G-WL-3 (Forest Plan, p. 2-30): The Biological Assessment (FEIS Appendix D) evaluates the amount of unsuitable lynx habitat in Lynx Analysis Unit SNF12 which includes the NorthMet mining area. The total amount of unsuitable lynx habitat in this Lynx Analysis Unit under the NorthMet Mining Project and Land Exchange Proposed Actions is 6.4%, well below the 30% threshold for all ownerships identified in this Guideline (Biological Assessment, p. 6-60).
- Forest Plan direction related to Management Indicators Habitats: This direction generally applies Forest-wide. When the NorthMet mining project and land exchange is considered in combination with other land exchanges and acquisitions Forest-wide, there will be an increase to the federal estate of approximately 46,000 acres of MIHs 1 to 14 (FEIS Table 6.3.5-1). This is consistent with Forest Plan direction.

My decision complies with the National Forest Management Act and the 2004 Superior National Forest Plan.

1854 Treaty

See **Tribal Consultation** for discussion on the 1854 Treaty.

Weeks Act of 1911

The Weeks Act of 1911 authorizes land exchanges when the public interest would be benefitted thereby. The Secretary of Agriculture is authorized, in his or her discretion, to accept on behalf of the United States title to any lands within the exterior boundaries of national forests, which, in his or her opinion, are chiefly valuable for the purposes of the Weeks Act. In exchange, the Secretary is authorized to convey an equal value of national forest land in the same State. Lands that are accepted by the Secretary under the Weeks Act become part of the national forest within whose exterior boundaries they are located and are subject to all provisions of the Weeks Act. My decision complies with the Weeks Act of 1911.

Mining and Minerals Policy Act of 1970

This legislation laid out the federal government's overall policy to foster and encourage private enterprise in the development of economically sound and stable industries, and in the orderly and economic development of domestic resources to help assure satisfaction of industrial, security and environmental needs. As discussed in regards to Forest Plan Desired Condition D-MN-2 under **Forest Plan Direction and Purpose and Need,** my decision is consistent with this Act.

National Historic Preservation Act

We have worked with the Bands and the State Historic Preservation Office to identify potential effects to historic properties during the environmental review for the proposed mining project. The Executive Summary of the FEIS, 'NorthMet Project Effects on Cultural and Socioeconomic Resources' states:

> The federal co-leads have determined that there would be no adverse effect on the Erie Mining Company Railroad Mine and Plant Track, Main Line Segment, and Dunka Railroad Segment; Erie Mining Company Railroad Corridor Historic District; Duluth, Missabe, and Iron Range Railroad Segment; or Erie Mining Company Administration Building. However, the federal co-leads have determined that the Partridge River Section of the *Mesabe Widjiu*, the Spring Mine Lake Sugarbush, the Partridge River Segment of the Beaver Bay to Lake Vermilion Trail, the Erie Mining Company Concentrator Building, and the Erie Mining Company Landscape Historic District would be adversely affected by the NorthMet Project Proposed Action. The federal co-leads have considered measures to avoid and minimize adverse effects, and are currently consulting with the Bands, MN SHPO, and PolyMet on the development of a draft Memorandum of Agreement (MOA) to resolve adverse effects.

Regarding the non-federal tracts, the FEIS (Section 5.3.9.2.2) states:

> There are no known cultural resources on the non-federal lands, except known 1854 Treaty resources consisting of wild rice beds within the Hay Lake lands. Any potential cultural resources located on private lands being transferred to federal ownership would not be considered adversely affected by the proposed action, but would be considered to have greater preservation protection under federal law.

In summary, for the mining project, execution and implementation of the mitigation measures stipulated in the Memorandum of Agreement will evidence the federal Co-lead Agencies compliance with Section 106 of the National Historic Preservation Act. On the non-federal tracts, any cultural resources will have greater protection under federal ownership. My decision on the land exchange complies with the National Historic Preservation Act.

The Reviewing Officer also provided instructions to complete consultation required under the National Historic Preservation Act (NHPA) Section 106 process and meet all the regulatory requirements of 36 CFR Part 800 prior to signing the Final ROD. Appendix C section C.2.6 further describes the outcome of the process and the project record documents appropriate consideration of historic, tribal, and cultural resource issues.

After the Draft ROD was issued in November 2015, the ACHP requested to participate in the development of the MOA on May 2, 2016. All of the consulting parties including ACHP, contributed to the development of the final MOA.

The USFS and USACE have signed the MOA along with MnHPO, ACHP, and PolyMet. As of this date, the Bands have not signed the MOA. Since the Bands are participating as concurring signatories, they are not required to sign the MOA to fulfill requirements under section 106.

Executive Order 12898

(*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* 1994)

I understand that there is concern about the effects of the mining project on minority and low-income populations, and in particular there is concern about downstream impacts to tribal land and hunting and gathering rights afforded to Native Americans under the 1854 Treaty.

Potential downstream effects are addressed in various sections in chapters five and six of the FEIS. In FEIS Appendix A, Table A-3 Cooperating Agency Comments and Responses specifically addresses the tribal cooperating agencies' comments and concerns submitted on the Supplemental Draft EIS and Chapter 8 addresses the major differences of opinion between the Bands and the co-lead agencies. FEIS section 5.2.2 Water Resources addresses effects of the NorthMet Project Proposed Action on water resources.

The analysis in the FEIS evaluated the degree to which the mining project could disproportionately affect minority and low-income populations, including residents of the study area, as well as Band members who use the study area for subsistence, regardless of where they live. There would be a benefit in the form of increase in jobs and income; on the other hand, increased demand for housing and public service could result in a minor disproportionate effect due to rising prices. Overall, the analysis disclosed the mining project would not disproportionately affect these populations (FEIS Section 5.2.10.2.6).

When the land exchange is implemented, the conveyed federal parcel will not be available for tribal and public access and subsistence activities; the acquired non-federal tracts will be. There are unknown changes in the type and extent of subsistence resources on the federal and non-federal lands. The land exchange results in a net increase of federal lands available for tribal and public access, a benefit for hunting and gathering activities (FEIS Section 5.3.10). See also **1854 Treaty** for further discussion.

The Reviewing Officer instructions resulting from an objections review included providing a concise and comprehensive disclosure of environmental justice issues. The Reviewing Officer's instructions on environmental justice included direction for this Final ROD to reference CEQ guidelines on environmental justice and provide a clear explanation as to how each of the six general principles on pages 8-9 of the guidelines are addressed. Final ROD Appendix C section C.2.7 lists the six principles and identifies how the FEIS and project record address them.

While my decision is for the land exchange only, when I consider the future uses and resource values on the conveyed lands and the acquired lands, my decision meets the intent of EO 12898.

Executive Order 13045

(*Protection of Children from Environmental Health Risks and Safety Risks,* 1997)

I realize that many people are concerned about the potential effects of the mining project on human health, including the health of children. The FEIS evaluates potential effects to human health. FEIS Section 5.2.10.2.6 discloses that "there is no expected change in fish mercury concentrations, and no subsequent change in human health risks related to fish consumption". The FEIS at Section 5.2.2 evaluates effects to drinking water and water quality, and the predicted effects meet regulatory requirements for the management of drinking water. Likewise, the FEIS at Section 5.2.7.2.3 evaluates effects to air quality, and the predicted effects meet regulatory requirements for the management of air quality as it pertains to human health.

Applicable regulatory requirements will be required to be followed as part of the permitting process carried out by the Minnesota Department of Natural Resources, Minnesota Pollution Control Agency and Minnesota Department of Health (FEIS Table 1.4-1).

While my decision is for the land exchange only, when I consider the effects disclosed in the FEIS of the future uses of the conveyed lands along with the regulatory requirements, my decision meets the intent of EO 13045.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

Before the United States acquires non-federal lands, a Pre-Acquisition Phase 1 Environmental Site Assessment (ESA) is conducted in accordance with 40 CFR Part 312 to identify environmental liabilities associated with the tracts. If it is discovered that the property, or any portion thereof, is contaminated or is in a condition which would constitute a violation of federal, state, or local laws or regulations related to the protection of health, safety, or the environment, the United States may decline to acquire the lands or adjust the acreage and description of the nonfederal lands such that those portions of the property that are affected by the newly discovered contamination or condition are excluded from exchange. My decision complies with CERCLA.

1964 Wilderness Act

I have considered federally designated Wilderness, including the Boundary Waters Canoe Area Wilderness (BWCAW) in making my decision.

Wilderness qualities (which are used to monitor wilderness character) are defined as:

Untrammeled- wilderness is essentially unhindered and free from modern human control or manipulation.

Natural- wilderness ecological ecosystems are substantially free from the effects of modern civilization.

Undeveloped- wilderness is essentially without permanent improvements or modern human occupation.

Outstanding Opportunities for Solitude or a Primitive and Unconfined Type of Recreation- wilderness provides outstanding opportunities for people to experience solitude or primitive and unconfined recreation, including the values of inspiration and physical and mental challenge.

These four qualities are identified in the General Technical Report "Monitoring Selected Conditions Related to Wilderness Character: A National Framework: (USDA 2005 and 2009 reports) and Section 2(c) of the 1964 Wilderness Act (P.L. 88-577). The 1978 BWCAW Act (P.L. 95-495) includes additional purposes for this wilderness, but provides no further direction on defining the composition of wilderness character.

Section 4(b) of the Wilderness Act requires federal agencies managing wilderness to preserve wilderness character. Section 4(b) of the 1964 Wilderness Act states:

> (b) Except as otherwise provided in this Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character. Except as otherwise provided in this Act, wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.

Below I explain my rationale for my finding for compliance with Section 4(b) through considering impacts to the four qualities described above.

Untrammeled-None of the activities authorized by my decision occur inside wilderness, so there will be no impacts to the untrammeled quality. There is no action authorized by my decision manipulating wilderness (FEIS Section 5.2.12.2.2).

Undeveloped-None of the activities authorized by my decision occur inside wilderness, so there will be no impacts to the undeveloped quality. There are no structures or human facilities developed inside wilderness as a part of my decision (FEIS Section 5.2.12.2.2).

Natural-the FEIS discloses that none of the activities would adversely affect the water, air, wildlife or vegetation in the wilderness:

- **Water Resources:** The BWCAW is located approximately 20 miles north of and in a different watershed than the NorthMet Mining Project area. Surface water flow and surficial groundwater flow from the NorthMet Mining Project Proposed Action would not directly, indirectly, or cumulatively affect the water in these areas. Potential groundwater flow from the Mine Site north to the Northshore Mine (which is in a watershed of the BWCAW), if determined possible through monitoring, would be prevented (FEIS Executive Summary - NorthMet Project Effects on Water Resources).

Monitoring and steps to prevent northward flow are discussed in the FEIS (Section 5.2.2.3.5-Contingency Mitigation and Section 5.2.2.3.6-Monitoring).

- **Air Quality:** The NorthMet Mining Project Proposed Action would not adversely affect visibility in the BWCAW and other evaluated federally designated Wilderness areas (FEIS Section 5.2.7 and FEIS Section 6.2.12.4).

- **Wildlife and Vegetation:** As stated at FEIS Section 5.2.12, water quality and air quality in the BWCAW would be virtually unchanged from existing conditions. Sounds from the mining project would not reach the BWCAW (FEIS Section 5.2.8.2.3). The absence of these direct effects means that there would be no indirect effects on wildlife, vegetation, or aquatic species (FEIS Section 5.2.12). Cumulative effects would not overlap spatially with the BWCAW for these resources (FEIS Section 6.2.12.2.1 and 6.3.12).

Outstanding Opportunities for Solitude or a Primitive and Unconfined Type of Recreation-

The FEIS discloses that there would be no impacts to this quality of wilderness character from the sounds and sights of the mining project. The mining project is located approximately 20 miles from the BWCAW (FEIS Section 5.2.8.1.1).

- **Sounds:** Section 5.2.8 of the FEIS discloses impacts of sound generated by mining. Sounds from the mining project would not reach the BWCAW (see FEIS Section 5.2.8.2.3 and FEIS Figures 5.2.8-4 and 5.2.8-6).

- **Sights:** As discussed under Air Quality, visibility in the BWCAW and other federally designated Wilderness areas would not be adversely affected. Distance and the Giants Range precludes views of the mining project from within the BWCAW (FEIS Section 5.2.11.2.2).

In summary, as stated at FEIS Section 5.2.12.2.2:

> By virtue of distance, topography, watershed, or vegetation, none of the four characteristics of Wilderness defined above (Untrammeled, Undeveloped, Natural, and Solitude or a Primitive and Unconfined Type of Recreation) would be affected by the NorthMet Project Proposed Action.

For the reasons cited here and the supporting analysis in the FEIS, my decision complies with section 4(b) and other provisions of the 1964 Wilderness Act.

Clean Water Act and State Water Quality Regulations

While the Forest Service assumes no responsibility for enforcing laws, regulations or policies under the jurisdiction of other governmental agencies, I understand that the wetlands, lakes and waterways of northeastern Minnesota are a defining feature of the landscape and effects to these resources are a key concern for many interested people. I have considered the effects, both

beneficial and adverse, in making this decision on the land exchange. See **Rationale for the Decision** for discussion on this point.

Compliance with state water quality regulations related to the development of a mine will be met through the mine permitting process by the Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, and Minnesota Department of Health (see FEIS Table 1.4-1). The analysis in the FEIS predicts no significant adverse effects to water quality (FEIS Executive Summary - NorthMet Project Effects on Water Resources; FEIS Sections 5.2.2, 5.3.2, 6.2.2, 6.3.2). The U.S. Army Corps of Engineers will make a decision on issuing a permit for dredge and fill of wetlands, and all associated wetland mitigation requirements (see FEIS Section 5.2.3 for more information on wetland mitigation). Through the mine permitting process administered by the U.S. Army Corps of Engineers, legal requirements for Section 404 of the Clean Water Act will be met. The Minnesota Pollution Control Agency will make a determination on the Section 401 certification and administer the National Pollutant Discharge Elimination System (NPDES/SDS) mine permits required for the project.

My decision on the land exchange complies with the Clean Water Act and applicable federal and state regulations to protect water resources.

Executive Order 11990-Wetlands

The Land Exchange Proposed Action as modified will result in a 505 acre net increase of wetlands to the federal estate. My decision conforms to EO 11990 (FEIS Section 5.3.3.1.1).

Executive Order 11988-Floodplains

There would be no decrease in the amount of mapped floodplain or increase in the flood damage potential associated with the Land Exchange Proposed Action as modified. The effects on the ecological function of the floodplain wetlands would be mitigated through the Section 404 Permit and the proposed mitigation described in FEIS Section 4.2.3. The Land Exchange Proposed Action as modified will also increase the wetlands within the federal estate. My decision conforms to EO 11988 (FEIS Section 5.3.3.1.3).

Clean Air Act and State Air Quality Regulations

Relevant state and federal regulatory thresholds for air quality were evaluated, including visibility in nearby Class I areas (the BWCAW, Voyageurs National Park, Rainbow Lakes Wilderness, and Isle Royale National Park (FEIS Section 5.2.7). The mining project has been shown to not cause or contribute to significant air quality effects (FEIS Section 5.2.7-Summary). During the permitting process to be completed by the State of Minnesota (see FEIS Table 1.4-1), I have the role of Federal Land Manager under the Clean Air Act's Prevention of Significant Deterioration permit program. In that role I will have the opportunity to review the draft air permit under 40 CFR Section 52.21(p). My decision complies with the Clean Air Act.

Executive Order 13112 Invasive Species

Measures to minimize the spread of invasive species have been incorporated into the design of the mining project as well as wetland mitigation sites to the extent practicable. For example, "Disturbed areas would be reclaimed during operations and at closure...Seed mixes and methodologies would be designed to minimize the introduction of invasive species (FEIS Section 5.2.4-Summary)." The spread of invasive species on the non-federal tracts to be acquired by the federal government is varied but federal management would minimize spread to the extent practicable (for example, using measures described in the Superior National Forest NNIS Decision Notice of 2006). My decision complies with EO 13112.

Endangered Species Act

The Biological Assessment (BA) at Appendix D to the FEIS determined that the NorthMet Mining Project and Land Exchange Proposed Action is likely to adversely affect Canada lynx, Canada lynx critical habitat, the northern long eared bat, the gray wolf, and gray wolf critical habitat (BA, Executive Summary). The BA describes conservation measures at BA Section 7.0 to mitigate adverse effects to these species and critical habitats.

I also note that the BA states about Canada lynx and gray wolf: "It is unlikely that habitat loss and fragmentation resulting from the Project would represent a significant impact to lynx and wolf habitat from a regional perspective." On northern long-eared bats, the BA states "Impacts on northern long-eared bats from the Project would not preclude both the survival and recovery of the population as a whole." BA Section 8.0.

The BA was submitted to the US Fish and Wildlife Service for formal consultation on August 20, 2015. In accordance with the Endangered Species Act consultation process, the US Fish and Wildlife Service issued a Biological Opinion (BO) on February 5, 2016. The BO contains conservation measures which are required for compliance with the Endangered Species Act.

The BO concluded that the anticipated incidental take, described in the BO, would not jeopardize the continued existence of the Contiguous United States Distinct Population Segment of Canada lynx, gray wolf, and northern long-eared bat. It also concluded that while there may be adverse effects to critical habitat for both lynx and wolf, it will not be adversely modified. The Conservation Measures that PolyMet has committed to will also minimize the potential for take of lynx, wolf and northern long-eared bat.

Regional Forester Sensitive Species

The Biological Evaluation (FEIS Appendix D) determined that the NorthMet Mining Project and Land Exchange Proposed Action would have no effect on some Regional Forester Sensitive Species (RFSS). For other RFSS, the NorthMet Mining Project and Land Exchange Proposed Action may impact individuals but are not likely to cause a trend to federal listing or loss of viability. The Executive Summary of the Biological Evaluation displays the effect

determinations for each RFSS. Given these findings, my decision meets the direction in Forest Service Manual 2672.42.

Bald Eagle Protection Act and Migratory Bird Treaty Act

The Biological Evaluation (FEIS Appendix D) and the wildlife analysis (FEIS Sections 5.2.5, 5.3.5, 6.2.5, and 6.3.5), evaluates effects to wildlife, including the bald eagle and other birds identified as Regional Forester Sensitive Species. The evaluation found that the NorthMet Mining Project and Land Exchange Proposed Action may impact individuals but are not likely to cause a trend to federal listing or loss of viability. My decision complies with the Bald Eagle Protection Act and Migratory Bird Treaty Act.

My decision complies with the Migratory Bird Treaty Act and the 2008 Memorandum of Understanding on migratory birds between the Forest Service and the U.S. Fish and Wildlife Service (extension signed August 1, 2016). The NorthMet Mining Project Environmental Impact Statement and Biological Evaluation disclose effects to birds, focusing on species of management concern, and on habitat used by birds. Effects of the project activities on forest wildlife species (including birds) is evaluated by looking at effects to Management Indicator Habitats (MIH). These type and age groupings represent the broad spectrum of habitat used by the forest bird community. The MIH analyses and the project effects are discussed in the NorthMet Biological Evaluation. There will be no significant effect to birds under the proposed action.

Objection Review, Response, and Instructions to the Superior National Forest

The objection process at 36 CFR 218 provides for a predecisional administrative review for certain proposed actions of the Forest Service. The objection process was initiated by the November 17, 2015 legal notice in the Duluth News-Tribune. The date of the legal notice marked the beginning of the 45-day objection filing period.

Objections to the proposed project were received via electronic or postal submissions until the January 4, 2016 objection filing period end date. Over 22,500 individual objections were received. Objections were compiled and sorted using the Comment Analysis and Response Application database by source, key objection issue, and date of receipt. Objections received after the deadline were dismissed and not considered per 36 CFR § 218.10 (a) (1). Those who submitted objections after the deadline were notified by dismissal letter or automated notification from the email inbox that their objections were not considered as they were not filed in a timely manner per 36 CFR § 218.10 (b).

Objections were received from cooperating agencies including federally recognized tribes in the immediate vicinity of the proposed mining project and land exchange. Formal objections were received from two Bands of Lake Superior Chippewa: Grand Portage and Fond du Lac. The objection submitted by the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) was

also considered a tribal submission. Individual objections were also received from tribal members. Each objection received within the objection period was considered in the process.

Some objectors requested to meet to discuss the issues raised in their objections. Due to the high number of objectors and the high level of clarity of the issues raised in their objections, the Reviewing Officer felt further issue clarification was unlikely to happen during a meeting. The Reviewing Officer also believed there were limited resolutions available for the Forest Service's land exchange decision. Therefore, the Reviewing Officer declined to meet with objectors per 36 CFR § 218.11 (a).

The Reviewing Officer convened an independent team of resource specialists to review the issues based on the prior specific written comments[13] set forth in the objection letters. The review team analyzed the issues along with the documentation in the Project Record including, but not limited to, the FEIS and the Draft ROD. The Reviewing Officer written response was based upon review of the objections, the Project Record, and the recommendations of the review team.

Objection Issues and Objection Response

All timely, legible objections received were considered in the administrative review process. Many of the objectors submitted identical, or near-identical issues. Individual issues were grouped to aid the review team. Approximately 100 distinct issue categories were identified. These issue categories were further grouped into five general categories:

- **Issues or concerns that were not clear in the FEIS and Draft ROD**
  In those cases where all the information was present, although not as clearly displayed as it could have been, the Reviewing Officer did not issue additional instructions.

- **Errata**
  Examples include correcting page numbers and fixing minor factual errors. They will be noted and corrected as appropriate in the project record.

- **Public interest criteria**
  Objectors were concerned certain criteria may have been over- or under-emphasized, such as the lack of public access for the current federal parcels and comparison of resource values between the lands to be exchanged. The review shows these criteria were

[13] 36 CFR § 218.2 Specific written comments. Written comments are those submitted to the responsible official or designee during designated opportunity for public participation (§ 218.5(a)) provided for a proposed project. Written comments can include submission of transcriptions or other notes from oral statements or presentation. For the purposes of this rule, specific written comments should be within the scope of the proposed action, have a direct relationship to the proposed action, and must include supporting reasons for the responsible official to consider.

appropriately considered in the FEIS and Draft ROD (Table 2), and no instructions were needed.

- **Scientific controversy**
  The Reviewing Officer review concluded that the analysis addresses scientific controversy regarding this project. The Reviewing Officer stated that it is apparent that scientific controversy was considered from the submitted public comments and appropriate adjustments were made to the analysis. Documents in the Project Record describe why certain data sets were used over others.

- **New information that arose after the last public comment opportunity**
  A key issue identified in the objections included concerns about use of the MODFLOW model described under the water quality public interest determination topic earlier in this Record of Decision (see **Public Interest Determination**, **Water Quality**). The objectors asserted that the MODFLOW modeling was incorrectly calibrated and used water levels in the Peter Mitchell Pits that are too high and that understanding and predicting the scope of potential impacts could be improved.

  Based on the thorough work of the review team, and the Reviewing Officer's own consideration of this issue, the Reviewing Officer found that the Forest Service has met its legal obligations on this topic, including those obligations under the National Environmental Policy Act (NEPA). The Reviewing Officer stated that it is clear that opposing science has been considered, and adaptive management is in place if northward flow of groundwater is detected.

  Another issue relating to new information that arose after the last public comment opportunity was included in the Reviewing Officer's instructions. The instructions identified a need to address the June 2015 report "The Value of Nature's Benefits in the St. Louis River Watershed" for purposes informing the analysis and the public interest determination. Final ROD Appendix C section C.2.4 addresses the instructions on the potential for new information in the report.

  'The Value of Nature's Benefits in the St. Louis River Watershed' (Project Record), a study commissioned by the Fond du Lac Band of Lake Superior Chippewa, provides a valuation of the economic benefits of ecosystem goods and services provided by the St. Louis Watershed. The study adapts The Millennium Ecosystem Assessment's classification of ecosystem services into 5 categories:
  - Provisioning services: Provides basic goods including food, water and materials
  - Regulating services: Benefits obtained from natural control of ecosystem processes
  - Supporting services: Provide refuge and reproduction habitat to wild plants and animals
  - Information services: Provide humans meaningful interaction with nature

- Cultural services: Provide humans with psychological, social and physiological health responses

Discussion in Final ROD Appendix C categorizes the Final ROD public interest factors considered for the land exchange proposed action (see Final ROD Table 2) into the five categories of ecosystems goods and services described in 'The Value of Nature's Benefits in the St. Louis River Watershed' and use these as a framework for assessing the value of ecosystem services in the St. Louis River watershed. The public interest factors considered in the FEIS and Final ROD cover all five of the ecosystem services presented in the report.

The Reviewing Officer's July 11, 2016 response letter to objectors interested in this project provides greater detail on the objection review process, considerations given during the review, and conclusions on the issues within the submitted objections.

Instructions

A final decision, in this case a ROD, may not be signed until the Reviewing Officer has responded in writing to all pending objections (36 CFR § 218.12 (a)) and until all instructions identified by the Reviewing Officer in the objection response have been addressed by the Responsible Official (36 CFR § 218.12 (b)).

The July 11, 2016 letter included instructions for the Responsible Official to address prior to signing this ROD. These instructions are addressed in detail in Appendix C of this ROD and incorporated into the text of this decision as necessary. As such this ROD meets direction under 36 CFR § 218.12 (b).

The following are instructions identified by the Reviewing Officer for the Responsible Official to address prior to signing this Final ROD.:

- Review sections of the Project Record on Threatened and Endangered Species and Regional Forester Sensitive Species, which includes both plants and animals and make the following adjustments as needed:
  a) reconcile differences between the FEIS and the Biological Evaluation
  b) provide context for the project's impacts on the species
  c) clarify and/or provide the appropriate scale of the analysis.

- Review the appropriate sections of the Project Record on the effects on wildlife, wildlife corridors, Threatened and Endangered Species, Regional Forester Sensitive Species, and other species of concern that the proposed land exchange will cause and clarify the effects and context of the land exchange on these wildlife resources. The tradeoffs involved with exchanging and acquiring land should be made clear. Finally, examine the wildlife corridor analysis and clarify as needed to improve the context description.

- Provide a synopsis of the sulfide abatement program and the critical role the MDNR permit monitoring plays in the long-term protection of wild rice beds downstream of the project area.
- Address the June 2015 report "The Value of Nature's Benefits in the St. Louis River Watershed[14]" for purposes informing the analysis and the public interest determination. In the event that this report could contain new information that should be considered, address the report to the extent it is applicable to the proposed land exchange.
- Include information stating that all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted. This information should also discuss the monitoring and enforcement program for any mitigation as appropriate.
- Complete the consultation required under the National Historic Preservation Act (NHPA) Section 106 process and meet all the regulatory requirements of 36 CFR Part 800 prior to signing the ROD. The ROD should describe the outcome of the Section 106 process and document appropriate consideration of historic, tribal, and cultural resource issues.
- Provide a more concise and comprehensive disclosure of environmental justice issues in the ROD utilizing the Council on Environmental Quality's (CEQ) environmental justice guidelines. It is critical to acknowledge that neither E.O. 12898 nor the CEQ guidelines prescribe any specific format for examining environmental justice, but it is the responsibility of federal agencies to address environmental justice in a manner that is clear, concise, and comprehensible. The ROD should reference the CEQ guidelines and provide a clear explanation as to how each of the six general principles on pages 8-9 of the guidelines are addressed.

Final Decision

This decision is subject to certain Secretarial approval and 30-day congressional oversight requirements.

Those who are legal instrument holders, such as permittees, can appeal under 36 CFR 214 regulations upon the issuance of the final decision.

After signing this Final Record of Decision, the Forest Service and PolyMet will begin the realty process by signing a Land Exchange Agreement that captures the terms of the real estate transaction. The Forest Service process goes on to include

- preparation of a title package,

[14] Fletcher, A., Christin, Z. 2015. The Value of Nature's Benefits in the St. Louis River Watershed. Earth Economics, Tacoma, WA.

- congressional oversight and Secretary of Agriculture approval and
- title review and deed preparation by USDA legal counsel.

Contact Person

For more information about the specific activities in this Decision, please contact Michael Jiménez, Project Manager at mjimenez@fs.fed.us or 218-626-4383.

DECIDING OFFICER:

Constance Cummins 1/9/2017

CONSTANCE CUMMINS Date
Forest Supervisor
Superior National Forest

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