

1 **5.3.5 Wildlife**

2 This section describes the environmental consequences of the Land Exchange Proposed Action
3 to wildlife on the federal and non-federal lands. Effects from the change in federal ownership
4 could be either beneficial or adverse, based on the change in species occurrences, habitat, and
5 habitat connectivity on land that is under direct federal control. Effects due to the NorthMet
6 Project are discussed in Section 5.2.5.

7 Rulemaking was conducted with the intent to update the list of Endangered, Threatened, and
8 Special Concern Species (Minnesota Rules, part 6134.0100 to 6134.0400), with new listings
9 becoming effective on August 19, 2013. The FEIS will consider any new listings, or changes in
10 the previous listings, associated with the updated list.

11 The Land Exchange Proposed Action would have mixed effects for the Canada lynx. It would
12 result in an increase in suitable habitat for lynx and for snowshoe hare (prey species) on the
13 federal estate (although the amount of unsuitable lynx habitat would also increase). It would also
14 result in a decrease of denning habitat and a decrease to the federal estate within designated
15 LAUs. Critical lynx habitat would not change regardless of ownership.

16 Overall, the Land Exchange Proposed Action would result in an increase (to the federal estate) of
17 the number of occurrences and habitat availability for four state-listed species, which include the
18 gray wolf, the bald eagle, the Laurentian tiger beetle, and the trumpeter swan. The Land
19 Exchange Proposed Action is not expected to result in changes to the three additional state-listed
20 species, which include the wood turtle, the eastern heather vole, and the yellow rail.

21 Under the Land Exchange Proposed Action, one additional state-listed species and 22 additional
22 SGCN would be affected due to their presence on the federally held lands. The Land Exchange
23 Proposed Action would result in an increase of up to 579.6 acres of habitat within the federal
24 state in the Superior National Forest. While forested habitat would be decreased,
25 shrubland/grassland and aquatic habitats would be increased as part of the Land Exchange
26 Proposed Action. Under the Land Exchange Proposed Action, lands to be acquired would be
27 managed by the USFS in accordance with the current Forest Plan. No activities are planned on
28 these lands.

29 Under the Land Exchange Alternative B, one additional state-listed species but one less SGCN
30 would be affected because they occur within the federal estate. Forest habitat under federal
31 ownership would also decrease, though by a smaller amount than under the Land Exchange
32 Proposed Action. Similarly, the Land Exchange Alternative B would result in an increase of
33 173.6 acres of habitat to the federal estate, with a distribution of habitat similar to the Land
34 Exchange Proposed Action. As with the Land Exchange Proposed Action, lands acquired under
35 the Land Exchange Alternative B would be managed by the USFS in accordance with the current
36 Forest Plan. There are no activities planned on these lands.

37 Under the Land Exchange No Action Alternative, no action would be taken. No lands would be
38 exchanged and no changes in wildlife species on the federal estate would be anticipated.

39 **Table 5.3.5-1 Increase or Decrease of Special Status Wildlife Species on the Federal Estate**
 40 **Resulting from the Land Exchange**

Alternative	Increase or (Decrease) of Special Status Wildlife Species			
	Federally Listed Species	State-listed Species	Regional Forester Sensitive Species	Species of Greatest Conservation Need
Land Exchange Proposed Action	0	1	0	22
Land Exchange Alternative B	0	1	0	(1)
Land Exchange No Action Alternative	0	0	0	0

41 **Table 5.3.5-2 Increase or Decrease of Key Habitat Types on the Federal Estate Resulting**
 42 **from the Land Exchange**

Alternative	Increase or (Decrease) of Acres ¹ of Key Habitat Types				Total Net Increase or (Decrease)
	Mature Upland Forest, Continuous Upland/Lowland Forest (MIH1-13)	Open Ground, Bare Soils (no MIH)	Grassland and Brushland, Early Successional Forest (no MIH)	Aquatic Environments (MIH 14)	
Land Exchange Proposed Action	(787.9)	(63.8)	1,224.9	206.5	579.6
Land Exchange Alternative B	(1,279.3)	(29.1)	1,257.2	224.8	173.6
Land Exchange No Action Alternative	0	0	0	0	0

43 Source: Tables 5.3.4-2 and 5.3.4-7.

44 ¹ Total acres may be more or less than presented due to rounding.

45 5.3.5.1 Methodology and Evaluation Criteria

46 Evaluation was conducted to determine the potential effect that the Land Exchange Proposed
 47 Action would have on wildlife on the federal estate species from the following:

- 48 • a change in federal and state-listed ETSC, SGCN, RFSS, and other wildlife species; and
- 49 • a change in habitat availability, prey species habitat availability, habitat connectivity, and
 50 adjacent land use.

51 Analysis of wildlife species affected by the Land Exchange Proposed Action was guided by
 52 evaluation criteria that were developed by the USFS and other Co-lead Agencies, which included
 53 a comparison of the vegetation land cover and habitat types, forest age classes (young, immature,
 54 and mature), large mature forest patches, road and trail densities, federal and state-listed ESTC,
 55 SGCN, RFSS, and other wildlife species. GIS data and field observations for these categories
 56 were gathered to the extent possible and then compared over an area of analysis that included the
 57 federal and non-federal lands and LAU.

58 **5.3.5.2 Land Exchange Proposed Action**

59 **5.3.5.2.1 Federally Listed Species**

60 **Canada Lynx**

61 The federal lands of the Land Exchange Proposed Action include lynx habitat and habitat for
62 lynx prey species. Lynx habitat includes a wide variety of upland and lowland habitats and forest
63 types/ages, shrubland, and grasslands, but excludes aquatic environments and disturbed areas.
64 Preferred denning habitat is typically found in mature forest and is generally more dependent on
65 forest age classes, with trees older than saplings and with a dbh greater than 5 inches (immature
66 and mature age classes; see Table 4.3.4-3). Snowshoe hare are the primary prey species for the
67 Canada lynx, and hare habitat includes all types and age classes of forest and shrubland, but not
68 aquatic environments, disturbed areas, or grassland/croplands (see Table 5.3.5-3).

69 **Table 5.3.5-3 Increase or Decrease in Suitable Habitat Types for Canada Lynx and Prey**
70 **Species on the Federal Estate Resulting from the Land Exchange**

Parcel	General Suitable Lynx Habitat (Acres¹)	Suitable Denning Habitat (Acres¹)	Suitable Snowshoe Hare Forage Habitat (Acres¹)	Unsuitable Lynx Habitat (Acres¹)
Land Exchange Proposed Action				
Federal Lands	6,371.5	5,413.1	6,365.3	123.9
Non-Federal Lands Total	6,808.4	5,364.3	6,776.7	250.8
Tract 1 – Hay Lake	4,675.1	3,720.0	4,643.4	251.1
Tract 2 – Lake County North	263.3	219.5	263.3	1.8
Tract 2 – Lake County South	112.8	48.4	112.8	4.0
Tract 3 – Wolf Lands 1	125.9	113.9	125.9	0.0
Tract 3 – Wolf Lands 2	767.9	683.8	767.9	0.0
Tract 3 – Wolf Lands 3	277.4	96.7	277.4	0.0
Tract 3 – Wolf Lands 4	404.7	359.7	404.7	0.0
Tract 4 – Hunting Club	150.7	92.2	150.7	9.6
Tract 5 – McFarland Lake	30.6	30.1	30.6	0.2
Net Increase/(Decrease)	436.9	(48.8)	411.4	126.9
Land Exchange Alternative B				
Smaller Federal Parcel	4,697.2	3,912.9	4,695.0	55.4
Tract 1 – Hay Lake	4,675.1	3,720.0	4,643.4	251.1
Net Increase/(Decrease)	(22.1)	(192.9)	(51.6)	195.7

71 Source: Tables 5.2.5-5, 4.3.4-3, and 4.3.4-8.

72 ¹ Total acres may be more or less than presented due to rounding.

73 As shown in Table 5.3.5-3, the federal lands of the Land Exchange Proposed Action include
74 6,371.5 acres of suitable general habitat for lynx. The non-federal lands include a total of 6,808.4
75 acres of potentially suitable habitat, which is an increase of 436.9 acres. Aquatic environments
76 and disturbed areas are considered unsuitable habitat, along with lowlands with dead trees
77 (though this habitat was not specifically called out in habitat/cover data). The Land Exchange
78 Proposed Action would also result in an increase to the federal estate of 411.4 acres of hare

79 habitat. However, the Land Exchange Proposed Action would result in a decrease to the federal
 80 estate of 48.8 acres of denning habitat and an increase of 126.9 acres of unsuitable lynx habitat.
 81 Lynx utilize snow packed trails and roads as travel corridors. The federal lands do not contain
 82 any established snow packed trails (such as snowmobile trails) but are crossed by 6.9 miles of
 83 road surface. The non-federal lands are crossed by 0.03 mile of snow packed trail (snowmobile
 84 trail) and 2.2 miles of roads. The Land Exchange Proposed Action would result in a decrease to
 85 the federal estate of 4.7 miles of road and an increase to the federal estate of 0.03 mile of snow
 86 packed trails available for lynx use (see Table 5.3.5-4).

87 **Table 5.3.5-4 Increase or Decrease of Lynx Travel Corridors on the Federal Estate**
 88 **Resulting from the Land Exchange**

Travel Corridor Type	Established Snow Pack Trails (Miles)	Established Roads (Miles)
Land Exchange Proposed Action		
Federal Lands	0.0	6.9
Non-Federal Lands Total	0.03	2.2
Tract 1 – Hay Lake	0.0	2.2
Tract 2 – Lake County North	0.0	0.0
Tract 2 – Lake County South	0.0	0.0
Tract 3 – Wolf Lands 1	0.0	0.0
Tract 3 – Wolf Lands 2	0.0	0.0
Tract 3 – Wolf Lands 3	0.03	0.0
Tract 3 – Wolf Lands 4	0.0	0.0
Tract 4 – Hunting Club	0.0	0.0
Tract 5 – McFarland Lake	0.0	0.0
<u>Net Increase/(Decrease)</u>	0.03	(4.7)
Land Exchange Alternative B		
Smaller Federal Parcel	0.0	6.9
Tract 1 – Hay Lake	0.0	2.2
<u>Net Increase/(Decrease)</u>	0.0	(4.7)

89 Source: USFS 2011e.

90 Land ownership immediately adjacent to the federal lands is a mix of private, state, and federal.
 91 The proximity of private lands and disturbance to the north and west may limit lynx passage and
 92 utilization of habitat on the federal lands.

93 Overall, the land ownership patterns surrounding the non-federal lands are mixed. Federal land
 94 proximity and, thus potential habitat connectivity, is marginal on Tract 1. Connectivity on the
 95 other tracts is generally more favorable. Located in less developed areas of the Superior National
 96 Forest, these tracts are generally bordered by federal, state, or county lands and are intended to
 97 reduce fragmentation. As such, the Land Exchange Proposed Action is likely to result in
 98 generally improved habitat connectivity overall.

99 Because all federal and non-federal lands are located within lynx critical habitat and would
 100 remain so regardless of ownership, the Land Exchange Proposed Action would not result in a
 101 change to lynx critical habitat to the federal estate. As previously discussed, LAU were identified
 102 for purposes of analysis and development of conservation measures for lynx (USFS 2004b). The
 103 federal lands are located within LAU 12 and the non-federal lands are located in LAU 4, 16, 21,
 104 22, and 42. Tract 1 is not located within an LAU. The USFS indicated that no development or

105 activities are planned on the non-federal lands, which means that there would be no increase in
106 | unsuitable habitat due to the Land Exchange Proposed Action (see Table 5.3.5-5). As such, the
107 percentage of currently unsuitable habitat in the overall LAU is not expected to change, nor
108 would it affect the Forest Plan condition that unsuitable habitat not exceed 30 percent of the
109 | LAU (USFS 2013).

110 **Table 5.3.5-5 Increase or Decrease in Lynx Analysis Units on the Federal Estate Resulting**
111 **from the Land Exchange**

Parcel	Lynx Analysis Unit	Total Acres ¹ of Proposed Land Exchange Federal/Non-Federal Land Within LAU	Overall Lynx Analysis Unit Acreage ¹	Current Percentage (%) of LAU Unsuitable (Determined by USFS)
Land Exchange Proposed Action				
Federal Parcel	12	6,495.4	70,980.5	<u>4.0</u>
Non-Federal Lands Subtotal		2,149.7		
Tract 1 – Hay Lake	No LAU	NA	NA	NA
Tract 2 – Lake County North	16	265.2	76,108.3	<u>4.4</u>
Tract 2 – Lake County South	22	116.9	58,154.2	<u>1.6</u>
Tract 3 – Wolf Lands 1	16	126.0	76,108.3	<u>4.4</u>
Tract 3 – Wolf Lands 2	21	768.0	73,265.8	<u>4.2</u>
Tract 3 – Wolf Lands 3	21	277.5	73,265.8	<u>4.2</u>
Tract 3 – Wolf Lands 4	21	404.8	73,265.8	<u>4.2</u>
Tract 4 – Hunting Club	4	160.4	55,071.4	<u>4.9</u>
Tract 5 – McFarland Lake	42	30.9	32,305.4	<u>1.9</u>
<u>Net Increase/(Decrease)</u>		(4,345.7)		
Land Exchange Alternative B				
Smaller Federal Parcel	12	4,752.7		
Tract 1 – Hay Lake	No LAU	NA	NA	NA
<u>Net Increase/(Decrease)</u>		(4,752.7)		

112 Source: 2009 USFS SNF Monitoring and Evaluation Report.

113 | ¹Total acres may be more or less than presented due to rounding.

114 The Land Exchange Proposed Action would have mixed effects for the Canada lynx. It would
115 | result in an increase to the federal estate of overall suitable habitat for lynx and for snowshoe
116 | hare (prey species) to the federal estate (although the amount of unsuitable lynx habitat would
117 | also increase). It would also result in a decrease to the federal estate of denning habitat and a
118 | decrease of federal lands within designated LAU. Critical lynx habitat would not change
119 | regardless of ownership. Effects to the Canada lynx and its critical habitat will be described in
120 | more detail in the Biological Assessment.

121 **5.3.5.2.2 State-listed Species**

122 **Gray Wolf**

123 The federal lands are likely part of a territory occupied by a single pack of wolves. The federal
124 | lands are dominated by trees that range in age from immature to mature, which is adequate cover
125 | habitat for wolves. Approximately 271 acres of young forest are present for forage opportunities
126 | (see Section 4.2.4.1) on the federal lands and 778 acres are present on the non-federal lands (see

127 Table 4.3.4-3). There are 5,413.1 acres of cover habitat on the federal lands and 5,364.3 acres on
 128 the non-federal lands. Gray wolves or their sign were observed on Tracts 1, 2, 3, and 5.

129 **Table 5.3.5-6 Increase or Decrease in Gray Wolf Habitat on the Federal Estate Resulting**
 130 **from the Land Exchange**

Parcel	Forage Habitat (Acres)	Cover Habitat (Acres¹)
Land Exchange Proposed Action		
Federal Lands	271.1	5,413.1
Non-Federal Lands Total	778.2	5,364.3
Tract 1 – Hay Lake	533.8	3,720.0
Tract 2 – Lake County North	24.4	219.5
Tract 2 – Lake County South	43.3	48.4
Tract 3 – Wolf Lands 1	2.2	113.9
Tract 3 – Wolf Lands 2	7.6	683.8
Tract 3 – Wolf Lands 3	130.4	359.7
Tract 3 – Wolf Lands 4	9.5	359.7
Tract 4 – Hunting Club	27.0	92.2
Tract 5 – McFarland Lake	0.0	30.1
Net Increase/(Decrease)	507.1	(48.8)
Land Exchange Alternative B		
Smaller Federal Parcel	271.1	3,912.9
Tract 1 – Hay Lake	533.8	3,720.0
Net Increase/(Decrease)	262.7	(192.9)

131 The amount of cover habitat is similar between the federal and non-federal lands, but the non-
 132 federal lands include more potential forage habitat; therefore, the Land Exchange Proposed
 133 Action would result in a very small decrease (48.8 acres) to the federal estate of cover habitat but
 134 would result in an increase to the federal estate of forage habitat (507.1) for the gray wolf.

135 **Bald Eagle**

136 As discussed in Section 5.2.5.2.2, eagles may utilize the area around the federal lands. The
 137 federal lands are located between the Embarrass and Partridge rivers, which eagles may use for
 138 foraging. Mud Lake may also be used for foraging. The nearest known nesting sites are more
 139 than 2 miles (5.8 miles south-southwest of the federal lands) from the federal lands and optimal
 140 habitat for nesting is not present. Eagles may utilize Mud Lake for nesting, though they tend to
 141 utilize larger lakes for nesting. Though optimal nesting and foraging habitat are not present in the
 142 federal lands, eagles may still utilize these areas.

143 Eagle habitat is present on several of the non-federal lands. Though they are smaller waterbodies
 144 than are optimal for eagles, Tract 1 includes the Pike River, Hay Lake, and Rice Lake. Tracts 2
 145 and 3 are located near large lakes such as Pine and Greenwood. Tract 5 borders McFarland Lake,
 146 which is connected to other lakes within the BWCAW. With the exception of Tract 1, these lands
 147 are also further from developed mining areas and disturbances are less likely than on the federal
 148 lands.

149 **Wood Turtle**

150 The only known population of wood turtles on the federal lands is downstream from the Mine
 151 Site, along the southern border of the federal lands. Though there is no known suitable habitat for

152 wood turtles on the federal lands and no individuals are known to occur, wood turtles may use
153 adjacent areas to the south of the federal lands. Similarly, no wood turtles or optimal wood turtle
154 habitat was identified on the non-federal lands.

155 Given that no wood turtles or wood turtle habitat were identified on either the federal or non-
156 federal lands, the Land Exchange Proposed Action would not result in an increase or decrease of
157 individuals, populations, or suitable habitat.

158 **Eastern Heather Vole**

159 The eastern heather vole has not been observed during field surveys within 10 miles of the
160 federal lands. Approximately 1,764.5 acres of potentially suitable habitat (upland deciduous
161 forest, upland mixed forest, shrubland, and cropland/grassland) exists on the federal lands (Table
162 4.3.4-1), so the eastern heather vole could be present, but, if so, likely in very small numbers.
163 The eastern heather vole was not identified on the non-federal lands by surveys or in the NHIS,
164 but the non-federal lands contain 2,597.4 acres of habitat. As such, the Land Exchange Proposed
165 Action would result in an increase to the federal estate of up to 832.9 acres of habitat.

166 **Yellow Rail**

167 The yellow rail was not found during surveys and was not reported in the NHIS database within
168 10 miles of the federal lands. As previously mentioned, small, scattered areas of its preferred
169 habitat are present on the federal lands (35.7 acres), but not the minimum nesting patch size (54
170 acres) needed for the species (see Table 4.3.3-1). No yellow rails or yellow rail habitat were
171 identified on the non-federal lands. The Land Exchange Proposed Action would not result in a
172 net change to the species or habitat.

173 **Laurentian Tiger Beetle**

174 The lack of suitable habitat and any recorded observations for the Laurentian tiger beetle suggest
175 that the species does not occur on the federal lands. However, the habitat for the Laurentian tiger
176 beetle is present at Tract 1, in an area formerly used as a sand and gravel mine. No disturbance
177 activities are currently planned on the non-federal lands, so this potential habitat would be
178 preserved. As such, the Land Exchange Proposed Action would result in an increase of suitable
179 habitat for this species.

180 **Trumpeter Swan**

181 Trumpeter swans were observed on Tract 1 during surveys in 2009. A pair of adults with young
182 was seen on Little Rice Lake. The species has not been observed on the federal lands. Because
183 the species has been observed on the non-federal lands and not on the federal lands, the Land
184 Exchange Proposed Action would result in an increase of the occurrence of this listed species
185 within the federal estate.

186 **5.3.5.2.3 Species of Greatest Conservation Need**

187 Sections 4.3.5.1.1 and 4.3.5.2 discuss the SGCN in the context of their habitat. The federal lands
188 include a wide variety of habitat types, grouped into key habitat types and MIH types (see Table
189 5.3.5-7).

190 Some acreage of some key habitat types, MIH types, and cover types within the federal estate
 191 would increase through the Land Exchange Proposed Action, while others would decrease. The
 192 key habitat types that would increase or decrease under the Land Exchange Proposed Action are
 193 listed in Table 5.3.5-7. Species dependent on these habitat types are listed by ecological
 194 subsection in Tables 4.3.5-1 through 4.3.5-5.

195 **Table 5.3.5-7 Increase or Decrease of Habitat Types for the Land Exchange Proposed**
 196 **Action on the Federal Estate**

Key Habitat Type and Management Indicator Habitat	Federal Lands Acres	Non-Federal Lands ^{1,2}					Net Increase or (Decrease) Acres
		Tract 1 – Hay Lake Lands Acres	Tract 2 – Lake County Lands Acres	Tract 3 – Wolf Lands Acres	Tract 4 – Hunting Club Lands Acres	Tract 5 – McFarland Lake Lands Acres	
Mature Upland Forest, Continuous Upland/Lowland Forest (MIH1-13)	5,719.7	2,978.8	337.2	1,479.4	105.7	30.6	(788.0)
Open Ground, Bare Soils (no MIH)	63.8	0.0	0.0	0.0	0.0	0.0	(63.8)
Grassland and Brushland, Early Successional Forest (no MIH)	651.8	1,696.3	38.9	96.5	45.0	0.0	1,224.9
Aquatic Environments (MIH 14)	60.1	251.1	5.8	0.0	9.6	0.2	206.6
Total	6,495.4	4,926.2	381.9	1,575.9	160.3	30.8	579.7

197 ¹ According to non-federal land cover type summary tables (Tables 4.3.4-1, 4.3.4-12-20).
 198 ² Total acres may be more or less than presented due to rounding.

199 The Land Exchange Proposed Action would result in a decrease of 788.0 acres of forest habitat
 200 and 63.8 acres of open ground/bare soil to the federal estate. In addition, the Land Exchange
 201 Proposed Action would result in an increase of 1,224.9 acres of grassland/brushland and 206.6
 202 acres of aquatic environment to the federal estate. Overall, the Land Exchange Proposed Action
 203 would result in an increase of up to 579.7 acres of habitat to the federal estate, though there
 204 would be a decrease of forest and open ground habitat. As such, forest-dependent species are
 205 more likely to be affected through habitat decrease by the Land Exchange Proposed Action.
 206 Grassland and brushland species (mostly bird species and one species of insect) would have
 207 more habitat available under the Land Exchange Proposed Action, as would species dependent
 208 on aquatic environments (bird species, reptile/amphibian species, and insect species). Overall,
 209 the Land Exchange Proposed Action would result in an increase of SGCN habitat to the federal
 210 estate.

211 **5.3.5.2.4 Regional Forester Sensitive Species**

212 Of the 18 terrestrial RFSS on the 2011 list for the Superior National Forest, the gray wolf, bald
 213 eagle, wood turtle, and eastern heather vole are discussed above as federally or state-listed

214 species. Seven additional RFSS (the boreal owl, olive-sided flycatcher, bay-breasted warbler,
215 Connecticut warbler, taiga alpine, Freija's grizzled skipper, and Nabokov's blue) are included as
216 SGCN and are also discussed above. Effects to the RFSS will be described in more detail in the
217 Biological Evaluation.

218 Habitat for the three RFSS bats, the northern myotis, eastern pipistrelle, and little brown bat, may
219 be present on the federal lands, though no hibernacula have been observed. Similarly, both
220 forage and hibernation habitat may be present on the non-federal lands, though no hibernation
221 sites have been observed. Bats were observed, though not identified to species, on Tract 1 during
222 field studies in 2009. The Land Exchange Proposed Action would result in a net decrease of
223 mature forest habitat to the federal estate, but an increase in grassland/brushland, which
224 constitutes a slight increase in overall bat habitat within the federal estate for the RFSS bats.
225 Because bat species have been identified on the non-federal parcel, the Land Exchange Proposed
226 Action may result in an increase of known RFSS bat species to the federal estate.

227 The northern goshawk may be occasionally present since goshawk nests have been observed on
228 the federal parcel. Northern goshawk individuals and nests have also been identified on Tract 1.
229 More forested habitat for the species is present on the federal lands than the non-federal lands
230 (see Table 5.3.5-6). As such, the Land Exchange Proposed Action would result in a decrease of
231 forested habitat available for the northern goshawk on the federal estate.

232 Though not observed during call surveys, the great gray owl may be occasionally present on the
233 federal lands. Because owl calling surveys (ENSR 2005) found no great gray owls, populations
234 in the area are likely small and/or occasional. No observations of great gray owls have been
235 made on the non-federal lands. However, because the species utilizes forested habitat and the
236 Land Exchange Proposed Action would result in a decrease of 788.0 acres of forested habitat, the
237 Land Exchange Proposed Action would result in a decrease of this species' habitat on the federal
238 estate.

239 A three-toed woodpecker was identified on the federal lands during surveys in 2000 and was
240 observed on the parcel again in 2007. Area populations are expected to be low, and these habitat
241 specialists require standing dead or dying trees where they can forage for bark beetles. The
242 species has not been observed on the non-federal lands. As such, the Land Exchange Proposed
243 Action would result in a decrease of this species' occurrence. Since the Land Exchange Proposed
244 Action would result in a decrease of approximately 788.0 acres of forest, the Land Exchange
245 Proposed Action would also result in a habitat decrease for this species on the federal estate.

246 The Quebec emerald dragonfly can inhabit wet meadow/sedge meadow. Approximately 36 acres
247 of this habitat type are present on the federal lands. There has only been one documented
248 occurrence of this species in Minnesota (Lake County in 2006), and that occurrence was not on
249 either the federal or non-federal lands. The non-federal lands do not contain any sedge/wet
250 meadow wetlands. The Land Exchange would result in a decrease of potential habitat used by
251 this species on the federal estate.

252 Other factors, such as lower disturbance levels and increase of contiguous habitat, would
253 potentially increase RFSS utilization of the non-federal lands. The federal lands contain two
254 stands of contiguous forest habitat greater than 300 acres (340.6 acres and 1,352.3 acres) while
255 the non-federal lands include one forest stand greater than 300 acres (598.2 acres – Tract 3, Wolf
256 Lands 2). The Land Exchange Proposed Action would result in a net decrease of 1,094.7 acres of
257 contiguous habitat stands greater than 300 acres to the federal estate.

258 **5.3.5.2.5 Other Wildlife Species**

259 Other regionally common wildlife species, such as ravens, grouse, beaver, wolves, white-tailed
260 deer, moose, fox, marten, and snowshoe hare, have been observed on both the federal and non-
261 federal lands. Effects on wildlife species important to the Bands are discussed in Section 5.2.9 on
262 a connected ecosystems level. Similar to SGCN, habitat for some other species of wildlife would
263 increase via the Land Exchange Proposed Action while habitat would decrease for others. As
264 previously discussed, forested habitat would decrease via the Land Exchange Proposed Action,
265 but grassland/shrubland habitat and aquatic habitat would increase. Grassland and brushland
266 species would have more habitat available under the Land Exchange Proposed Action, as would
267 species dependent on aquatic environments. The Land Exchange Proposed Action would result
268 in 579.7 additional acres of wildlife habitat to the federal estate.

269 Game species such as white-tailed deer, bear, and moose are of significant concern to the Bands.
270 As mentioned above, forested habitat on the federal estate would decrease under the Land
271 Exchange Proposed Action, but grassland and brushland and aquatic habitat would increase. The
272 Land Exchange Proposed Action would result in increased hunting opportunities on the federal
273 estate, as the non-federal lands would become available for use while the federal lands, which
274 currently have limited access, would become private.

275 **5.3.5.3 Land Exchange Alternative B**

276 Under the Land Exchange Alternative B, a smaller federal parcel would be exchanged for only
277 one non-federal parcel, Tract 1. The effects that would result from this alternative are similar to
278 those of the Land Exchange Proposed Action.

279 **5.3.5.3.1 Federally Listed Species**

280 **Canada Lynx**

281 As shown in Table 5.3.5-3, the smaller federal parcel includes 4,697.2 acres of suitable general
282 habitat for lynx. Tract 1 has a total of 4,675.1 acres of habitat potentially suitable for the Canada
283 lynx, which would result in a decrease of 22.1 acres to the federal estate. The Land Exchange
284 Alternative B would also result in a decrease of 192.9 acres of denning habitat. Snowshoe hare
285 habitat would increase by 51.6 acres, but there would also be an increase of 195.7 acres of
286 unsuitable lynx habitat to the federal estate under the Land Exchange Alternative B.

287 The smaller federal parcel does not contain any established snow packed trails (such as
288 snowmobile trails) but is crossed by 6.9 miles of road surface. Tract 1 is crossed by 2.2 miles of
289 roads and no established snow trails. Since lynx use snow packed trails and roads as travel
290 corridors, the Land Exchange Alternative B would result in a decrease to the federal estate of 4.7
291 miles of road use for lynx.

292 Land ownership under the Land Exchange Alternative B would be similar to the Land Exchange
293 Proposed Action, but the smaller federal parcel would be bordered to the west by USFS-
294 managed federal lands. Tract 1 is bordered by federal lands to the north, west, and partially east,
295 but the area is generally surrounded by private lands and developed areas. Habitat connectivity to
296 Tract 1 is marginal. The Land Exchange Alternative B is likely to result in limited habitat
297 connectivity overall. Similar to the Land Exchange Proposed Action, the smaller federal parcel
298 and non-federal lands are located within lynx critical habitat and would remain so regardless of

299 ownership; the Land Exchange Alternative B would not result in a change to lynx critical habitat.
300 As shown in Table 5.3.5-5, the Land Exchange Alternative B would result in the decrease of
301 4,753 acres of land within an LAU because the federal parcel is within an LAU, but the Tract 1
302 lands are not.

303 The Land Exchange Alternative B would have mixed habitat effects for the Canada lynx. It
304 would result in a decrease of overall suitable habitat for lynx and denning habitat, but would
305 result in an increase of suitable snowshoe hare habitat. It would also result in a decrease of
306 federal lands within designated LAUs. Critical lynx habitat would not change regardless of
307 ownership. As such, the Land Exchange Alternative B is not likely to have either a net increase
308 or decrease on Canada lynx [on the federal estate](#).

309 **5.3.5.3.2 State-listed Species**

310 ***Gray Wolf***

311 Gray wolves have been observed on both the smaller federal parcel and on Tract 1.
312 Approximately 271 acres of forage habitat is present on the smaller federal parcel (young age
313 class on Table 5.3.4-4) and 533.8 acres are present on Tract 1. There are 3,912.9 acres of cover
314 habitat on the smaller federal parcel (immature and mature age classes) and 3,720.0 acres on
315 Tract 1. This would result in an increase of 262.8 acres of forage habitat but also in a decrease of
316 192.9 acres of cover habitat [on the federal estate](#).

317 ***Bald Eagle***

318 As under the Land Exchange Proposed Action, the smaller federal parcel and surrounding areas
319 may be utilized by bald eagles. Similar to the Land Exchange Proposed Action, the smaller
320 federal parcel is also located between the Embarrass and Partridge rivers, which eagles may use
321 for foraging. However, the smaller federal parcel excludes a portion of Mud Lake. The nearest
322 known nesting sites are greater than 2 miles (5.8 miles south-southwest of the smaller federal
323 parcel) from the federal lands and optimal habitat for nesting is not present.

324 Tract 1 contains waterbodies (Pike River, Hay Lake, and Rice Lake) and large trees, which
325 eagles may use for nesting, though no nests have been observed. The nearest known eagle nest is
326 approximately 4 miles southwest of the parcel.

327 ***Wood Turtle***

328 No wood turtles or optimal wood turtle habitat were identified on Tract 1 or the smaller federal
329 parcel. As such, the Land Exchange Alternative B would not result in an increase or decrease of
330 habitat for the species [on the federal estate](#).

331 ***Eastern Heather Vole***

332 The eastern heather vole has not been observed during field surveys within 10 miles of the
333 federal lands. There are 1,261.6 acres of potentially suitable habitat on the smaller federal parcel
334 ([see](#) Table 4.3.4-6). Eastern heather voles were not identified on the non-federal lands by surveys
335 or in the NHIS, but Tract 1 contains 2,133.6 acres of habitat, which would result in an increase of
336 872.0 acres of habitat for the eastern heather vole [on the federal estate](#). As such, the Land
337 Exchange Alternative B would result in an increase of habitat for this species.

338 **Yellow Rail**

339 The yellow rail was not found during surveys and was not reported in the NHIS database within
340 10 miles of the federal lands. As previously mentioned, small, scattered areas of its preferred
341 habitat are present on the federal lands (34.9 acres), but not the minimum nesting patch size (54
342 acres) needed for the species. Similar to the Land Exchange Proposed Action, the Land Exchange
343 Alternative B would not result in a net change to the species or its habitat on the federal estate.

344 **Laurentian Tiger Beetle**

345 Similar to the Land Exchange Proposed Action, the lack of suitable habitat and any recorded
346 observations for the Laurentian tiger beetle suggest that the species does not occur on the smaller
347 federal parcel. However, habitat for the Laurentian tiger beetle is present on Tract 1, in an area
348 formerly used as a sand and gravel mine. No disturbance activities are currently planned on Tract
349 1, so this potential habitat would be preserved. As such, the Land Exchange Alternative B,
350 similar to the Land Exchange Proposed Action, would result in an increase of suitable habitat for
351 the species on the federal estate.

352 **Trumpeter Swan**

353 Trumpeter swans were observed on Tract 1 during surveys in 2009. A pair of adults with young
354 was seen on Little Rice Lake. The species has not been observed on the smaller federal parcel.
355 Similar to the Land Exchange Proposed Action, because the species has been observed on Tract
356 1 but not on the smaller federal parcel, the Land Exchange Alternative B would result in an
357 increase of the occurrence of this listed species within the federal estate.

358 **5.3.5.3.3 Species of Greatest Conservation Need**

359 Like the Land Exchange Proposed Action, the SGCN for the Land Exchange Alternative B are
360 discussed in the context of their habitat. The smaller federal parcel also includes a wide variety
361 of habitat types, grouped into key habitat types and MIH types (see Table 5.3.5-8).

362 Similar to the Land Exchange Proposed Action, the Land Exchange Alternative B would result
363 in a decrease of forest habitat (1,279.3 acres) and open ground/bare soil (29.1 acres) on the
364 federal estate. The Land Exchange Proposed Action, however, would result in an increase of
365 grassland/brushland (1,257.2 acres) and aquatic environments (224.8 acres) on the federal estate.
366 Overall, the Land Exchange Proposed Action would result in an increase of up to 173.6 acres of
367 habitat to the federal estate, though there would be a decrease of forest and open ground habitat.
368 As such, forest-dependent species are more likely to be affected through habitat decrease under
369 the Land Exchange Alternative B. Grassland and brushland species (mostly bird species and one
370 species of insect) would have more habitat available under the Land Exchange Alternative B, as
371 would species dependent on aquatic environments (bird species, reptile/amphibian species, and
372 insect species). Overall, the Land Exchange Alternative B would result in an increase of SGCN
373 habitat to the federal estate.

374 **Table 5.3.5-8 Increase or Decrease of Habitat Types on the Federal Estate for the Land**
 375 **Exchange Alternative B**

Key Habitat Type and Management Indicator Habitat	Smaller Federal Parcel (Acres)	Non-Federal Land Tract 1 (Acres)	Net Increase or (Decrease) (Acres)
Mature Upland Forest, Continuous Upland/Lowland Forest (MIH1-13)	4,258.1	2,978.8	(1,279.3)
Open Ground, Bare Soils (no MIH)	29.1	0.0	(29.1)
Grassland and Brushland, Early Successional Forest (no MIH)	439.1	1,696.3	1,257.2
Aquatic Environments (MIH 14)	26.3	251.1	224.8
Total¹	4,752.6	4,926.2	173.6

376 ¹ Total acres may be more or less than presented due to rounding.

377 **5.3.5.3.4 Regional Forester Sensitive Species**

378 Habitat for the three RFSS bats, the northern myotis, eastern pipistrelle, and little brown bat, may
 379 be present on the smaller federal parcel, though no hibernacula have been observed. Bats were
 380 observed, though not identified to species, on Tract 1 during field studies in 2009. Because
 381 habitat has, but no significant hibernation locations have, been identified on the smaller federal
 382 parcel or Tract 1, the Land Exchange Alternative B would not result in a net change of bat
 383 habitat within the federal estate for the RFSS bats. However, because bats have been identified
 384 on Tract 1, the Land Exchange Alternative B may result in an increase of known RFSS bat
 385 species to the federal estate.

386 The northern goshawk may be occasionally present on the federal lands since a goshawk nest has
 387 been observed. Northern goshawk individuals and nests have also been identified on Tract 1.
 388 More forested habitat for the species is present on the smaller federal parcel than on Tract 1 (see
 389 Table 5.3.5-8). As such, the Land Exchange Alternative B would result in a decrease of forested
 390 habitat available for the northern goshawk on the federal estate.

391 Though not observed during call surveys, the great gray owl may be occasionally present on the
 392 smaller federal parcel. No observations of great gray owls have been made on Tract 1. However,
 393 because the species utilizes forested habitat and the Land Exchange Alternative B would result in
 394 a decrease of 1,279.3 acres of forested habitat, the Land Exchange Alternative B would result in
 395 a decrease of this species' habitat on the federal estate.

396 Three-toed woodpeckers were observed on or near the smaller federal parcel in 2000 and again
 397 in 2007. Area populations are expected to be low, and the species has not been observed on Tract
 398 1. As such, the Land Exchange Alternative B would result in the decrease of this species'
 399 occurrence. Since the Land Exchange Alternative B would result in a decrease of 1,279.3 acres
 400 of forest, this would result in a habitat decrease for this species on the federal estate.

401 The Quebec emerald dragonfly has not been identified on the smaller federal parcel, as there has
 402 only been one documented occurrence of this species in Minnesota in Lake County in 2006
 403 (Minnesota Odonata Survey Project 2012). Tract 1 does not contain any sedge/wet meadow

404 wetlands, and so the Land Exchange Alternative B would result in a decrease of potential habitat
405 used by this species on the federal estate.

406 Other factors, such as lower disturbance levels and increase of contiguous habitat, would
407 potentially increase RFSS utilization of Tract 1 lands. The smaller federal parcel contains two
408 stands of contiguous forest habitat greater than 300 acres (340.6 and 926.1 acres) while there are
409 no stands greater than 300 acres on Tract 1.

410 **5.3.5.3.5 Other Wildlife Species**

411 Similar to the Land Exchange Proposed Action, forested habitat within the federal estate would
412 decrease under the Land Exchange Alternative B, but grassland/shrubland habitat and aquatic
413 habitat would be increased. Grassland and brushland species would have more habitat available
414 under the Land Exchange Alternative B, as would species dependent on aquatic environments.
415 The Land Exchange Alternative B would result in 173.6 additional acres of wildlife habitat on
416 the federal estate.

417 **5.3.5.4 Land Exchange No Action Alternative**

418 Under the Land Exchange No Action Alternative, the current federal lands would remain in
419 federal ownership and would continue to be managed under the General Forest – Longer
420 Rotation Management Area and the General Forest Management Area. Wildlife would be
421 directly affected by logging, mineral exploration, vehicle traffic, natural disturbances, and
422 thinning activities, which would occur as planned by the USFS, and would be indirectly affected
423 by changes in habitat caused by forest management. However, these activities would affect
424 wildlife to a lesser degree than under the Land Exchange Proposed Action. Section 5.2.4.3.1
425 provides further discussion of the effects on management of cover types and habitat on the
426 federal lands. Under the Land Exchange No Action Alternative, the USFS has an ongoing
427 responsibility for managing wildlife resources on Superior National Forest lands in accordance
428 with the Forest Plan (USFS 2004b). The Land Exchange No Action Alternative would not
429 change the Forest Service’s responsibility for managing wildlife resources and would result in no
430 change in anticipated effects on existing wildlife.

431 Under the Land Exchange No Action Alternative, the non-federal lands would not go into USFS
432 ownership, and land use would be determined by the private land owners. Effects on wildlife
433 species are difficult to predict given the uncertainty of future potential land use. Lands may be
434 developed, resulting in potential effects on individuals and local populations, habitat decrease,
435 and effects on wildlife travel corridors.