

## 1 **4.3 LAND EXCHANGE**

### 2 **4.3.1 Land Use**

3 The federal and non-federal lands were reviewed against parameters similar to the Mine Site and  
4 Plant Site, including existing land use plans, zoning designations, public access routes, mineral  
5 ownership and economic potential, and title.

6 Additionally, each tract of the Land Exchange Proposed Action was evaluated for the presence  
7 of known existing hazardous material effects and contaminated sites and for the potential for  
8 hazardous materials to be currently affecting the lands. Research to evaluate potential hazardous  
9 materials or hazardous material sites on these land areas consisted of review of three types of  
10 data sources, depending on the size and geographic spread of the land area. The data sources  
11 used include:

- 12 • an ASTM/AAI Phase I ESA;
- 13 • an Environmental Regulatory Database search, which was conducted by Environmental Data  
14 Resources, Inc. (EDR), and consists of a report of federal, state, local, or tribal agency  
15 databases; and
- 16 • the MPCA website database titled, “What’s In My Neighborhood.”

17 A Phase I ESA provides a comprehensive review of environmental regulatory databases and  
18 includes a physical site visit, interviews with property or adjacent property owners and local  
19 officials, and review of historical data such as aerial photographs, topographic maps, fire  
20 insurance maps, land title records, or property tax files. Conclusions are drawn based upon the  
21 findings to identify recognized environmental conditions based on the comprehensive review and  
22 the opinion of the environmental professional.

23 The Environmental Regulatory Database search defines and summarizes the ASTM databases  
24 reviewed in the EDR report and notes whether any sites (including the target property) were  
25 identified within a specified search radius. The database sites identified in the EDR report were  
26 evaluated with respect to the target land area to determine which sites indicate hazardous  
27 material effects.

28 The MPCA website database identifies potentially contaminated sites through a searchable  
29 inventory of properties, as well as sites that have already been cleaned up and those currently  
30 being investigated or cleaned up. The website also contains a searchable inventory of businesses  
31 that have applied for and received different types of environmental permits and registrations  
32 from the MPCA.

#### 33 **4.3.1.1 Federal Lands**

##### 34 **4.3.1.1.1 Land Exchange Proposed Action**

35 The boundaries of the federal lands include the Mine Site and extend further north and west and  
36 exclude the privately owned land bordering Dunka Road to the south of the Mine Site. Section  
37 4.2.1.2 provides a discussion of the existing land use on the federal lands.

38 The Land Exchange Proposed Action includes 6,495.4 acres of federal lands with a perimeter of  
39 approximately 23 linear miles. By comparison, Superior National Forest comprises 4,600,831.8  
40 acres, of which 2,171,603.9 acres, with a perimeter of 10,054.8 linear miles (including the  
41 federal lands), are managed by the USFS. The majority of the federal lands are within the  
42 General Forest – Longer Rotation Management Area, while the remainder is within the General  
43 Forest Management Area (Figure 4.3.1-1). These management areas are defined in Section  
44 4.2.1.2. Table 4.3.1-1 summarizes the acreage of the federal lands, by management area, for the  
45 Land Exchange Proposed Action.

46 There is no known existing contamination by hazardous materials in the federal lands.

47 **Table 4.3.1-1 Management Area Designations for the Federal Lands under the Land**  
48 **Exchange Proposed Action**

Management Area Designation	Total Acreage
General Forest – Longer Rotation	6,140.1
General Forest	355.3

#### 49 **4.3.1.1.2 Land Exchange Alternative B**

50 Under the Land Exchange Alternative B, 4,752.6 acres of federal lands would be exchanged for  
51 the 4,926.3-acre Tract 1. Table 4.3.1-2 summarizes the acreage of the federal lands, by  
52 management area, for the Land Exchange Alternative B. Section 4.3.1.2.1 describes Tract 1.

53 **Table 4.3.1-2 Management Area Designations for the Federal Lands under Land Exchange**  
54 **Alternative B**

Management Area Designation	Total Acreage
General Forest – Longer Rotation	4,397.3
General Forest	355.3

#### 55 **4.3.1.2 Non-federal Lands**

56 The non-federal lands comprise five tracts—each consisting of one or more individual parcels—  
57 totaling 7,075.0 acres. The land use conditions of each tract are described below. Tracts 1 and 2  
58 of the Land Exchange Proposed Action include areas with potential conservation value (i.e.,  
59 cRNA Management Area and Riparian Emphasis Management Area). Some of the parcels within  
60 Tract 2, Tract 3, and Tract 4 have limited accessibility by either road or foot trail, although there  
61 are segments that show evidence of timber harvesting (Figures 5.3.1-1 and  
62 5.3.1-2).

##### 63 **4.3.1.2.1 Tract 1 – Hay Lake Lands**

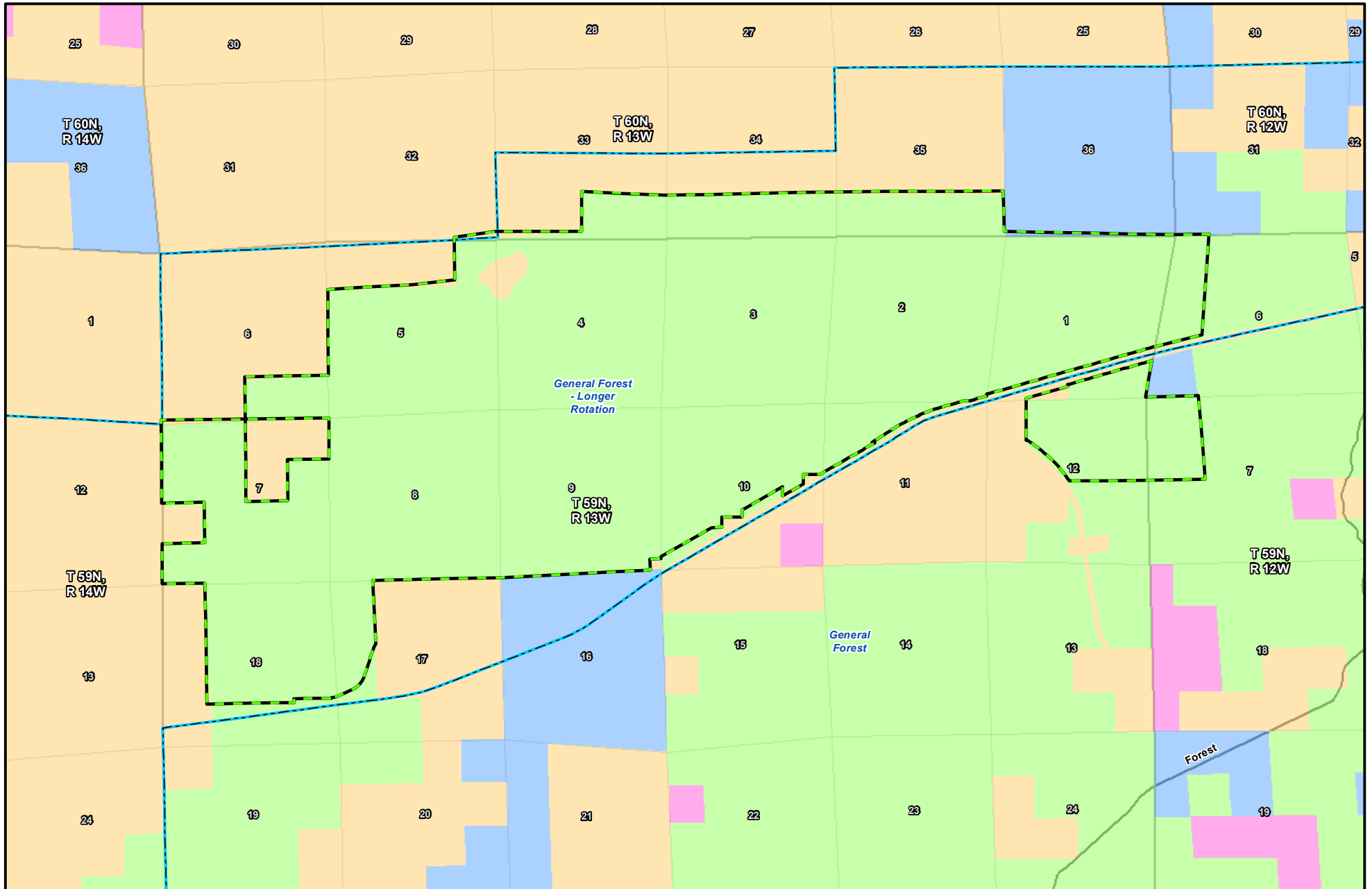
64 Tract 1 is located in central St. Louis County, approximately 3 miles north-northwest of the City  
65 of Biwabik. The tract consists of one parcel covering approximately 4,926.3 acres, with a  
66 perimeter of approximately 15 linear miles.

67 **Land Use Regulation**

68 Land use in Tract 1 is governed by the St. Louis County zoning ordinance. It is divided among  
69 the following zoning districts (St. Louis County 2011):

- 70 • **Forest Agricultural Management (FAM-1):** This district recognizes and promotes the  
71 development of forestry and agricultural industry and encourages recreational activity. It is  
72 typically applied to areas with very low density land development. This district is located in  
73 the northeast corner and occupies approximately 5 percent of the Tract 1 lands.
- 74 • **Forest Agricultural Management (FAM-2):** This district recognizes and promotes the  
75 development of forestry and agricultural industry and encourages recreational activity. It is  
76 typically applied to areas with very low density land development. Whereas FAM-1 has a  
77 minimum parcel size of at least 35 acres, FAM-2 has a minimum parcel size of 17 acres. This  
78 district is located throughout the parcel and occupies approximately 57 percent of the Tract 1  
79 lands.
- 80 • **Sensitive Areas (SENS-3):** In addition to the forestry/agriculture focus embodied in the  
81 FAM-2 district, the SENS-3 district also recognizes significant areas that are unsuitable for  
82 intensive development due to the potential for environmental hazards or other features to  
83 negatively affect environmental conditions. This classification surrounds most of Hay Lake  
84 and Little Rice Lake, as well as a large portion of the river and riparian areas. This district is  
85 located throughout the parcel and occupies approximately 33 percent of the Tract 1 lands.
- 86 • **Residential (RES-3):** This district recognizes and promotes residential development with  
87 limited non-residential uses. This district is located northeast and southwest of Hay Lake and  
88 occupies approximately 5 percent of the Tract 1 lands.

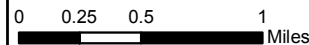
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- Federal Lands
- Management Area
- Road
- Section Boundary
- 1 Section Label
- National Forest Ownership
- County Ownership
- State of Minnesota Ownership
- Other Ownership



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**Figure 4.3.1-1**  
**Ownership of Federal Lands**  
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92 Adjacent to Tract 1 on the west and north are Superior National Forest lands that fall within the  
93 General Forest Management Area. Two cRNA management areas adjoin the tract: Pike  
94 Mountain on the southwest corner and Loka Lake on the northeast corner (USFS 2011b). The  
95 cRNAs are designated by the USFS for the purpose of preserving and maintaining areas for  
96 ecological research, observation, genetic conservation, monitoring, and educational activities. No  
97 recreation facilities are provided in these management areas and while dispersed recreation  
98 occurs, it is generally discouraged. The Pike Mountain cRNA is characterized by a hardwoods  
99 forest plant community. The Loka Lake cRNA is characterized by high-quality lowland black  
100 spruce and tamarack swamp (USFS 2011h).

101 Adjacent to Tract 1 on the south and east are privately owned lands within St. Louis County's  
102 Multiple Use Non-Shoreland 4 (MUNS-4) zoning district. This designation allows for a diverse  
103 array of developments suitable to rural areas outside of shoreland areas. These may include  
104 residential, light industry, commercial, livestock, sanitary landfill, airport, and utility facilities,  
105 among others (St. Louis County 2011).

106 As part of the Land Exchange Proposed Action, the non-federal lands were the subject of Phase I  
107 ESAs. Potential areas of legacy contamination were discovered on Tract 1. These areas were  
108 investigated and remediated through removal and disposal of potentially contaminated soil and  
109 materials. Any remnant contamination (limited to two instances where less than 5 gallons of used  
110 oil were spilled) is expected to degrade in situ (NTS 2011).

#### 111 **Existing Land Use**

112 | Tract 1 includes Hay Lake, identified as a wild rice water by the MDNR, Little Rice Lake, and  
113 | an unnamed lake (see Figure 4.3.1-2). Approximately 8 miles of the upper Pike River flow  
114 | through Tract 1. There is an electrical transmission line across Sections 19, 20, and 21, and a  
115 | portion of Section 16 (USFS 2011b). CR 715 forms part of the eastern boundary of the tract.

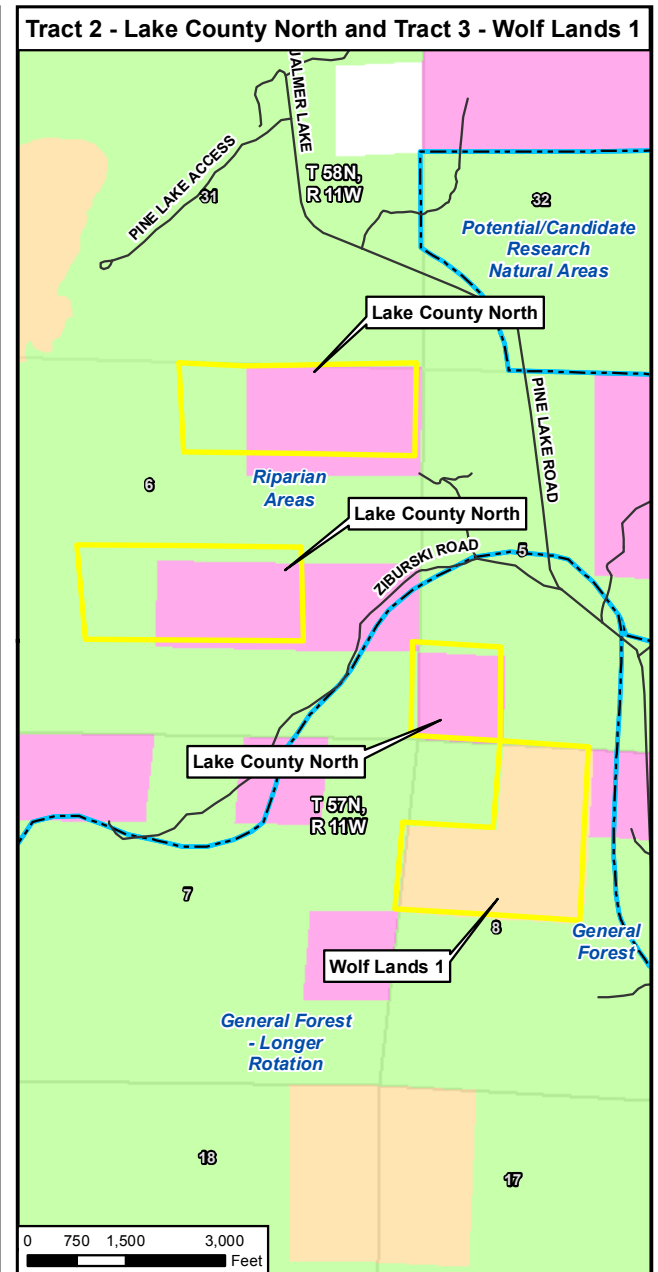
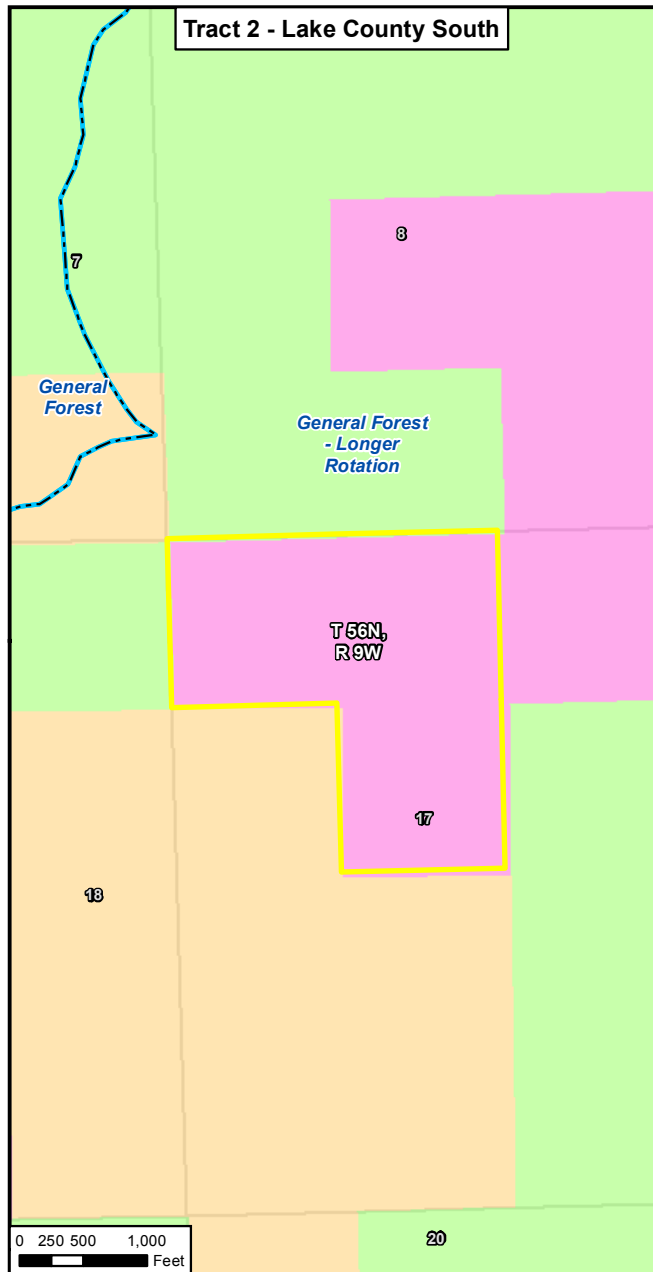
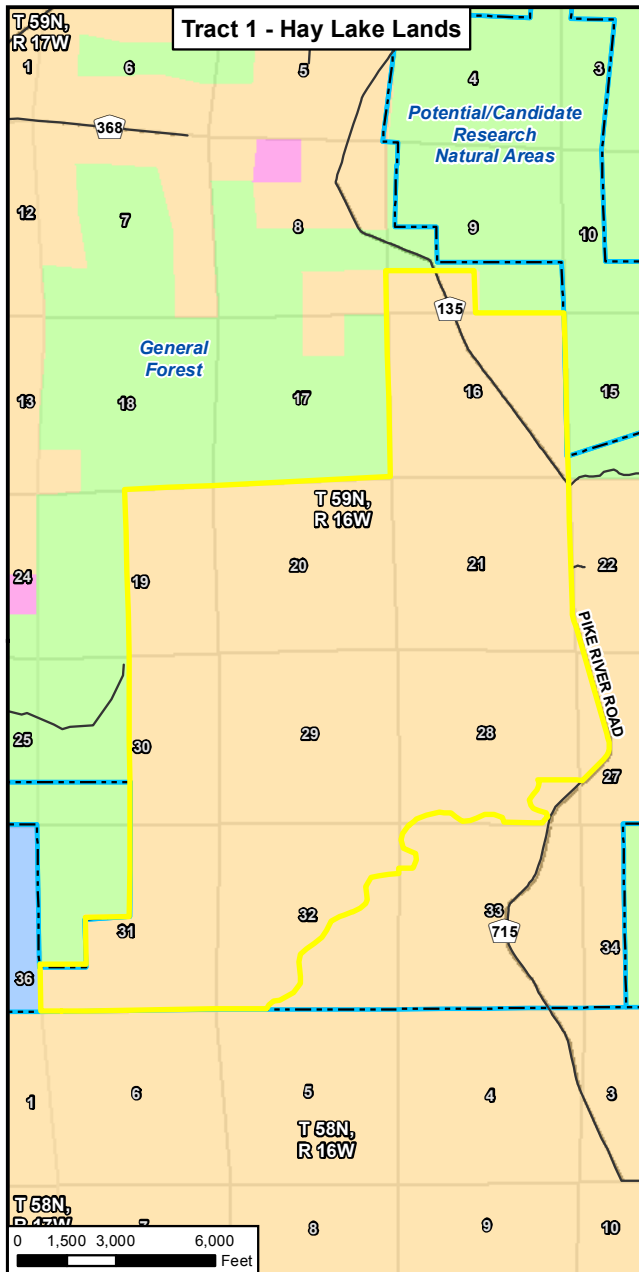
116 | A small boat landing and primitive parking area provide access to the Pike River adjacent to CR  
117 | 715. Several trails also emanate from CR 715, some with bridges crossing the upper Pike River;  
118 | all of these trails are gated or bermed. There is evidence that a sand/gravel pit near CR 715 has  
119 | been used as a dumping site in the recent past, but has been fully remediated and cleared of trash  
120 | and debris (NTS 2012). The gravel pit area is gated, but there is evidence that it has been used as  
121 | a shooting range. There are also numerous deer stands on the parcel (ERM 2011b).

#### 122 **Property Rights, Title, and Mineral Resources**

123 PolyMet currently owns surface rights to Tract 1. The tract is subject to a mortgage in favor of  
124 Iron Range Resources, which would be satisfied at closing of the Land Exchange Proposed  
125 Action (USFS 2011c). Title to this parcel has been reviewed and approved by the USDA, Office  
126 of General Counsel so long as certain recommended affirmative title insurance is provided  
127 (USFS 2011c).

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- Non-federal Lands
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- 1** Section Label
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**Figure 4.3.1-2**  
**Ownership of Tracts 1, 2 and 3**  
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132 Tract 1 was assessed for mineral resource potential as part of the Feasibility Analysis completed  
133 in 2009 (USFS 2009c). The geology of the area is mostly granitic rocks with the southwestern-  
134 most part underlain by metamorphosed basalts, gabbros, and sedimentary rocks. The mineral  
135 potential for the tract was determined to be limited, as granitic rocks are not known to host  
136 mineral deposits. The MDNR core library index showed no drilling on or near the area.  
137 Additional investigation in 2011 indicates potential for aggregate production from the  
138 northeastern corner of the tract along the Pike River. Tract 1 appears to have a low potential for  
139 exploration or development of bedrock or surficial deposits (Barr 2011c).

#### 140 **Legacy Pollution**

141 The legacy pollution data review described in Section 4.3.1 found that hazardous materials may  
142 be present on Tract 1, specifically along Pike River Drive on the northeast side of the tract, and  
143 between Hay Lake and CR 715, west of the Pike River. The Phase I ESA for Tract 1 described  
144 several areas where releases of hazardous materials may exist due to unauthorized dumping. The  
145 EDR report and MPCA database also identified three unauthorized or unpermitted dump sites on  
146 Tract 1. The southernmost dump, west of the Pike River, is named Unauthorized Dump-Biwabik.  
147 The two remaining dump sites, Unauthorized Dump-2 and Unnamed Dump-Biwabik/2, are north  
148 of the first dump site and adjacent to CR 715. These types of dumps are typically old farm,  
149 homestead, or municipal disposal sites that accepted household waste. There are no records of  
150 inspection or enforcement actions at these sites as documented on the MPCA database (NTS  
151 2010a; EDR 2009a; MPCA 2012d); however, a subsequent Phase II investigation found no  
152 evidence of spills or contamination, and finds that legacy pollution has been resolved at the site  
153 (NTS 2011).

#### 154 **4.3.1.2.2 Tract 2 - Lake County Lands**

155 Tract 2 comprises four parcels in Lake County, southeast of Seven Beaver Lake, totaling 381.9  
156 acres with a perimeter of approximately 7 linear miles. No hazardous material issues were  
157 identified at Tract 2 (EDR 2011a; EDR 2011b; MPCA 2012d).

#### 158 **Land Use Regulation**

159 All Lake County parcels fall within Lake County's Forest-Recreation zoning district (Nelson,  
160 Pers. Comm., October 10, 2011). The Forest-Recreation district provides for remote residential  
161 development distant from public services. It is intended to prevent the destruction of natural or  
162 man-made resources, maintain large tracts for forest recreation purposes, provide for the  
163 continuation of forest management and production programs, and foster recreational uses and  
164 other compatible activities.

165 The Lake County North parcels are surrounded by land within two Superior National Forest  
166 Management Areas (see Figure 4.3.1-2): the General Forest – Longer Rotation Management  
167 Area (see Section 4.2.1.2) and the Riparian Emphasis Area Management Area. Lands in the  
168 Riparian Emphasis Area are located along rivers and lakes that receive moderate to low levels of  
169 recreation use. This designation promotes the restoration, protection, and enhancement of areas  
170 sensitive to degradation. Land surrounding Seven Beaver Lake and adjacent to Tract 2 are the  
171 headwaters area of the St. Louis River, and are designated as a Riparian Emphasis Area  
172 Management Area.

173 The Lake County South parcel is largely bordered by lands in the General Forest – Longer  
174 Rotation Management Area. Adjacent parcels to the southwest are privately owned land; parcels  
175 to the northeast are county land in the Forest-Recreation zoning district.

#### 176 **Existing Land Use**

177 A trail provides access to the Lake County South parcels, but access to the trail is relatively  
178 difficult (ERM 2011b). There is evidence of clearcut timber activity on the Lake County North  
179 parcels.

180 There is limited access to the Lake County South parcel due to wetlands and private land  
181 restrictions, and little evidence of active use (ERM 2011b).

#### 182 **Property Rights, Title, and Mineral Resources**

183 Tract 2 parcels are tax forfeit lands that are being purchased in the name of Lake-Forest  
184 Enterprise, Inc. on a land contract from Lake County. An assignment on file with Andresen and  
185 Butterworth, PA assigns all right, title, and interest in these lands to PolyMet (USFS 2011c).

186 A review of mineral resources on Tract 2 indicates a low potential for exploration or  
187 development of bedrock or surficial deposits (Barr 2011c). A title commitment review found that  
188 one 40-acre parcel has one-half mineral interest outstanding and that all other minerals will be  
189 reserved by the State and subject to the Secretary’s Rules and Regulations. Within the Lake  
190 County South parcel, one 40-acre parcel is subject to mineral reservation that includes the right  
191 to sink, cave, disturb, or remove surface material. Another parcel has one-half outstanding  
192 mineral interest with the right to remove but “doing no injury to the surface or else paying for  
193 damages.” The third and final 40-acre parcel and the remaining one-half mineral interest would  
194 be reserved by the State of Minnesota and would be subject to the Secretary’s Rules and  
195 Regulations (USFS 2011c).

#### 196 **4.3.1.2.3 Tract 3 – Wolf Lands**

197 The Wolf Lands consist of four separate parcels in Lake County totaling 1,575.8 acres with a  
198 perimeter of approximately 14 linear miles. No hazardous material issues were identified at Tract  
199 3 (EDR 2011b; EDR 2011c; EDR 2011d; EDR 2011e; MPCA 2012d).

#### 200 **Land Use Regulation**

201 All Tract 3 parcels are within Lake County’s Forest-Recreation zoning district, defined in  
202 Section 4.3.1.2.3 (Nelson, Pers. Comm., October 10, 2011).

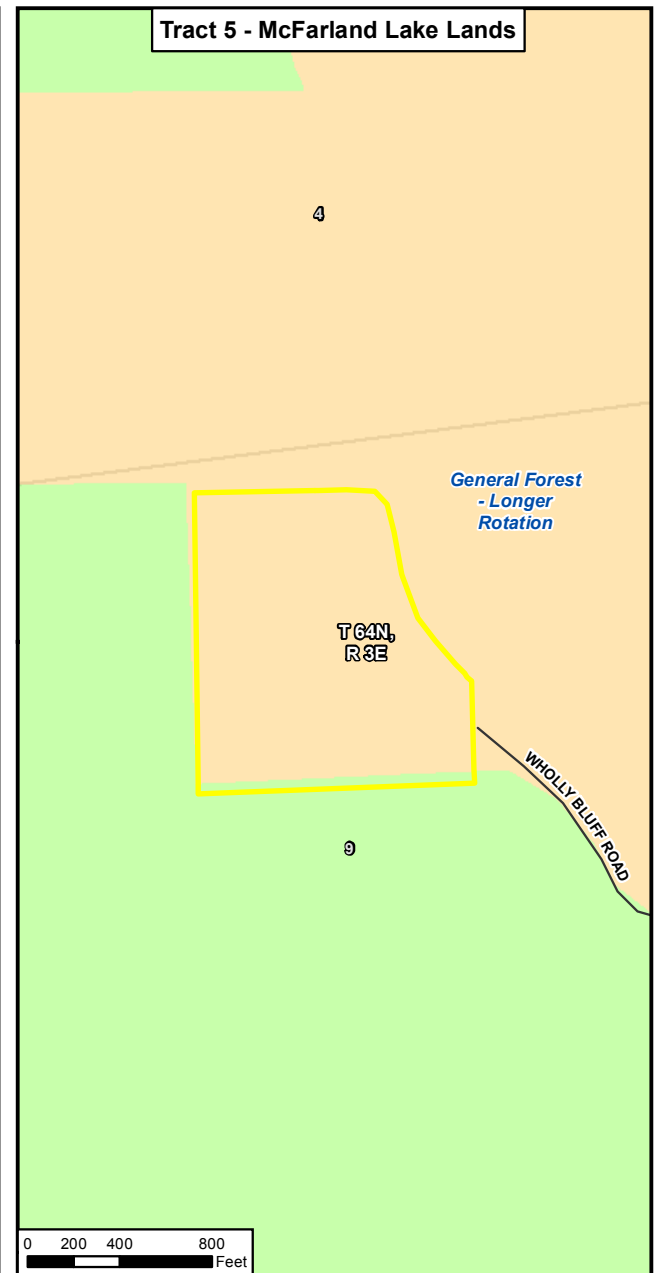
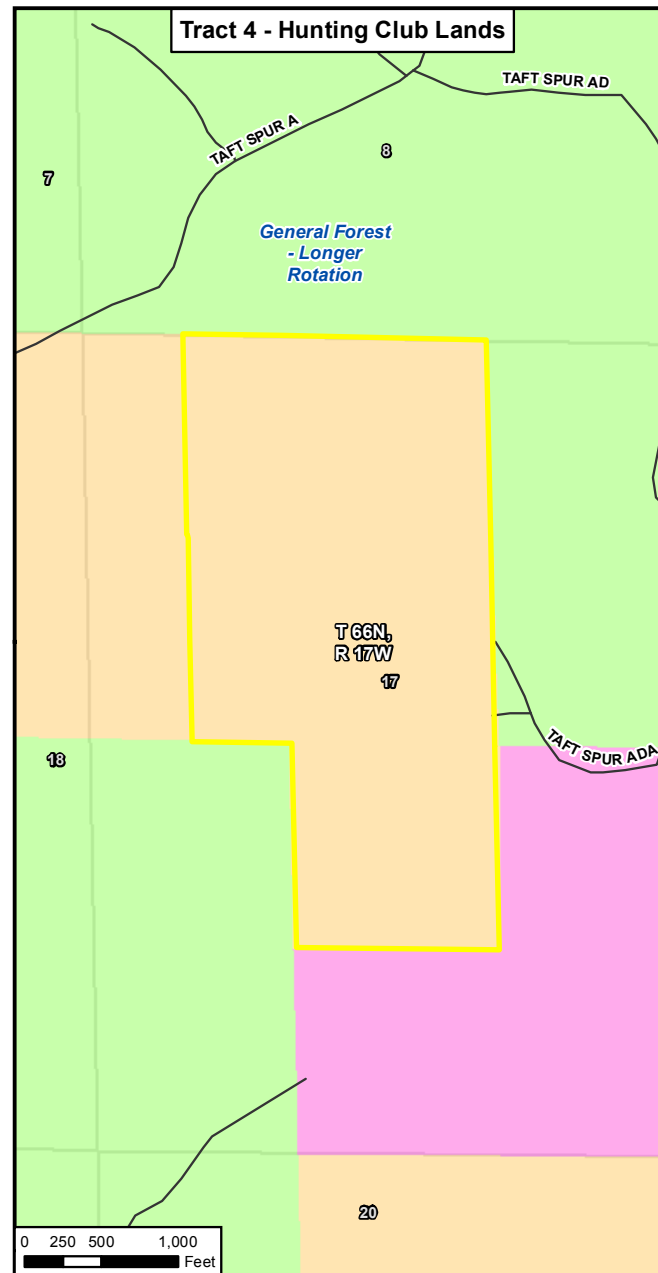
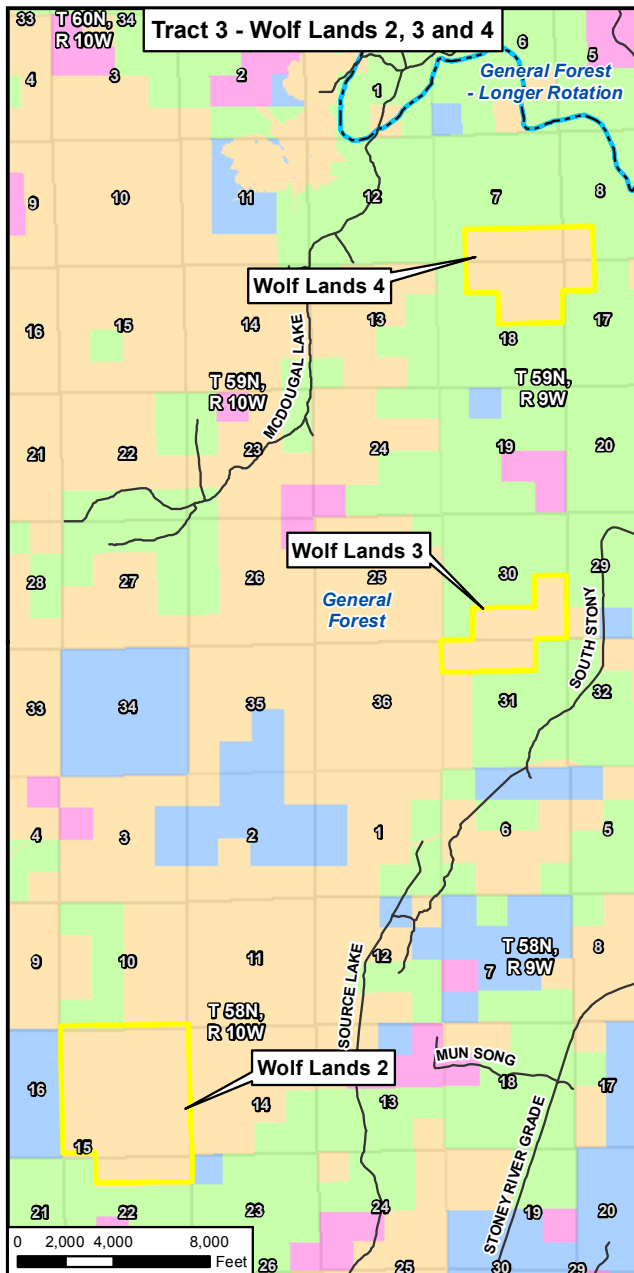
203 Wolf Lands 1, the southernmost parcel, is largely bordered by Superior National Forest land in  
204 the General Forest-Longer Rotation Management Area. Adjacent parcels to the southwest and  
205 northeast corners owned by Lake County are also within the Forest-Recreation district (see  
206 Figure 4.3.1-2).

207 Wolf Lands 2 is bordered on the north and south by Superior National Forest land in the General  
208 Forest Management Area. Adjacent parcels to the east are privately owned, in Lake County’s  
209 Forest-Recreation district. Adjacent parcels to the west and southeast are state-owned land (see  
210 Figure 4.3.1-3).

211 Wolf Lands 3 is adjacent to Superior National Forest land in the General Forest Management  
212 Area. Small privately-owned parcels to the west and east are within Lake County's Forest-  
213 Recreation district (see Figure 4.3.1-3). A timber harvest agreement currently encumbers parts of  
214 this parcel (USFS 2011c).  
215

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- Non-federal Lands
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**Figure 4.3.1-3**  
**Ownership of Tracts 3, 4 and 5**  
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220 Wolf Lands 4 is surrounded by Superior National Forest land in the General Forest Management  
221 Area (see Figure 4.3.1-3).

### 222 **Existing Land Use**

223 | Access to **Wolf Lands** 1 and 2 is limited, due to the distance from roads and the presence of  
224 wetlands surrounding parcel 2. There is no evidence of any active land use on either of these  
225 parcels (ERM 2011b).

226 | **Wolf Lands** 3 is accessible from a trail off of Forest Road 393. There is evidence of ongoing  
227 timber harvesting on this parcel (ERM 2011b).

228 | **Wolf Lands** 4 is accessible via overland hiking from Forest Road 106, but there is no evidence of  
229 active land use (ERM 2011b).

### 230 **Property Rights, Title, and Mineral Resources**

231 Tract 3 is being purchased in the name of Lake-Forest Enterprise, Inc., through options from  
232 Wolf Lands, Inc. An assignment on file with Andersen and Butterworth, PA assigns all right,  
233 title, and interest in these lands to PolyMet (USFS 2011c).

234 There appears to be low potential for exploration or development of bedrock or surficial deposits  
235 on the Wolf Lands parcels. There is a moderate potential for aggregate development within  
236 parcel 2, but the parcel's wetland areas and limited access may restrict this opportunity (Barr  
237 2011c).

238 Within Wolf Lands 1 there is an undivided three-quarter mineral interest reserved by Anton T.  
239 Anderson; all remaining mineral interests are held by Kimberly Clark with the right to cave,  
240 disturb, damage, or remove the surface while accepting liability for surface damage. The title  
241 commitment review indicated that this represents a poor condition of title but may be immaterial  
242 because the mineral development potential is low. In addition, there is no timber reservation or  
243 agreement in place (USFS 2011c).

244 Within Wolf Lands 2, 3, and 4, mineral interests are reserved by Duluth & Iron Range Railroad  
245 Co. along with the right to sink, cave, disturb, and remove the surface. The title commitment  
246 review indicated that this represents a poor condition of title that may be immaterial because the  
247 mineral development potential is low.

248 Within Wolf Lands 3, Stora Ernsø North America Corp. has reserved timber rights pursuant to a  
249 timber agreement in its deed to Wolflands Corporation. The timber reservation expires  
250 December 31, 2013. The timber reservation applies to Sections 8 and 17, T59N, R9W (two 40-  
251 acre parcels) (USFS 2011c). There are no timber reservations or agreements in place for Wolf  
252 Lands 1, 2, or 4.

#### 253 **4.3.1.2.4 Tract 4 – Hunting Club Lands**

254 Tract 4 is a single parcel southwest of Crane Lake in St. Louis County. It is composed of 160.0  
255 acres, with a perimeter of approximately 2 linear miles. No hazardous material issues were  
256 identified at Tract 4 (EDR 2011f; MPCA 2012d).

257 **Land Use Regulation**

258 Tract 4 is within St. Louis County's Forest Agricultural Management (FAM-1) zoning district.  
259 This district is intended to promote the forestry and agricultural industries, as well as recreational  
260 uses (St. Louis County 2011). Adjacent parcels on the west and southeast are also in this county  
261 zoning district. Adjacent parcels to the southwest, north, and east are Superior National Forest  
262 lands in the General Forest– Longer Rotation Management Area (see Figure 4.3.1-3).

263 **Existing Land Use**

264 Tract 4 is accessible by trail from a gravel road northwest of the property. The tract partially  
265 includes portions of two small unnamed lakes. There is no evidence of active land use.

266 **Property Rights, Title, and Mineral Resources**

267 There is low potential for exploration or development of bedrock or surficial deposits within  
268 Tract 4 (Barr 2011c). The only title exception is the property's enrollment in the Sustainable  
269 Forest Incentive Act Covenant dated September 3, 2002. This status normally includes an 8-year  
270 commitment for enrollment (USFS 2011c). Definitive information about mineral ownership and  
271 expiration of the Sustainable Forest Incentive Act covenant (dated 2002) for this tract will be  
272 provided in the Final EIS.

273 **4.3.1.2.5 Tract 5 - McFarland Lake Lands**

274 Tract 5 is a single parcel approximately 3 miles from the US-Canada border in Cook County. It  
275 covers approximately 30.8 acres, with a perimeter of approximately 1 linear mile. No hazardous  
276 material issues were identified at Tract 5 (NTS 2010b; EDR 2009b; MPCA 2012d).

277 **Land Use Regulation**

278 Tract 5 is in an unincorporated area in Cook County's Forest/Agriculture Residential (FAR 2)  
279 zoning district. This designation is characterized by a mix of forestry, agriculture, residential,  
280 and recreational uses (Cook County 2011). Adjacent privately owned parcels to the north and  
281 southeast are also within this county zoning designation. The tract is bordered on the west and  
282 south by lands within the General Forest – Longer Rotation Management Area (see Figure  
283 4.3.1-3).

284 **Existing Land Use**

285 Tract 5 was formerly owned and used by Wheaton College. A bunkhouse, fire ring, outhouse,  
286 and cistern are present, although these structures would be removed prior to the completion of  
287 the Land Exchange Proposed Action. The tract's eastern boundary is formed by McFarland  
288 Lake, an entry point to the BWCAW. Access to the property is by water from a landing off  
289 County Road 16, or by a walking trail from the end of [County Road 16](#) (ERM 2011b).

290 **Property Rights, Title, and Mineral Resources**

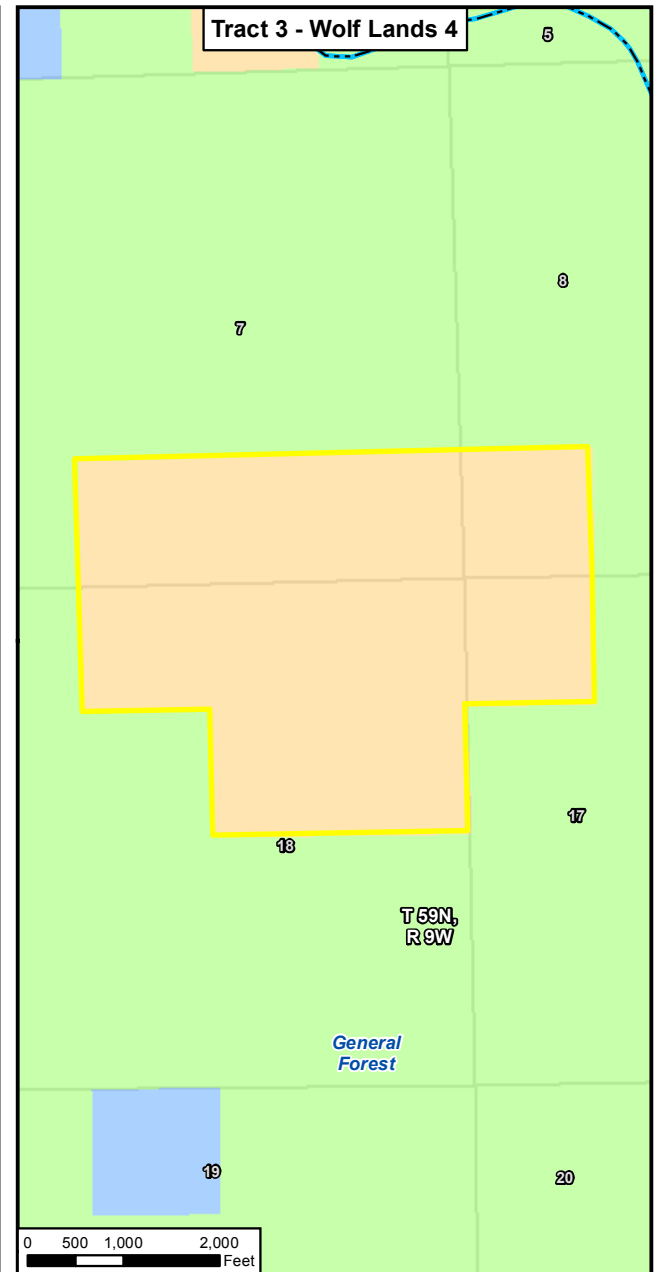
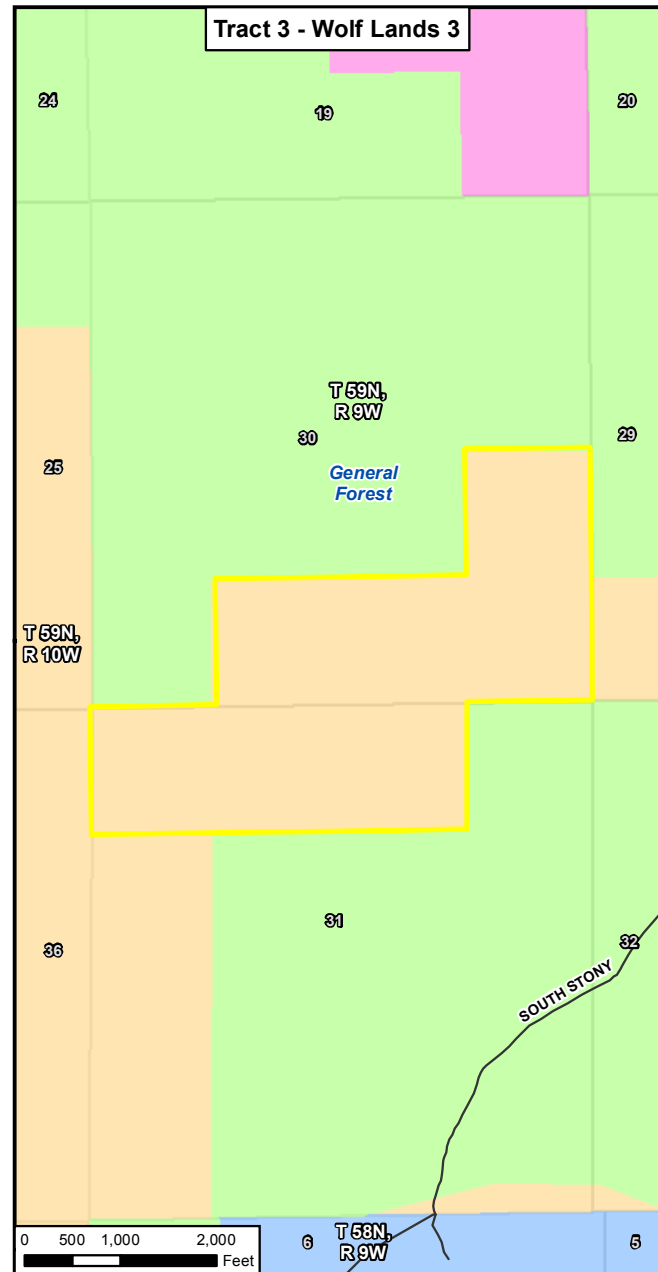
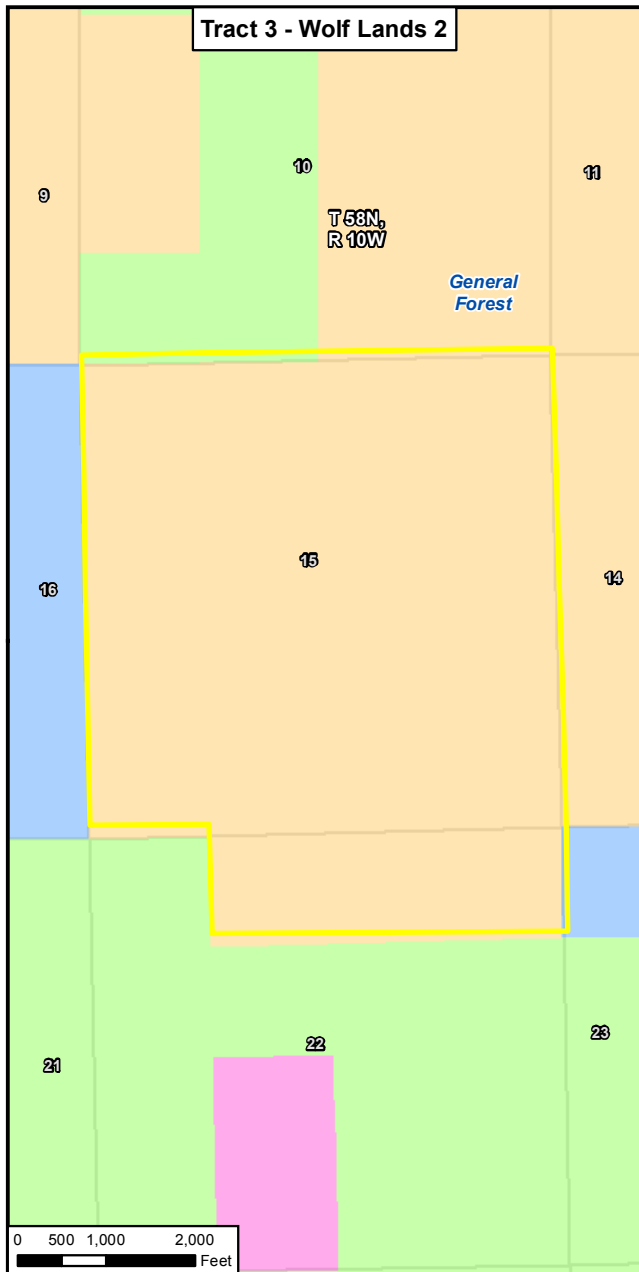
291 PolyMet is the owner of surface rights for this tract. The tract is subject to a mortgage in favor of  
292 Iron Range Resources, which would be satisfied at closing of the Land Exchange Proposed  
293 Action (USFS 2011c).

294 The tract was assessed for mineral potential and encumbrances as part of the Feasibility Analysis  
295 completed in 2009. The geology underlying the tract is gabbroic and sedimentary rocks. Studies  
296 of the mineral potential in this area are rare because of the proximity to the BWCAW, but this  
297 type of formation has not shown mineral potential elsewhere in the county. The MDNR core  
298 library index shows no drilling in or near the area. There are no nearby gravel operations that  
299 would indicate any potential for surficial materials (USFS 2009c).

300 There appears to be low potential for exploration or development of bedrock or surficial deposits  
301 within Tract 5 (Barr 2011c). Mineral rights to Tract 5 are outstanding, but deeds do not appear to  
302 waive the right to subjacent support (USFS 2011c); i.e., mineral exploration and extraction may  
303 not compromise the “lay of the land” by weakening underground support of the surface.  
304

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**Figure 4.3.1-4**  
**Ownership of Tract 3**  
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