

### 1 **5.3.4 Vegetation**

2 This section provides an evaluation of the effects of the Land Exchange Proposed Action on  
3 vegetation, including comparisons of MDNR GAP land cover types, native plant community  
4 types, MBS Sites of Biodiversity Significance, MIH types, age classes, threatened and  
5 endangered plant species, and biodiversity between the federal and non-federal lands. Table  
6 | 5.3.4-1 provides a summary of these data on a net increase or decrease basis to the federal estate.

7 When comparing the total acres of the federal and non-federal lands, the federal estate would  
8 | have an increase of 579.6 acres of MDNR GAP land cover types (~~(see~~ Table 5.3.4-1) as a result  
9 | of the Land Exchange Proposed Action. The shrublands (1,199.4 acres) would increase the most  
10 | and the upland conifer forests (919.5 acres) would decrease the most (~~(see~~ Table 5.3.4-2).  
11 | There would be an acreage increase of lowland black spruce-tamarack forest (MIH 9) with lesser  
12 | amounts of upland forest (MIH 1) and aquatic habitat (MIH 14), but a decrease of upland conifer  
13 | forest (MIH 5) to the federal estate (~~(see~~ Table 5.3.4-1). There would be an increase to National  
14 | Forest System lands~~the federal estate~~ of immature forest stands with lesser amounts of young  
15 | stands, but a decrease in mature forest stands.

16 | There would be a decrease to the federal estate of up to approximately 6,025.86 acres of MBS  
17 | Sites of High Biodiversity Significance and an increase of up to ~~approximately 767.98~~ acres of  
18 | MBS Sites of Moderate Biodiversity Significance under the Land Exchange Proposed Action  
19 | (~~(see~~ Table 5.3.4-1). There would be a decrease to the federal estate of three native plant  
20 | communities that are “imperiled,” “imperiled-vulnerable,” or “vulnerable,” as well as others that  
21 | are ranked as “apparently secure” or “widespread and secure,” in exchange for one native plant  
22 | community that is ranked as “vulnerable” and two that are ranked as “apparently secure.” There  
23 | would be a decrease to the federal estate of up to 2,016.6 acres in the Jack Pine-Black Spruce  
24 | landscape ecosystem, and an increase of up to 994.7 acres in the Lowland Conifer landscape  
25 | ecosystem and 558.7 acres in the Mesic Red and White Pine landscape ecosystem. Additionally,  
26 | the USFS would increase representation in the Dry-Mesic Red and White Pine, Mesic Birch-  
27 | Aspen-Spruce-Fir, Lowland Hardwood, and Sugar Maple landscape ecosystems. Overall, there  
28 | would be an increase to the federal estate of ~~approximately 625.2~~ acres of landscape ecosystems  
29 | as a result of the Land Exchange Proposed Action.

30 | There would be a decrease to the federal estate of 13 populations of 11 state-listed ETSC plant  
31 | species on the federal lands in exchange for two populations of two known state-listed ETSC  
32 | plant species on the non-federal lands. Though the 11 state-listed plant species on the federal  
33 | lands are not known to occur on the non-federal lands, the Land Exchange Proposed Action  
34 | would result in an increase to the federal estate of most habitats important to them. Drawing  
35 | from the MIH exchange, RFSS plants associated with upland forest (MIH 1), lowland black  
36 | spruce-tamarack forest (MIH 9), and aquatic habitat (MIH 14) could potentially exist on or  
37 | spread to the habitats on the non-federal parcels. There would also be a gain of Rove Formation  
38 | cliff microhabitats to the federal estate, which are important for a variety of RFSS plants on the  
39 | Superior National Forest.

40 **Table 5.3.4-1 Vegetation and Cover Type Increase or Decrease to the Federal Estate Due to**  
 41 **Land Exchange**

Category		Net Increase/(Decrease)		
		Land Exchange Proposed Action	Land Exchange No Action Alternative A Alternative B	Land Exchange No Action Alternative B
Habitat Types (acres)	MDNR GAP Land Cover Types	579.6	173.60	0.0173.6
	MIH 1 (Upland Forest)	110.7	273.00	0.0273.0
	MIH 5 (Upland Conifer Forest)	(1,172.5)	(1,084.6)0	0.0(1,084.6)
	MIH 9 (Lowland Black Spruce-tamarack Forest)	737.9	(261.2)0	0.0(261.2)
	MIH 14 (Aquatic Habitat)	226.7	206.20	0.0206.2
	Lowland Shrub	(162.6)	(273.4)0	0.0(273.4)
	Lowland Emergent	185.6	249.60	0.0249.6
	Upland Grass	43.3	0.00	0.00
	Young Forest Stands	507.1	262.70	0.0262.7
	Immature Forest Stands	2,000.3	1,933.90	0.01,933.9
	Mature Forest Stands	(2,049.1)	(2,126.8)0	0.0(2,126.8)
MBS Sites (acres)	High Biodiversity Sites	(6,025.8)	(4,573.1)0	0.0(4,573.1)
	Moderate Biodiversity Sites	767.9	(0.3)0	0.0(0.3)
	Imperiled (S2)	(1)	00	00
Native Plant Communities	Imperiled/Vulnerable (S2-3)	(1)	(1)0	0(1)
	Vulnerable (S3)	(1) and +1 other	(1)0	0(1)
	Apparently Secure (S4)	(6) and +2 others	(2)0	0(2)
	Widespread and Secure (S5)	(6)	(4)0	0(4)
	Dry-Mesic Red and White Pine	683.0	589.20	0.0589.2
Landscape Ecosystems (acres)	Jack Pine-black Spruce	(2,016.6)	(1,411.6)0	0.0(1,411.6)
	Lowland Conifer	994.7	486.20	0.0486.2
	Lowland Hardwood	66.5	0.00	0.00
	Mesic Birch-aspen-spruce-fir	302.2	0.90	0.00.9
	Mesic Red and White Pine	558.7	528.00	0.0528.0
ETSC Species (number of species)	Sugar Maple	36.7	0.00	0.00
	State-listed Plant Species	(11) species +2 different species	(11) species0	0(11) species
Management Area (acres)	General Forest	5,714.1	4,264.00	0.04,264.0
	General Forest – Longer Rotation	(5,658.0)	(4,397.3)0	0.0(4,397.3)
	cRNA	306.9	306.90	0.0306.9
	Riparian Emphasis Area	220.9	0.00	0.00

### 42 **5.3.4.1 Methodology and Evaluation Criteria**

43 The vegetation assessment area for the Land Exchange Proposed Action would involve  
44 ~~approximately~~ 6,495.4 acres of federal lands transferred from public to private ownership, and up  
45 to ~~approximately~~ 7,075.0 acres of land transferred from private to public ownership. The spatial  
46 and temporal area of analysis for vegetation as part of the Land Exchange Proposed Action  
47 included direct and indirect effects resulting from the change in ownership of the federal and  
48 non-federal lands, including the extent of landscape ecosystems as defined in the Forest Plan or  
49 the extent of similar landscape ecosystems on the abutting forest lands.

50 An evaluation was conducted to determine the potential effect that the Land Exchange Proposed  
51 Action would have on the following vegetation resources:

- 52 • the quality and quantity of forest resources/lands (change in forest types and age classes);
- 53 • change in state-listed ETSC plant species and RFSS plants (individuals, habitat, and/or  
54 populations);
- 55 • change in biodiversity or overall vegetation and habitat; and
- 56 • the introduction and spread of invasive non-native species.

57 The analysis of the vegetation resources affected by the Land Exchange Proposed Action was  
58 guided by evaluation criteria that were developed by the USFS and other Co-lead Agencies,  
59 which included a comparison of the MDNR GAP land cover types, native plant communities,  
60 MBS Sites of Biodiversity Significance, MIH types (MIH 1, 5, 9, and 14, as well as lowland  
61 shrublands, lowland emergent wetlands, and upland grass), age classes (young, immature, and  
62 mature), large mature forest patches, landscape ecosystems, management areas, threatened and  
63 endangered plant species, RFSS plants, and invasive non-native plant species. GIS data for these  
64 categories were gathered to the extent possible, and then compared over an area of analysis that  
65 included the federal and non-federal lands, and also the surrounding landscape ecosystems of the  
66 Superior National Forest or ecological subsections. MIH types and age classes have also been  
67 compared within the context of landscape ecosystems to reveal how many acres of each MIH  
68 and age class would be increased or decreased on the federal estate by the Land Exchange  
69 Proposed Action within each landscape ecosystem. MIH type and age class data for the non-  
70 federal lands were interpreted from field survey maps, aerial maps, surrounding federal MIH  
71 data, topographic maps, and USFS review. These were then compared to the federal lands MIH  
72 data to determine MIH type and age class increases or decreases of acreage to the federal estate.  
73 Additionally, all of the data types mentioned have been compared to summarize the vegetative  
74 biodiversity of the federal and non-federal lands.

### 75 **5.3.4.2 Land Exchange Proposed Action**

#### 76 **5.3.4.2.1 Cover Types**

77 Cover types consist of several categories of classification, including MDNR GAP land cover  
78 types, USFS management areas, USFS ELTs, and USFS MIH types.

#### 79 **Habitat Types**

80 The Land Exchange Proposed Action would result in an increase to the federal estate of up to  
81 579.6 acres of MDNR GAP land cover designations, with the greatest increase in shrubland

82 | acreage of 1,199.4 acres and the greatest decrease in upland conifer forest of 919.5 acres (see  
 83 | [Table 5.3.4-2](#)). The decrease of upland conifer forest is contrary to a goal of the 2004 Forest  
 84 | Plan. The Forest Plan calls for an increase in the acreage of red, white, and jack pine habitats  
 85 | (and a decrease in the acreage of aspen vegetation communities). In addition, the Land Exchange  
 86 | Proposed Action would support other Forest Plan goals to maintain acreage of lowland  
 87 | deciduous habitats and non-forested wetlands. The Land Exchange Proposed Action would result  
 88 | in a small increase [to the federal estate](#) of lowland deciduous forests, an increase in aquatic  
 89 | habitats, and a large increase of shrublands.

90 | **Table 5.3.4-2 Net Increase or Decrease to the Federal Estate of MDNR GAP Land Cover**  
 91 | **Types under the Land Exchange Proposed Action**

Cover Types	Federal Land Acres	Non-federal Land Acres	Net Increase/ (Decrease) Acres
Shrubland	645.6	1,845.0	1,199.4
Aquatic environments	60.1	266.6	206.5
Upland deciduous forest	1,091.8	1,232.9	141.1
Upland conifer-deciduous mixed forest	20.9	50.4	29.5
Cropland/grassland	6.2	31.7	25.5
Lowland deciduous forest	9.5	28.6	19.1
Lowland coniferous forest	2,978.6	2,920.5	(58.1)
Disturbed	63.8	0.0	(63.8)
Upland coniferous forest	1,618.9	699.4	(919.5)
Total <sup>1</sup>	6,495.4	7,075.0	579.6

92 | Source: MDNR 2006b.

93 | <sup>1</sup> Total acres may be more or less than presented due to rounding.

94 | **Culturally Important Plants**

95 | The Land Exchange Proposed Action would result in additional wild rice beds by the acquisition  
 96 | of Tract 1. Tract 1 contains Little Rice Lake, which supports a continuous population of wild  
 97 | rice. Wild rice also grows along the Pike River south of Little Rice Lake and in isolated  
 98 | populations on Hay Lake. Section 4.3.4.2.4-5 provides further discussion of wild rice on Tract 1.  
 99 | Wild rice does not currently grow within the proposed federal land boundaries. [As a result, the  
 100 | public would have better opportunities for wild rice harvesting on Tract 1, where there is  
 101 | currently no opportunity to harvest wild rice directly on the federal lands \(no known wild rice  
 102 | populations\) despite the public water access onto the federal lands. As a result, the public would  
 103 | have more opportunities for wild rice harvesting on Tract 1, where there is currently no  
 104 | opportunity to harvest wild rice directly on the federal lands.](#) A carry-down boat launching  
 105 | access is located on Tract 1, which may provide private access for wild rice harvesting on the  
 106 | Tract 1 lands. Access to wild rice beds on the federal lands would not be lost as a result of the  
 107 | Land Exchange Proposed Action, but access to wild rice beds on Tract 1 would be gained.

108 | Natural resources culturally important to the Bands are discussed in Section 4.2.9.

109 | **Minnesota Biological Survey**

110 | The Land Exchange Proposed Action would result in a decrease to the federal estate of 6,142.7  
 111 | acres of MBS Sites of High Biodiversity Significance in the Laurentian Uplands subsection, and

112 an increase of 116.9 acres of MBS Sites of High Biodiversity Significance in the North Shore  
113 Highlands subsection. Furthermore, the Land Exchange Proposed Action would result in an  
114 increase to the federal estate of 767.6 acres of MBS Sites of Moderate Biodiversity Significance  
115 in the Laurentian Uplands subsection.

116 Native plant community rankings are largely unavailable for the non-federal lands, with the  
117 exception of Lake County South, which has one site ranked as “vulnerable” and others ranked as  
118 “apparently secure.” Section 4.3.4.2.2-6 provides further discussion of native plant community  
119 types on the Lake County South parcel. The Land Exchange Proposed Action would result in a  
120 decrease to the federal estate of three native plant communities on the federal lands that are  
121 ranked as “impaired” to “vulnerable” in the state. A native plant community increase or  
122 decrease comparison cannot be accurately made since rankings are unavailable for much of the  
123 non-federal lands.

### 124 **Management Areas**

125 The USFS manages its forests by assigning various management area allocations, ~~which are~~  
126 ~~determined based on existing vegetation communities. The federal lands are currently managed~~  
127 ~~under the General Forest – Longer Rotation Management Area (94-95 percent) and the General~~  
128 ~~Forest Management Area (6-5 percent) (Table 5.3.4-3).~~ The majority of the non-federal lands (86  
129 percent) would be allocated to the General Forest Management Area upon completion of the  
130 Land Exchange Proposed Action. This management area provides a wide variety of goods, uses,  
131 and services, including wood products, scenic quality, recreation opportunities, and habitat types  
132 (USFS 2004b). The remaining non-federal lands would be allocated to the General Forest –  
133 Longer Rotation Management Area (7 percent), Potential/cRNA (4 percent), and Riparian Areas  
134 Management Area (3 percent). Section 5.3.1 provides a discussion of management area  
135 allocations on the non-federal lands for the Land Exchange Proposed Action.

136 Through the acquisition of Tract 1, the Land Exchange Proposed Action would result in a gain of  
137 a large contiguous block of land and lakeshore/river frontage. The majority of this tract (94  
138 percent) would be allocated to the General Forest Management Area, with the balance allocated  
139 as a cRNA (6 percent). Two cRNA lands abut Tract 1 (USFS 2011b) and, upon completion of  
140 the Land Exchange Proposed Action, these two cRNA lands would be extended onto the parcel.  
141 The Pike Mountain cRNA is located at the southwestern corner of Tract 1. Approximately 135  
142 acres of Tract 1 are proposed to be added to the Pike Mountain cRNA because it is an extension  
143 of the northern hardwood uplands with a high sugar maple component. The Loka Lake cRNA is  
144 located at the northeastern corner of Tract 1. Approximately 172 acres of the parcel are proposed  
145 to be added to the Loka Lake cRNA because it is an extension of the high-quality lowland black  
146 spruce and tamarack swamp.

147 The Land Exchange Proposed Action would result in Tract 2 being allocated as Riparian Areas  
148 (83 percent) and General Forest – Longer Rotation Management Area (17 percent) (USFS  
149 2011b). The Riparian Emphasis Area Management Area provides protection to diverse age  
150 classes, but generally for older-growth forest stands along sensitive riparian areas.

151 The majority of Tract 3 would be allocated to the General Forest Management Area (92 percent),  
152 with the remaining 8 percent allocated to the General Forest – Longer Rotation Management  
153 Area (USFS 2011b).

154 All of Tracts 4 and 5 would be allocated to the General Forest – Longer Rotation Management  
 155 Area (USFS 2011b). Obtaining Tract 5 would result in a gain of lakeshore property.

156 Overall, there would be a large increase to the federal estate in the General Forest Management  
 157 Area (5,714.1 acres) and smaller increases in the cRNA (306.9 acres) and Riparian Areas (220.9  
 158 acres) Management Areas as a result of the Land Exchange Proposed Action ~~(see Table 5.3.4-~~  
 159 ~~3)~~. There would be a decrease to the federal estate of 5,662.358.0 acres of the General Forest –  
 160 Longer Rotation Management Area. The lands to be acquired as part of the Land Exchange  
 161 Proposed Action would be managed in accordance with Forest Plan standards and guidelines.  
 162 Section 5.3.1 describes the management areas in detail.

163 **Table 5.3.4-3 Net Increase or Decrease to the Federal Estate of Management Areas under**  
 164 **the Land Exchange Proposed Action**

Category	Federal Lands		Non-federal Lands		Net Increase/ (Decrease)
	Acres	%	Acres	%	Acres
General Forest	355.3	65	6,069.4	86	5,714.1
General Forest – Longer Rotation	6,135.8140.2	9495	477.8	7	(5,662.358.0)
Potential/cRNAs	0.0	0	306.9	4	306.9
Riparian Areas	0.0	0	220.9	3	220.9

165 Source: USFS 2011j.

166 **Ecological Land Types**

167 The Land Exchange Proposed Action would result in an increase to the federal estate of seven  
 168 ELTs, including ELT 3, 4, 10, 11, 14, 17, and 18. Five of these ELTs are upland soils and two  
 169 are lowland soils. The USFS would not lose representation of any ELTs currently on the federal  
 170 lands, based on available data.

171 **Management Indicator Habitats**

172 The Land Exchange Proposed Action would result in an increase to the federal estate of lowland  
 173 black spruce-tamarack forest (MIH 9; 737.9 acres), aquatic habitat (MIH 14; 226.7 acres), and  
 174 upland forest (MIH 1; 110.7 acres), and a decrease of upland conifer forest (MIH 5; 1,172.5  
 175 acres) ~~(see Table 5.3.4-4)~~. The Land Exchange Proposed Action would also result in a  
 176 decrease to the federal estate of lowland shrub habitat (162.6 acres), but an increase in lowland  
 177 emergent (185.6 acres) and upland grass (43.3 acres) habitat types. While not considered MIH  
 178 types, these are important habitats for several wildlife species. The fact that aquatic habitat (MIH  
 179 14) is not mapped on the federal lands results in an apparent increase to the federal estate in these  
 180 categories, even though this habitat type does occur on the federal lands.

181 The Land Exchange Proposed Action would result in an increase to the federal estate of 2,507.4  
 182 acres of young and immature forest stands. However, it would result in a decrease to the federal  
 183 estate of 2,049.1 acres of mature forest types. ~~In addition, the~~The Land Exchange Proposed  
 184 Action would not result in a decrease-change to the federal estate of approximately 1,095 acres  
 185 of large mature forest patches (stands over 300 acres), as none exist on the federal lands (USFS  
 186 2012c) and the patches of mature forest on the non-federal lands are not part of the USFS Patch  
 187 layer.

188 **Table 5.3.4-4 Net Increase or Decrease to the Federal Estate of MIH Types and Age**  
 189 **Classes under the Land Exchange Proposed Action**

Category	Federal Land Acres <sup>2</sup>	Non-federal Land Acres <sup>1,2</sup>	Net Increase/ (Decrease) Acres
<b>MIH Types</b>			
MIH 1 (Upland Forest)	2,583.8	2,694.5	110.7
MIH 5 (Upland Conifer Forest)	1,252.4	79.9	(1,172.5)
MIH 9 (Lowland Black Spruce-tamarack Forest)	2,582.7	3,320.6	737.9
MIH 14 (Aquatic Habitat)	0.0	226.7	226.7
Lowland Shrub	493.5	330.9	(162.6)
Lowland Emergent	200.1	385.7	185.6
Upland Grass	0.0	43.3	43.3
<b>Age Classes</b>			
Young	271.1	778.2	507.1
Immature	1,539.4	3,539.7	2,000.3
Mature	3,873.7	1,824.6	(2,049.1)

190 Source: USFS 2010b.

191 <sup>1</sup> According to non-federal lands cover type table (see Table 4.3.4-3).

192 <sup>2</sup> Total acres may be more or less than presented due to rounding.

193 **Landscape Ecosystems**

194 The Land Exchange Proposed Action would result in a decrease to the federal estate of 2,016.6  
 195 acres of the Jack Pine-Black Spruce landscape ecosystem (0.65 percent decrease), but there  
 196 would be an increase of 994.7 acres in the Lowland Conifer landscape ecosystem (0.08 percent  
 197 increase) and 558.7 acres of the Mesic Red and White Pine landscape ecosystem (0.73 percent  
 198 increase). The Superior National Forest, as part of the Land Exchange Proposed Action, would  
 199 have increased representation in the Dry-Mesic Red and White Pine landscape ecosystem (682.9  
 200 acres; 0.11 percent increase), Mesic Birch-Aspen-Spruce-Fir landscape ecosystem (302.2 acres;  
 201 0.04 percent increase), Lowland Hardwood landscape ecosystem (66.5 acres; 0.01 percent  
 202 increase), and the Sugar Maple landscape ecosystem (36.7 acres; 0.04 percent increase), and  
 203 there would be an overall increase to the federal estate of 625.1 acres.

204 Within the Superior National Forest, the USFS tracks acreage of MIH types and age classes  
 205 within each landscape ecosystem to better manage them within the broader ecological context.  
 206 As a result of the Land Exchange Proposed Action, there would be an increase to the federal  
 207 estate in acreage of MIH types and age classes within some landscape ecosystems and a decrease  
 208 in others (see Table 5.3.4-5). The greatest percentage increase to the federal estate in MIH  
 209 acreage within a landscape ecosystem is lowland black spruce-tamarack forest (MIH 9) in the  
 210 Mesic Birch-Aspen-Spruce-Fir landscape ecosystem, while the greatest decrease is upland  
 211 conifer forest (MIH 5) in the Jack Pine-Black Spruce landscape ecosystem. The greatest  
 212 percentage increase to the federal estate in age class acreage within a landscape ecosystem is the  
 213 immature age class in the Lowland Conifer landscape ecosystem, while the greatest decrease is  
 214 the immature and mature age classes in the Jack Pine-Black Spruce landscape ecosystem.  
 215 Overall, the Lowland Conifer landscape ecosystem would have the highest acreage increase to  
 216 the federal estate in MIH types and age classes, while the Jack Pine-Black Spruce landscape  
 217 ecosystem would have the highest acreage decrease in MIH types and age classes.

218 **Table 5.3.4-5 Net Increase or Decrease to the Federal Estate of MIH Types and Age**  
 219 **Classes within Landscape Ecosystems in the Superior National Forest under**  
 220 **the Land Exchange Proposed Action**

Landscape Ecosystem Name Category		Dry-Mesic	Jack Pine-	Lowland	Lowland	Mesic	Mesic	Sugar Maple	
		Dry-Mesic Red and White Pine	Jack Pine- Black Spruce	Conifer	Hardwood	Birch- Aspen- Spruce- Fir	Red and White Pine		
Net Increase/(Decrease)									
MIH Types	MIH 1	Acres <sup>1</sup> % <sup>2</sup>	517.0 2	(1,374.7) (4)	289.0 2	10.1 2	140.8 0	527.1 1	1.1 1
	MIH 5	Acres <sup>1</sup> % <sup>2</sup>	15.5 0	(1,089.3) (8)	(121.2) (2)	3.2 2	7.6 0	11.6 0	0.0 0
	MIH 9	Acres <sup>1</sup> % <sup>2</sup>	26.2 1	(390.7) (7)	928.9 2	17.1 1	134.7 4	13.8 0	7.8 0
	MIH 14	Acres <sup>1</sup> % <sup>2,3</sup>	115.5 NA	2.2 NA	97.8 NA	9.1 NA	0.3 NA	0.8 NA	0.9 NA
Lowland Shrub	Acres <sup>1</sup> % <sup>2</sup>	3.0 0	(95.0) (4)	(113.0) (1)	24.0 4	19.0 1	0.0 0	0.0 0	
Lowland Emergent	Acres <sup>1</sup> % <sup>2</sup>	6.0 1	(62.3) (7)	348.1 5	3.2 1	0.0 0	2.4 0	3.1 0	
Upland Grass	Acres <sup>1</sup> % <sup>2</sup>	0.0 0	(0.2) 0	15.4 5	0.0 0	0.0 0	0.0 0	23.6 0	
Age Classes	Young	Acres <sup>1</sup> % <sup>2</sup>	250.8 15	(21.5) (1)	188.0 18	5.6 7	51.1 2	9.3 0	23.6 0
	Immature	Acres <sup>1</sup> % <sup>2</sup>	178.7 1	(700.3) (4)	2,170.2 28	2.3 1	50.4 0	298.9 1	0.0 0
	Mature	Acres <sup>1</sup> % <sup>2</sup>	129.2 1	(1,079.0) (4)	(1,559.6) (2)	22.5 1	181.6 1	247.1 1	8.9 6

221 Source: USFS 2010b; USFS 2011g.

222 <sup>1</sup> Total acres may be more or less than presented due to rounding.

223 <sup>2</sup> Percentage of acres increased or decreased on the federal estate within the entire landscape ecosystem ~~in the Superior National~~  
 224 ~~Forest.~~

225 <sup>3</sup> MIH 14 is not tracked on the federal lands; thus, percentage is NA (not applicable).

### 226 5.3.4.2.2 Invasive Non-native Plants

227 The Land Exchange Proposed Action would result in a reduction of occurrences of invasive non-  
 228 native species on the federal lands, but an increase to the federal estate of similar occurrences of  
 229 invasive non-native species on Tracts 1, 2, and 3, including common tansy, orange hawkweed,  
 230 ox-eye daisy, and thistles. Tracts 4 and 5 would not see-have an increase of any occurrences of  
 231 invasive non-native species.

### 232 5.3.4.2.3 Threatened and Endangered Plant Species

#### 233 Endangered, Threatened, and Special Concern Plant Species

234 There are fewer occurrences of state-listed ETSC plant species on the non-federal lands (two  
 235 species on Tract 5) than on the federal lands (11 species), so the USFS would have fewer  
 236 populations as a result of the Land Exchange Proposed Action ~~(see~~ (see Table 5.3.4-6). The two  
 237 species gained in the exchange are *Woodsia scopulina* and *Saxifraga paniculata*. Section



238 4.3.4.2.5-9 provides a discussion of these species. There are no federally listed plant species in  
 239 St. Louis, Lake, or Cook counties (USFWS 2012). Rulemaking was conducted with the intent to  
 240 update the list of Endangered, Threatened, and Special Concern Species (Minnesota Rules, part  
 241 6134.0100 to 6134.0400), with new listings becoming effective on August 19, 2013. The FEIS  
 242 will consider any new listings, or changes in the previous listings, associated with the updated  
 243 list.

244 Though the 11 known state-listed ETSC plant species on the federal lands are not known to  
 245 occur on the non-federal lands, the Land Exchange Proposed Action would result in an increase  
 246 to the federal estate of most habitats important to them. The Land Exchange Proposed Action  
 247 would result in additional grassland habitat, which *Botrychium campestre* and *Botrychium*  
 248 *pallidum* occupy. The Land Exchange Proposed Action would also result in an increase to the  
 249 federal estate of upland deciduous and mixed forest habitats, used by *Botrychium pallidum*,  
 250 *Botrychium rugulosum*, and *Botrychium simplex*. There would be an increase to the federal estate  
 251 of aquatic habitats (open water or wetlands) for *Caltha natans*, *Eleocharis nitida*, *Juncus stygius*  
 252 var. *americanus*, *Sparganium glomeratum*, and *Torreyochloa pallida*. According to the MIH  
 253 analysis, the Land Exchange Proposed Action would result in an increase to the federal estate of  
 254 lowland black spruce or tamarack habitats, which could mean more habitats for *Platanthera*  
 255 *clavellata*, *Pyrola minor*, and *Ranunculus lapponicus*.

256 **Table 5.3.4-6 Increase or Decrease to the Federal Estate of State-listed ETSC Plant**  
 257 **Populations under the Land Exchange Proposed Action**

Plant Species (State Status/ Global Status <sup>1</sup> )	Federal Lands Populations		Non-federal Lands Populations		Net Species Increase/ (Decrease)
	Total Populations <sup>2,3</sup>	Total Individuals <sup>3</sup>	Total Populations <sup>2,3</sup>	Total Individuals <sup>3</sup>	
<i>Botrychium pallidum</i> (E/G3)	1	2	0	NA	(1)
<i>Botrychium rugulosum</i> (T/G3)	1	4	0	NA	(1)
<i>Botrychium simplex</i> (SC/G5)	3	905	0	NA	(1)
<i>Caltha natans</i> (E/G5)	1	29	0	NA	(1)
<i>Eleocharis nitida</i> (T/G4)	1	~486 ft <sup>2</sup>	0	NA	(1)
<i>Juncus stygius</i> var. <i>americanus</i> (SC/G5)	1	1	0	NA	(1)
<i>Platanthera clavellata</i> (SC/G5)	1	5	0	NA	(1)
<i>Pyrola minor</i> (SC/G5)	1	10	0	NA	(1)
<i>Ranunculus lapponicus</i> (SC/G5)	1	~919 ft <sup>2</sup>	0	NA	(1)
<i>Sparganium glomeratum</i> (SC/G4)	1	28	0	NA	(1)
<i>Torreyochloa pallida</i> (SC/G5)	1	~25 ft <sup>2</sup>	0	NA	(1)
<i>Woodsia scopulina</i> (T/G5)	0	NA	1	2	1
<i>Saxifraga paniculata</i> (T/G5)	0	NA	1	1,000	1
Total	13	NA	2	NA	(9)

258 Source: MDNR 2013a.

259 <sup>1</sup> The state status is E – Endangered; T – Threatened; and SC – Species of Concern. The global ranks range from G1 to G5. A  
 260 lower global ranking (e.g., G3) indicates a species at higher global risk than higher ranking (e.g., G5) (NatureServe 2011).

261 <sup>2</sup> Populations are interpreted from MDNR NHIS data using Element Occurrence; this differs from the DEIS, which used  
 262 colonies as the population estimate.

263 <sup>3</sup> Data included here were provided by the Division of Ecological Resources, MDNR, and were current as of March 13, 2013.

264 These data are not based on an exhaustive inventory of the state. The lack of data for any geographic area shall not be  
265 construed to mean that no significant features are present.

### 266 ***Regional Foresters Sensitive Species***

267 The USFS RFSS data layer indicates there are no RFSS plants on the federal lands. However,  
268 several state-listed ETSC plant species that occur on the federal lands are also listed as RFSS  
269 plants, including *Botrychium pallidum*, *Botrychium rugulosum*, *Botrychium simplex*, *Caltha*  
270 *natans*, *Eleocharis nitida*, *Juncus stygius* var. *americanus*, and *Pyrola minor*. The USFS would  
271 have a decrease to the federal estate in these RFSS plant species as a result of the Land Exchange  
272 Proposed Action. *Saxifraga paniculata* is a state-listed ETSC plant species that is also listed as a  
273 RFSS plant on the Tract 5 lands. The USFS would gain this RFSS plant species under the Land  
274 Exchange Proposed Action. Effects to RFSS plants and habitats will be covered in further detail  
275 in a Biological Evaluation.

276 There would be the greatest increase to the federal estate in acres of lowland black spruce-  
277 tamarack forest (MIH 9; Table 5.3.4-4) as a result of the Land Exchange Proposed Action, which  
278 means there is the highest chance to gain the RFSS plants listed under that category in Table  
279 4.2.4-5, as long as the suitable habitats exist on the federal lands. There would be smaller acreage  
280 increases of both upland forest (MIH 1) and aquatic habitat (MIH 14), meaning the RFSS plants  
281 in those categories could also be gained. The largest acreage decrease to the federal estate would  
282 be upland conifer forest (MIH 5). There are no RFSS plants specifically listed under upland  
283 conifer forest (MIH 5); however, it is likely that some RFSS plants that occupy upland forest  
284 (MIH 1) habitats would also occupy upland conifer forest (MIH 5) habitats and the USFS could  
285 therefore have a decrease to the federal estate in RFSS plant species that prefer coniferous  
286 upland habitats. There would also be a gain of Rove Formation cliff microhabitats, which are  
287 important for a variety of RFSS plants on the Superior National Forest.

#### 288 **5.3.4.2.4 Biodiversity**

289 Biodiversity is described in the Forest Plan as the “variety of life and its ecological processes ...  
290 [as well as] ecosystems, which comprise both the communities of organisms within particular  
291 habitats, and the physical conditions under which they live” (USFS 2004b). Biodiversity is  
292 important to consider for managing natural communities in a sustainable and ecological manner.  
293 Several data sources mentioned above and in Section 4.2.4 were compared on an increase or  
294 decrease basis to the federal estate to measure or estimate the biodiversity of both the federal and  
295 non-federal lands.

296 The federal land contains a high level of biodiversity because the majority of the parcel has been  
297 classified for inclusion in two Sites of High Biodiversity Significance. Additionally, several  
298 different native plant communities exist on it, as do 11 state-listed ETSC plant species. Because  
299 the non-federal lands have not been fully studied yet, they contain less biodiversity classification  
300 since they lack MBS Sites of High Biodiversity Significance and native plant communities.  
301 Table 5.3.4-1 provides a summary of the various data used to estimate biodiversity.

302 In summary, the non-federal lands contain 116.9 acres of MBS Sites of High Biodiversity  
303 Significance in the North Shore Highlands subsection and 767.9 acres of MBS Sites of Moderate  
304 Biodiversity Significance in the Laurentian Uplands subsection. The Land Exchange Proposed  
305 Action would result in a decrease to the federal estate of 6,142.7 acres of MBS Sites of High  
306 Biodiversity Significance in the Laurentian Uplands subsection, and an increase of 116.9 acres of

307 MBS Sites of High Biodiversity Significance in the North Shore Highlands subsection.  
308 Furthermore, the Land Exchange Proposed Action would result in an increase to the federal  
309 estate of 767.6 acres of MBS Sites of Moderate Biodiversity Significance in the Laurentian  
310 Uplands subsection. Overall, there would be a decrease to the federal estate of 6,025.8 acres of  
311 MBS Sites of High Biodiversity Significance and an increase of 767.6 acres of MBS Sites of  
312 Moderate Biodiversity Significance under the Land Exchange Proposed Action. However,  
313 several of the non-federal lands have preliminary classifications of Sites as Moderate, High, or  
314 Outstanding Biodiversity Significance, which, if approved by the MDNR MBS program, would  
315 help balance the exchange.

316 Native plant community rankings are largely unavailable for the non-federal lands, with the  
317 exception of Lake County South, which has one site ranked as “vulnerable” and others ranked as  
318 “apparently secure.” Section 4.3.4.2.2-6 provides further discussion of native plant community  
319 types on the Lake County South parcel. The Land Exchange Proposed Action would result in a  
320 decrease to the federal estate of three native plant communities on the federal lands that are  
321 ranked as “imperiled” to “vulnerable” in the state. A native plant community increase or  
322 decrease comparison cannot be accurately made since rankings are unavailable for much of the  
323 non-federal lands.

#### 324 **Endangered, Threatened, and Special Concern Plant Species**

325 As previously stated, the federal lands support 11 known state-listed ETSC plant species, while  
326 the non-federal lands currently support two known state-listed ETSC plant species. This would  
327 be a decrease to the federal estate in known state-listed species as a result of the Land Exchange  
328 Proposed Action.

#### 329 ~~5.3.4.3 Land Exchange No Action Alternative~~

330 ~~Under the Land Exchange No Action Alternative, the Superior National Forest would have an~~  
331 ~~ongoing responsibility for managing vegetation resources on the federal lands in accordance with~~  
332 ~~the Forest Plan. The Land Exchange No Action Alternative would not change the Forest~~  
333 ~~Service’s responsibility for managing vegetation resources and would result in no further effects~~  
334 ~~on existing vegetation.~~

#### 335 ~~5.3.4.3.1 Cover Types~~

336 ~~Under the Land Exchange No Action Alternative, the current federal lands would remain in~~  
337 ~~federal ownership and the lands would continue to be managed under the General Forest~~  
338 ~~Longer Rotation Management Area and the General Forest Management Area. Direct and~~  
339 ~~indirect effects of the Land Exchange No Action Alternative on cover types would be~~  
340 ~~unchanged, as the management of these forests has occurred on site in the past. None of the~~  
341 ~~federal lands currently have any vegetation management actions planned in the near future,~~  
342 ~~regardless of whether the Land Exchange Proposed Action were to occur.~~

#### 343 ~~5.3.4.3.2 Invasive Non-native Plants~~

344 ~~Non-native species may still invade the federal lands as a result of logging, mineral exploration,~~  
345 ~~vehicle traffic, and natural disturbances, but are likely to do so much more slowly than they~~  
346 ~~would under the Land Exchange Proposed Action. The proximity of the federal lands to the~~

347 ~~already disturbed Plant Site may put the federal lands at risk of eventual colonization by invasive~~  
 348 ~~non-native species.~~

349 ~~**5.3.4.3.3 Threatened and Endangered Plant Species**~~

350 ~~Under the Land Exchange No Action Alternative, timber harvests are expected to continue to~~  
 351 ~~occur on the federal lands, though there are not any planned in the near future. Effects on ETSC~~  
 352 ~~plant species and RFSS plants, for different management techniques, are addressed in the Forest~~  
 353 ~~Plan (USFS 2004b).~~

354 ~~**5.3.4.3.4 Biodiversity**~~

355 ~~The Land Exchange No Action Alternative would not result in any change to biodiversity on the~~  
 356 ~~federal lands.~~

357 ~~**5.3.4.4.3 Land Exchange Alternative B**~~

358 ~~**5.3.4.4.15.3.4.3.1 Cover Types**~~

359 The effects of Land Exchange Alternative B would be comparable to those from the Land  
 360 Exchange Proposed Action, although to a lesser extent. A smaller portion of the federal lands  
 361 (approximately 4,752.6 acres) would be transferred into private ownership for the non-federal  
 362 Tract 1 lands (approximately 4,926.3 acres), which would be conveyed into USFS ownership.  
 363 Under this alternative, the USFS would retain a smaller federal parcel located on the  
 364 northwestern and western sides of the current federal lands, which would create additional linear  
 365 boundaries for the USFS to maintain (see Section 5.3.1).

366 **Habitat Types**

367 This alternative would result in an overall increase to the federal estate of 173.6 acres of MDNR  
 368 GAP land cover types. As under the Land Exchange Proposed Action, the greatest increase to the  
 369 federal estate would be shrubland acreage (1,227.7 acres), and upland conifer forest would have  
 370 the greatest acreage decrease (928.8 acres), as shown in Table 5.3.4-7 below.

371 **Table 5.3.4-7 Net Increase or Decrease to the Federal Estate of MDNR GAP Land Cover**  
 372 **Types under Land Exchange Alternative B**

<b>Cover Types</b>	<b>Alternative B: Smaller Federal Parcel Acres Federal Lands Alternative B: Smaller Federal Parcel Acres</b>	<b>Tract 1 Acres<sup>1</sup></b>	<b>Net Increase/ (Decrease) Acres</b>
Shrubland	436.9	1,664.6	1,227.7
Aquatic environments	26.3	251.1	224.8
Upland deciduous forest	804.7	999.9	195.2
Cropland/grassland	2.2	31.7	29.5
Lowland deciduous forest	4.7	17.4	12.7
Upland conifer-deciduous mixed forest	17.8	0.0	(17.8)

Cover Types	<del>Alternative B: Smaller Federal Parcel Acres</del> <u>Federal Lands Alternative B: Smaller Federal Parcel Acres</u>	Tract 1 Acres <sup>1</sup>	Net Increase/ (Decrease) Acres
Disturbed	29.1	0.0	(29.1)
Lowland coniferous forest	2,064.8	1,524.2	(540.6)
Upland coniferous forest	1,366.1	437.3	(928.8)
Total <sup>2</sup>	4,752.6	4,926.2	173.6

373 Source: MDNR 2006b.

374 <sup>1</sup> According to Tract 1 land cover type table (see Table 4.3.4-112).

375 <sup>2</sup> Total acres may be more or less than presented due to rounding.

376 **Culturally Important Plants**

377 As with the Land Exchange Proposed Action, Land Exchange Alternative B would result in  
 378 additional wild rice beds from the acquisition of Tract 1. Section 5.3.4.2 provides additional  
 379 information on wild rice.

380 As with the Land Exchange Proposed Action, see Section 4.2.9 for a discussion of natural  
 381 resources culturally important to the Bands.

382 **Minnesota Biological Survey**

383 Land Exchange Alternative B would result in a decrease to the federal estate of 4,573.1 acres of  
 384 MBS Sites of High Biodiversity Significance and a decrease of 0.3 acre of MBS Sites of  
 385 Moderate Biodiversity Significance within the Laurentian Uplands subsection (see Table  
 386 5.3.4-1). Portions of the west end of One Hundred Mile Swamp would remain in federal  
 387 ownership. Furthermore, Land Exchange Alternative B would result in removal from the  
 388 Superior National Forest of three native plant communities that are ranked as “imperiled” to  
 389 “vulnerable” in the state. As previously discussed, Tract 1 does not contain any MBS Sites of  
 390 Biodiversity Significance or native plant communities, so, unlike the Land Exchange Proposed  
 391 Action, the federal estate would not have an increase of either MBS sites or native plant  
 392 communities under this alternative.

393 **Management Areas**

394 Lands included as part of Land Exchange Alternative B are currently managed under the General  
 395 Forest – Longer Rotation Management Area (93 percent) and the General Forest Management  
 396 Area (7 percent) (see Table 5.3.4-8). The majority of Tract 1 (94 percent) would be allocated  
 397 to the General Forest Management Area upon completion of Land Exchange Alternative B, and  
 398 the remaining area would be managed under the cRNA Management Area (6 percent). Land  
 399 Exchange Alternative B would be comparable to the Land Exchange Proposed Action in that  
 400 cRNA lands would be increased on the federal estate, but Riparian Areas would not be. Section  
 401 5.3.1 describes the management areas in detail.

402 **Table 5.3.4-8 Net Increase or Decrease to the Federal Estate of Management Areas under**  
 403 **Land Exchange Alternative B**

Category	<u>Alternative B: Smaller Federal Parcel</u>		<u>Alternative B: Smaller Federal Parcel</u>		Net Increase/ (Decrease) Acres
	Acres	%	Tract 1 Acres	%	
General Forest	355.3	7	4,619.3	94	4,264.0
General Forest - Longer Rotation	4,397.3	93	0.0	0	(4,397.3)
Potential/candidate Research Natural Areas	0.0	0	306.9	6	306.9
Riparian Areas	0.0	0	0.0	0	0

404 Source: USFS 2011j.

405 **Ecological Land Types**

406 Land Exchange Alternative B would result in a decrease to the federal estate of five ELTs,  
407 including ELT 1, 2, 6, 13, and 16, which are currently located on the proposed smaller federal  
408 parcel. The ELTs are unavailable for Tract 1, and so a comparison cannot be made.

409 **Management Indicator Habitats**

410 Land Exchange Alternative B would result in an increase to the federal estate in upland forest  
411 (MIH 1; 273.0 acres) and aquatic habitat (MIH 14; 206.2 acres); however, there would be a  
412 decrease of upland conifer forest (MIH 5; 1,084.6 acres) and lowland black spruce-tamarack  
413 forest (MIH 9; 261.2 acres) (see Table 5.3.4-9). Though not considered MIH types, there  
414 would be a decrease to the federal estate of lowland shrubland habitat (273.4 acres) and an  
415 increase of lowland emergent wetlands (249.6 acres). Similar to the Land Exchange Proposed  
416 Action, the aquatic habitat (MIH 14) type is not fully mapped on lands that are part of Land  
417 Exchange Alternative B, resulting in an apparent increase to the federal estate in this category;  
418 however, this habitat type does occur on these lands.

419 There would be a large increase to the federal estate of immature forest stands (1,933.9 acres)  
420 with lesser amounts of young stands (262.7 acres), corresponding to a decrease of mature forest  
421 stands (2,126.8 acres). Land Exchange Alternative B would not result in a change to the federal  
422 estate of large mature forest patches (stands over 300 acres), as none exist on the Alternative B:  
423 Smaller Federal Parcel lands (USFS 2012c) or Tract 1 lands.

424 **Table 5.3.4-9 Net Increase or Decrease to the Federal Estate of MIH Types and Age**  
425 **Classes under Land Exchange Alternative B**

Category	<u>Alternative B: Smaller Federal Parcel</u>		Tract 1 Acres <sup>1,2</sup>	Net Increase/ (Decrease) Acres
	<u>Alternative B: Smaller Federal Parcel Lands</u>	<u>Acres</u> <sup>2</sup>		
<b>MIH Types</b>				
MIH 1 (Upland Forest)	2,093.0		2,366.0	273.0
MIH 5 (Upland Conifer Forest)	1,138.8		54.2	(1,084.6)
MIH 9 (Lowland Black Spruce-tamarack Forest)	2,090.9		1,829.7	(261.2)

<b>Category</b>	<b>Alternative B: Smaller Federal Parcel Alternative B: Smaller Federal Parcel Federal Lands Acres<sup>2</sup></b>	<b>Tract 1 Acres<sup>1,2</sup></b>	<b>Net Increase/ (Decrease) Acres</b>
MIH 14 (Aquatic Habitats)	0.0	206.2	206.2
Lowland Shrubland	385.4	112.0	(273.4)
Lowland Emergent	115.4	365.0	249.6
Upland Grass	0.0	0.0	0.0
<b>Age Classes</b>			
Young	271.1	533.8	262.7
Immature	1,325.9	3,259.8	1,933.9
Mature	2,587.0	460.2	(2,126.8)

426 Source: USFS 2010b.

427 <sup>1</sup> According to Tract 1 lands MIH table (see Table 4.3.4-3).

428 <sup>2</sup> Total acres may be more or less than presented due to rounding.

429 **Landscape Ecosystems**

430 Land Exchange Alternative B would result in a decrease to the federal estate of 1,411.6 acres of  
 431 the Jack Pine-Black Spruce landscape ecosystem (0.46 percent decrease), but result in an  
 432 increase of 486.2 acres of the Lowland Conifer landscape ecosystem (0.04 percent increase).  
 433 Furthermore, there would be an increase in representation in the Dry-Mesic Red and White Pine  
 434 landscape ecosystem (589.2 acres; 0.10 percent increase), Mesic Red and White Pine landscape  
 435 ecosystem (528.0 acres; 0.69 percent increase), and the Mesic Birch-Aspen-Spruce-Fir landscape  
 436 ecosystem (0.9 acres; <0.01 percent increase), and an overall increase to the federal estate of  
 437 192.7 acres (Table 4.3.4-9).

438 Similar to the Land Exchange Proposed Action, Land Exchange Alternative B would result in an  
 439 increase to the federal estate in acreage of MIH types and age classes within various landscape  
 440 ecosystems, and a decrease in acreage in others (see Table 5.3.4-10). The greatest percentage  
 441 increase to the federal estate in MIH acreage within a landscape ecosystem is upland forest (MIH  
 442 1) in the Lowland Conifer and Dry-Mesic Red and White Pine landscape ecosystems, while the  
 443 greatest decrease is upland conifer forest (MIH 5) in the Jack Pine-Black Spruce landscape  
 444 ecosystem. The largest percentage increase to the federal estate in age class acreage within a  
 445 landscape ecosystem is the immature age class in the Lowland Conifer landscape ecosystem,  
 446 while the largest decrease is in the immature age class in the Jack Pine-Black Spruce landscape  
 447 ecosystem and the mature age classes within the Jack Pine-Black Spruce and Lowland Conifer  
 448 landscape ecosystems. Overall, the Dry-Mesic Red and White Pine landscape ecosystem would  
 449 have the highest acreage increase to the federal estate of MIH types and age classes and the Jack  
 450 Pine-Black Spruce landscape ecosystem would have the highest acreage decrease of MIH types  
 451 and age classes.

452 **Table 5.3.4-10 Net Increase or Decrease to the Federal Estate of MIH Types and Age**  
 453 **Classes within Landscape Ecosystems in the Superior National Forest under**  
 454 **Land Exchange Alternative B**





474 | on August 19, 2013. The FEIS will consider any new listings, or changes in the previous listings,  
475 | associated with the updated list.

476 | **Table 5.3.4-11 Increase or Decrease to the Federal Estate of State-listed ETSC Plant**  
477 | **Populations under Land Exchange Alternative B**

Plant Species (State Status/ Global Status <sup>1</sup> )	Alternative B: Smaller Federal Parcel Alternative B: Smaller Federal Parcel Federal Lands Populations		Tract 1 Populations		Net Species Increase/ (Decrease)
	Total Populations <sup>2,3</sup>	Total Individuals <sup>3</sup>	Total Populations <sup>2,3</sup>	Total Individuals <sup>3</sup>	
<i>Botrychium pallidum</i> (E/G3)	1	2	0	NA	(1)
<i>Botrychium rugulosum</i> (T/G3)	1	4	0	NA	(1)
<i>Botrychium simplex</i> (SC/G5)	3	905	0	NA	(1)
<i>Caltha natans</i> (E/G5)	1	29	0	NA	(1)
<i>Eleocharis nitida</i> (T/G4)	1	~486 ft <sup>2</sup>	0	NA	(1)
<i>Juncus stygius</i> var. <i>americanus</i> (SC/G5)	1	1	0	NA	(1)
<i>Platanthera clavellata</i> (SC/G5)	1	3	0	NA	(1)
<i>Pyrola minor</i> (SC/G5)	1	10	0	NA	(1)
<i>Ranunculus lapponicus</i> (SC/G5)	1	~919 ft <sup>2</sup>	0	NA	(1)
<i>Sparganium glomeratum</i> (SC/G4)	1	28	0	NA	(1)
<i>Torreyochloa pallida</i> (SC/G5)	1	~25 ft <sup>2</sup>	0	NA	(1)
Total	13	NA	0	NA	(11)

478 | Source: MDNR 2013a.

479 | <sup>1</sup> The state status is E – Endangered; T – Threatened; and SC – Species of Concern. The global ranks range from G1 to G5. A  
480 | lower global ranking (e.g., G3) indicates a species at higher global risk than higher ranking (e.g., G5) (NatureServe 2011).

481 | <sup>2</sup> Populations are interpreted from MDNR NHIS data using Element Occurrence; this differs from the DEIS, which used  
482 | colonies as the population estimate.

483 | <sup>3</sup> Data included here were provided by the Division of Ecological Resources, MDNR, and were current as of March 13, 2013.  
484 | These data are not based on an exhaustive inventory of the state. The lack of data for any geographic area shall not be  
485 | construed to mean that no significant features are present. NA = Not Applicable.

486 | **Regional Foresters Sensitive Species**

487 | The USFS RFSS data layer indicates there are no RFSS plants on the federal lands, which  
488 | includes the smaller federal parcel. However, several state-listed ETSC plant species occur on  
489 | the smaller federal parcel ~~and that~~ are also RFSS plants, including *Botrychium pallidum*,  
490 | *Botrychium rugulosum*, *Botrychium simplex*, *Caltha natans*, *Eleocharis nitida*, *Juncus stygius*  
491 | var. *americanus*, and *Pyrola minor*.

492 | There would be an increase to the federal estate in acres of upland forest (MIH 1) and aquatic  
493 | habitat (MIH 14) as a result of Land Exchange Alternative B (see Table 5.3.4-9), which means  
494 | there would be the greatest opportunity to gain the RFSS plants listed under those categories in  
495 | Table 4.2.4-5. There would be a decrease to the federal estate in acreage of upland conifer forest  
496 | (MIH 5) and lowland black spruce-tamarack forest (MIH 9), which means the RFSS plant  
497 | species that prefer these habitat types and have suitable microhabitats may also be decreased on  
498 | National Forest System lands.

499 **5.3.4.4.45.3.4.3.4 Biodiversity**

500 The smaller federal parcel contains a high level of biodiversity because the majority of the parcel  
501 has been classified for inclusion in two MBS Sites of High Biodiversity Significance.  
502 Additionally, several different native plant communities exist on it, as well as 11 state-listed  
503 ETSC plant species. Because Tract 1 has not been fully studied, it is assumed to contain less  
504 biodiversity because it lacks MBS Sites of High Biodiversity Significance and native plant  
505 communities. However, inclusion of the preliminary Site of Outstanding Biodiversity  
506 Significance on Tract 1 would balance the exchange, if not make it more biodiverse than the  
507 smaller federal parcel. Table 5.3.4-1 provides a summary of the various data used to estimate  
508 biodiversity.

509 Land Exchange Alternative B would result in a decrease to the federal estate of 4,573.1 acres of  
510 MBS Sites of High Biodiversity Significance and a decrease of 0.3 acres of MBS Sites of  
511 Moderate Biodiversity Significance within the Laurentian Uplands subsection (see Table  
512 5.3.4-1). Portions of the west end of One Hundred Mile Swamp would remain in federal  
513 ownership.

514 Furthermore, Land Exchange Alternative B would result in removal from the Superior National  
515 Forest of three native plant community sitesies that are ranked as “imperiled” to “vulnerable” in  
516 the state. As previously discussed, Tract 1 does not contain any MBS Sites of Biodiversity  
517 Significance or native plant communities, so, unlike the Land Exchange Proposed Action, the  
518 federal estate would not see-have an increase of either MBS Sites or native plant communities  
519 under this alternative.

520 **5.3.4.55.3.4.4 Land Exchange No Action Alternative**

521 Under the Land Exchange No Action Alternative, the Superior National Forest would have an  
522 ongoing responsibility for managing vegetation resources on the federal lands in accordance with  
523 the Forest Plan. The Land Exchange No Action Alternative would not change the Forest  
524 Service’s responsibility for managing vegetation resources and would result in no further effects  
525 on existing vegetation.

526 **5.3.4.5.45.3.4.4.1 Cover Types**

527 Under the Land Exchange No Action Alternative, the current federal lands would remain in  
528 federal ownership and the lands would continue to be managed under the General Forest –  
529 Longer Rotation Management Area and the General Forest Management Area. Direct and  
530 indirect effects of the Land Exchange No Action Alternative on cover types would be  
531 unchanged, as the management of these forests has occurred on site in the past. None of the  
532 federal lands currently have any vegetation management actions planned in the near future,  
533 regardless of whether the Land Exchange Proposed Action were to occur.

534 **5.3.4.5.25.3.4.4.2 Invasive Non-native Plants**

535 Non-native species may still invade the federal lands as a result of logging, mineral exploration,  
536 vehicle traffic, and natural disturbances, but are likely to do so much more slowly than they  
537 would under the Land Exchange Proposed Action. The proximity of the federal lands to the  
538 already-disturbed Plant Site may put the federal lands at risk of eventual colonization by invasive  
539 non-native species.

540 5.3.4.5.35.3.4.4.3 **Threatened and Endangered Plant Species**

541 Under the Land Exchange No Action Alternative, timber harvests are expected to continue to  
542 occur on the federal lands, though there are not any planned in the near future. Effects on ETSC  
543 plant species and RFSS plants, for different management techniques, are addressed in the Forest  
544 Plan (USFS 2004b).

545 5.3.4.5.45.3.4.4.4 **Biodiversity**

546 The Land Exchange No Action Alternative would not result in any change to biodiversity on the  
547 federal lands.

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