

1 **4.3.8 Noise and Vibration**

2 **4.3.8.1 Federal Lands**

3 The topography and land cover of the federal lands in the Land Exchange Proposed Action and
 4 the Land Exchange Alternative B are similar to that of the Mine Site, as previously discussed,
 5 but extend further north and west (mostly wetlands) and exclude the privately owned land
 6 bordering Dunka Road to the south of the Mine Site. Section 4.2.8.2 provides a discussion of the
 7 existing noise and vibration conditions on the federal lands.

8 **4.3.8.2 Non-federal Lands**

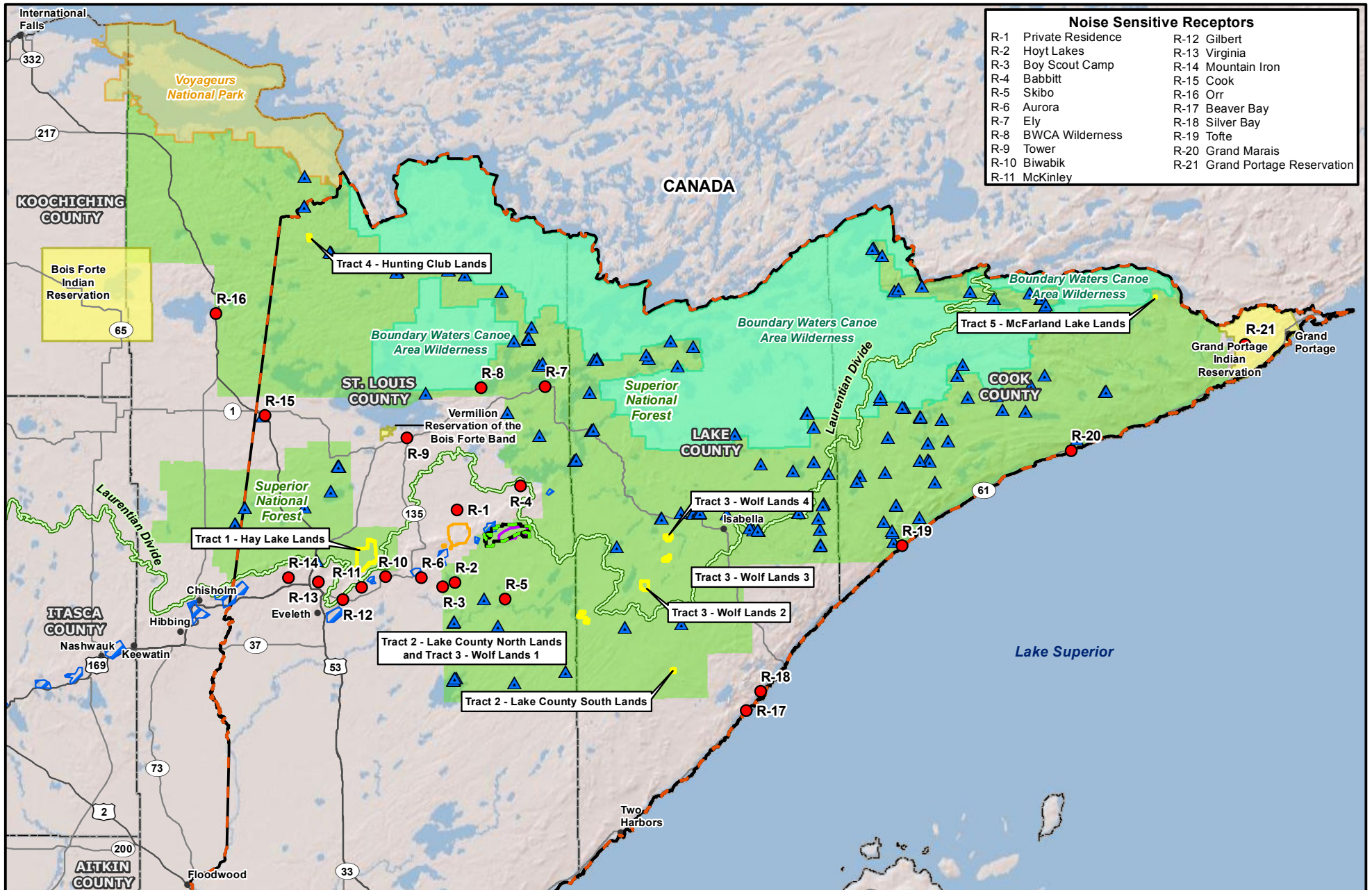
9 The non-federal lands in the Land Exchange Proposed Action consist of up to five tracts totaling
 10 7,075.0 acres that are located within the Superior National Forest proclamation boundary, a
 11 sparsely populated rural region in northeast Minnesota. The tracts are predominantly forest and
 12 wetland habitat. Tracts 1, 2, and 3 are 13 to 27 miles from the federal lands, while Tracts 4 and 5
 13 are 46 and 91 miles from the federal lands, respectively (Table 4.3.8-1; see Figure 4.3.8-1).

14 **Table 4.3.8-1 Approximate Distances and Direction of Non-federal Lands to Federal Lands**
 15 **and the Plant Site**

Tract	Approximate Distance to Federal Lands (miles)	Approximate Distance to Plant Site (miles)	Direction from Federal Lands and Plant Site
Tract 1 – Hay Lake	15	10	West
Tract 2 – Lake County			
Lake County North	13	20	Southeast
Lake County South	27	34	Southeast
Tract 3 – Wolf Lands			
Wolf Land 1	14	20	Southeast
Wolf Land 2	18	26	Southeast
Wolf Land 3	18	26	Southeast
Wolf Land 4	18	26	East
Tract 4 – Hunting Club	46	43	Northwest
Tract 5 – McFarland Lake	91	100	Northeast

16 Review of the most-up-to-date aerial maps indicates that there are no noise-sensitive areas or
 17 receptors (e.g., residences, schools, campgrounds, or national wilderness areas) within the non-
 18 federal lands. However, people currently hunt within Tract 1 and Tract 4 due to the presence of
 19 wildlife. Wildlife species within each tract are described in Section 4.3.5. There are a few
 20 residential receptors outside the non-federal lands. Figure 4.3.8-1 shows the locations of the
 21 closest receptors to the non-federal lands.

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Noise Sensitive Receptors	
R-1 Private Residence	R-12 Gilbert
R-2 Hoyt Lakes	R-13 Virginia
R-3 Boy Scout Camp	R-14 Mountain Iron
R-4 Babbitt	R-15 Cook
R-5 Skibo	R-16 Orr
R-6 Aurora	R-17 Beaver Bay
R-7 Ely	R-18 Silver Bay
R-8 BWA Wilderness	R-19 Tofte
R-9 Tower	R-20 Grand Marais
R-10 Biwabik	R-21 Grand Portage Reservation
R-11 McKinley	

Non-federal Lands	Noise Sensitive Receptor	Native American Reservation
Federal Lands	Wildlife Corridor	National Forest
Mine Site	1854 Treaty Territory	National Park
Plant Site	Boundary Waters Canoe Area Wilderness	
Recreational Site		

This PSDEIS document is a Co-lead Agency provisional draft intended for internal review only. Corrections, revisions, and changes will be made prior to the release of the SDEIS for public review and comment.

Figure 4.3.8-1
Nearest Noise Sensitive Receptors to the Non-federal Lands
 NorthMet Mining Project and Land Exchange PSDEIS
 Minnesota

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25 The non-federal lands would be managed consistent with the adjacent forest lands (see Section
26 4.3.1), and the USFS currently has no plans for operations on the non-federal lands. Since the
27 non-federal lands are located in a forested and rural environment, the existing ambient L_{eq} at the
28 five tracts has been assumed to be 5 dB lower than the levels shown in Table 4.2.8-2 for the
29 Mine Site and Plant Site. This means that existing daytime and nighttime ambient L_{eq} for all non-
30 federal lands are not expected to exceed 40 and 30 dB, respectively. The estimated L_{eq} for the
31 statistical distribution was converted to other noise percentile metrics, such as L_{50} and L_{10} , using
32 a USEPA calculation methodology (USEPA 1974). The calculation was based on an assumed
33 standard deviation of 3 dB for the sound level statistical distribution. A summary of the
34 estimated daytime and nighttime ambient L_{eq} , L_{50} , and L_{10} levels expected at the tracts is
35 presented in Table 4.3.8-2.

36 **Table 4.3.8-2 Summary of Estimated Existing Ambient Noise Levels at the Non-federal**
37 **Lands**

Ambient Noise Level Metric	Daytime (dBA)	Nighttime (dBA)
L_{eq}	40	30
L_{50}	39	29
L_{10}	42.8	32.8

38 Currently, no ground- or air-vibrating sources or activities (e.g., mine blasting or pile driving)
39 exist within a 15-mile radius of the non-federal lands. The closest vibration-generating activity
40 activities is include operation of the coal and flux pulverizer and rotary hearth furnace at the
41 Mesabi Phase I Plant in Hoyt Lakes (approximately 12.9 miles southwest of the closest tract
42 {Tract 12}, which is the closest non-federal tract) and blasting at the Northshore Mine, which is
43 (approximately 16 miles northwest of the closest tract [Tract 2]). Since ground and air vibration
44 effects diminish with distance from the source, existing levels of vibration at the sensitive
45 receptors are expected to be negligible.

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