

1 **4.2.10 Socioeconomics**

2 The Arrowhead region of northeastern Minnesota, which includes Cook, Lake, and St. Louis
3 counties, contains the well-known Mesabi Iron Range. Precious metal mining in this region can
4 be dated to the late 1800s, with St. Louis County in particular having a long mining heritage.
5 Many local communities were established to support these iron mining operations. While mining
6 is still a major component of the area’s economy and culture, the same can also be said for the
7 region’s other natural resources. As with much of Minnesota, timber production has a long
8 history in this area. Tourism, much of it centered on the BWCAW and the region’s other
9 outstanding public lands, is an important and growing economic sector and is deeply ingrained in
10 the region’s culture.

11 The study area for socioeconomics extends beyond the area of direct potential project effects to
12 include all of Cook, Lake, and St. Louis counties (see Figure 4.2.10-1). This geography includes
13 the proposed Mine Site, Transportation and Utility Corridor, and Plant Site as well as the non-
14 federal tracts included in the Land Exchange Proposed Action.

15 Socioeconomic data are not available, and thus are not reported for the Mine Site, Transportation
16 and Utility Corridor, and Plant Site on an individual basis. Socioeconomic data in this section are
17 instead collected and analyzed at the county level and, where appropriate, for cities (Aurora,
18 Babbitt, Biwabik, Duluth, Ely, Hibbing, Hoyt Lakes, Tower, and Virginia), as well as the
19 unincorporated area known as Soudan (all of which are located in St. Louis County, and which
20 are collectively referred to hereafter as “study area communities”). While other portions of
21 northeastern Minnesota could experience some socioeconomic effects from the NorthMet Project
22 Proposed Action, these cities were chosen for several reasons. Duluth, which is approximately 2
23 hours driving distance from the NorthMet Project area, is included because its population is a
24 large share of St. Louis County’s overall population. Other larger cities are those within
25 approximately a 1 hour driving distance. These are the population centers most likely to provide
26 labor and housing (temporary and permanent) and thus are the most likely to be impacted by the
27 NorthMet Project Proposed Action.

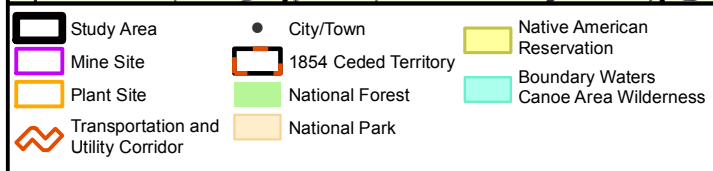
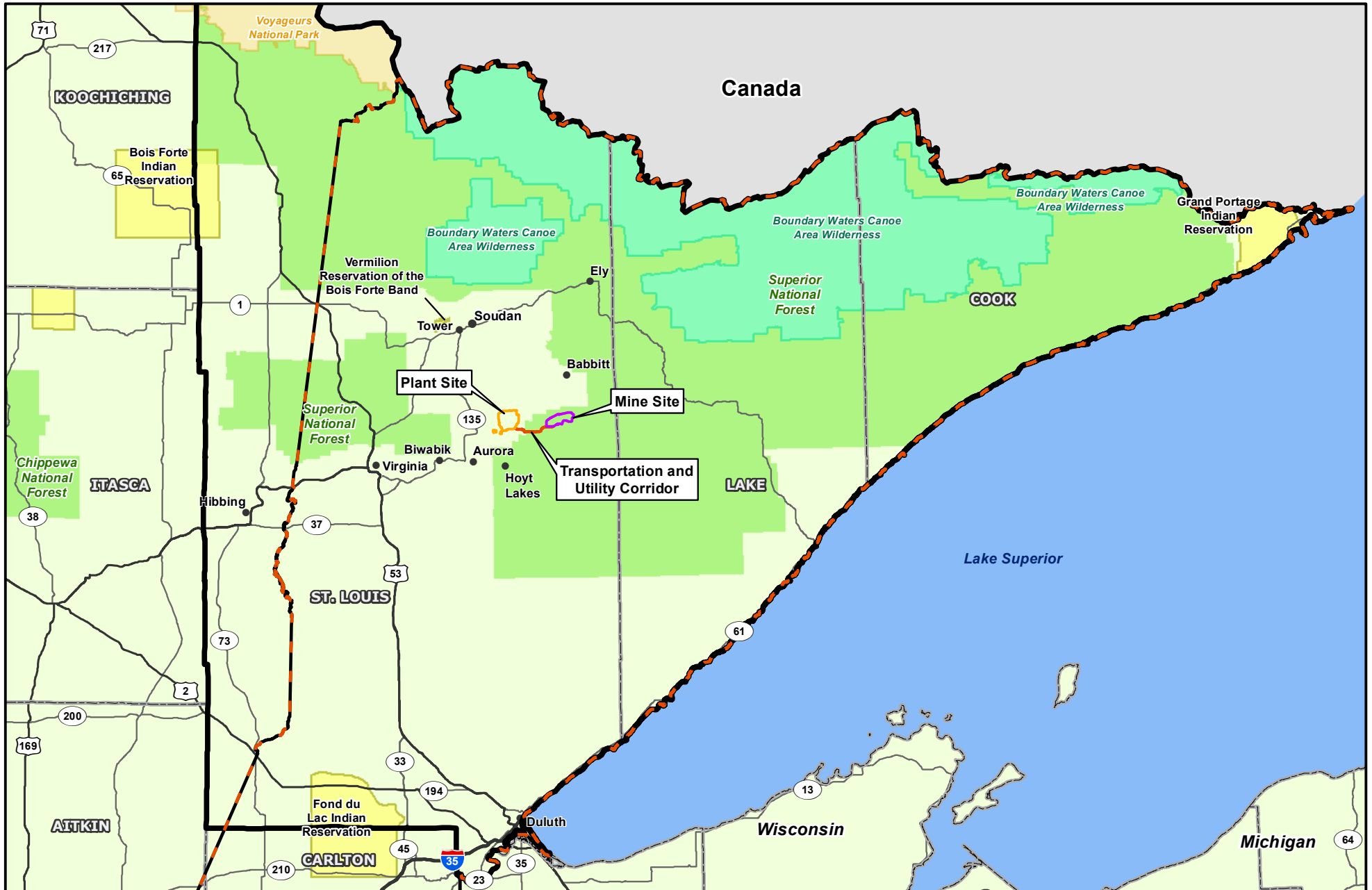
28 Data and observations for the Fond du Lac (St. Louis and Carleton counties), Grand Portage
29 (Cook County), and Bois Forte (St. Louis and Koochiching counties) reservations and off-
30 reservation areas are also included where information was available. While portions of these
31 reservations are outside of the study area, tribal members nonetheless exercise usufructuary
32 rights to hunt, fish, and gather plants within the 1854 Ceded Territory.




33 **4.2.10.1 Mine Site, Transportation and Utility Corridor, Plant Site**

34 **4.2.10.1.1 Demographics**


35 This section describes the demographics of the three-county study area in terms of population,
36 age, race, income, poverty, and educational statistics.

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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.



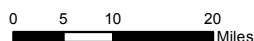


Figure 4.2.10-1
Socioeconomic Study Area
 NorthMet Mining Project and Land Exchange PSDEIS
 Minnesota

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40 **Population, Age, and Race**

41 Population and population trends for the study area from 1980 through 2010 are shown in Table
 42 4.2.10-1. The population of St. Louis County is concentrated in and around the City of Duluth,
 43 approximately 65 miles south of the NorthMet Project area, with smaller, secondary centers in
 44 the Iron Range communities of Ely, Hibbing, and Virginia. Lake, and Cook counties have few
 45 large population centers near the NorthMet Project area. The population of the study area and its
 46 individual communities has declined by nearly 10 percent since 1980 (from more than 239,000
 47 in 1980 to 216,000 in 2010), while the population of the state as a whole has increased by more
 48 than 30 percent. In individual communities listed in Table 4.2.10-1, population has declined
 49 substantially compared to the study area as a whole. At least some of this population decline may
 50 be attributable to "the out-migration of previous residents after the decline in economic
 51 opportunity represented by the loss of so many iron industry jobs" (Powers 2007). The
 52 exceptions are the Fond du Lac, Grand Portage, and Bois Forte reservations where population
 53 has increased since 1990.

54 **Table 4.2.10-1 Population of Study Area Communities 1980 to 2010**

Geography	Year				Change (1980–2010) ¹	
	1980	1990	2000	2010	Number	%
Minnesota	4,075,970	4,375,099	4,919,479	5,303,925	1,227,955	30.10
Cook County	4,092	3,868	5,168	5,176	1,084	26.50
Lake County	13,043	10,415	11,058	10,866	-2,177	-16.70
St. Louis County	222,229	193,433	200,528	200,226	-22,003	-9.90
Study Area	239,364	207,716	216,754	216,268	-23,096	-9.60
Aurora	2,670	1,965	1,850	1,682	-988	-37.00
Babbitt	2,435	1,562	1,670	1,475	-960	-39.40
Biwabik	1,428	1,097	954	969	-459	-32.10
Bois Forte Reservation	na	358	657	874	516	144.10
Duluth	92,811	85,493	86,918	86,265	-6,546	-7.10
Ely	4,820	3,968	3,724	3,460	-1,360	-28.20
Fond du Lac Reservation	na	3,229	3,728	4,240	1,011	31.30
Grand Portage Reservation	na	306	557	565	259	84.60
Hibbing	21,193	18,046	17,071	16,361	-4,832	-22.80
Hoyt Lakes	3,186	2,348	2,082	2,017	-1,169	-36.70
Soudan	na	502	372	446	-56	-11.20
Tower	640	502	469	500	-140	-21.90
Virginia	11,056	9,410	9,157	8,712	-2,344	-21.20

55 Source: U.S. Census Bureau 1980, 1990, 2000, and 2010b.

56 ¹ Population data for 1980 were not available for Soudan, Minnesota and the three Native American reservations. In these cases,
 57 the population change reflects the 1990–2010 time period.

58 na = Not available

59 As shown in Table 4.2.10-2, the median age of the population in study area counties and cities
 60 (typically age 40 to 45) is substantially higher than that of the state (age 35). Moreover, the
 61 median age of study area communities has grown at a more rapid pace than the state as a whole.
 62 Minnesota’s median age grew by two full years between 2000 and 2010, while the median age of
 63 most study area communities—with the exception of Duluth, Hibbing, and Virginia—grew by 3
 64 to 5 years. Again, with the exception of Duluth, study area communities tend to have (as a

65 percentage of the total population) fewer children under 18, fewer adults (18 to 64), and more
 66 senior citizens (age 65 or older) than the state as a whole.

67 The study area is more than 93 percent Caucasian (Table 4.2.10-3), compared to 85 percent for
 68 the state as a whole. However, Native Americans comprise 2 percent of the study area's
 69 population compared to 1 percent of the state's overall population.

70 **Table 4.2.10-2 Age Characteristics of Study Area Residents, 2010**

Geography	Median Age,		Population Segments (% of total)		
	2000	2010	0-17 yrs.	18-64 yrs.	65+ yrs.
State of Minnesota	35.4	37.4	24	63	13
Cook County	44.0	49.8	17	63	20
Lake County	42.9	48.3	19	59	22
St. Louis County	39.0	40.8	30	64	16
Study Area	na	na	29	64	16
Aurora	45.2	48.4	19	56	24
Babbitt	46.8	51.1	17	52	31
Biwabik	41.5	46.8	20	58	22
Bois Forte Reservation	31.6	34.1	33	55	13
Duluth	35.4	33.6	19	68	14
Ely	40.8	45.3	16	61	23
Fond du Lac Reservation	33.5	36.5	28	60	12
Grand Portage Reservation	36.5	39.2	23	67	10
Hibbing	41.0	42.5	22	61	18
Hoyt Lakes	45.6	49.3	20	55	25
Soudan	na	46.7	18	62	20
Tower	45.3	48.4	19	57	24
Virginia	43.2	44.9	19	59	22

71 Source: U.S. Census Bureau 2000 and 2010b.

72 Percent totals may be greater or less than 100% due to rounding.
 73 na = Not available

74 **Table 4.2.10-3 Racial Characteristics of Study Area Residents, 2010**

Geography	Total Population	White (%)	African American (%)	Native American (%)	Asian (%)	Hawaiian/Pac. Islander (%)	Other (%)	Multiple Races (%)	Hispanic¹ (%)
State of Minnesota	5,303,925	85	5	1	4	<1	2	2	5
Cook County	5,176	88	<1	8	<1	<1	<1	2	1
Lake County	10,866	98	<1	<1	<1	<1	<1	1	<1
St. Louis County	200,226	93	1	2	<1	<1	<1	2	1
Study Area	216,268	93	1	2	<1	<1	<1	2	1
Aurora	1,682	98	<1	<1	<1	0	0	1	<1
Babbitt	1,475	98	<1	<1	<1	0	<1	1	<1
Biwabik	969	98	<1	<1	<1	0	<1	<1	<1
Bois Forte Reservation	874	26	<1	70	<1	0	<1	3	3
Duluth	86,265	90	2	3	2	0	<1	3	2
Ely	3,460	96	1	<1	<1	0	<1	2	1
Fond du Lac Reservation	4,240	55	<1	39	<1	0	<1	6	2
Grand Portage Reservation	565	27	1.1	68	2	0	<1	2	<1
Hibbing	16,361	96	<1	<1	<1	0	<1	2	1
Hoyt Lakes	2,017	98	<1	<1	<1	0	0	1	<1
Soudan	446	96	1	<1	<1	0	0	<1	<1
Tower	500	95	<1	2	<1	0	<1	2	1
Virginia	8,712	92	2	3	<1	0	<1	3	2

75 Source: U.S. Census Bureau 2010b.

76 ¹ Hispanic status is considered separately from racial identification.

77 Percent totals may be greater or less than 100% due to rounding.

78 **Educational Attainment**

79 Table 4.2.10-4 shows the educational attainment of residents in the study area. Educational
80 attainment in the study area as a whole and in most study area communities (as measured by the
81 percentage of residents age 25 and over who achieved degrees beyond a high school diploma)
82 was lower in these communities than in St. Louis County as a whole and the state in 2010.
83 Whereas 41 percent of state residents (age 25 and older) and 37 percent of St. Louis County
84 residents had achieved Associate's degrees or higher in 2010, approximately 15 to 30 percent of
85 residents of study area communities (except for Duluth, Ely, and Soudan) had achieved similar
86 degrees.

87 **Table 4.2.10-4 Educational Characteristics of Study Area Residents, 2010**

Geography	Total ¹	No High School Diploma (%)	High School Diploma and/or Some College (%)	Associate's Degree (%)	Bachelor's Degree (%)	Advanced Degree (%)
State of Minnesota	3,450,999	9	50	10	21	10
Cook County	4,091	7	52	8	20	13
Lake County	8,167	7	63	10	14	6
St. Louis County	133,796	8	56	11	18	8
Study Area	146,054	8	56	11	17	8
Aurora	1,146	11	64	13	9	3
Babbitt	1,047	14	68	12	5	2
Bois Forte Reservation	759	10	63	14	10	3
Biwabik	425	22	61	5	9	4
Duluth	51,753	8	51	9	21	11
Ely	2,333	8	53	14	20	6
Fond du Lac Reservation	2,472	14	61	13	10	3
Grand Portage Reservation	314	26	57	9	5	4
Hibbing	11,454	12	62	10	11	5
Hoyt Lakes	1,612	7	66	14	12	2
Soudan	348	6	49	28	12	4
Tower	315	5	67	13	9	5
Virginia	6,347	11	56	15	13	5

88 Source: U.S. Census Bureau 2010a.

89 ¹ Data are for residents age 25 or older.

90 Percent totals may be greater or less than 100% due to rounding.

91 **Income and Poverty**

92 Table 4.2.10-5 shows income and poverty characteristics for the study area communities. The
 93 median income of individual study area communities is significantly lower than that of the state
 94 as a whole, with the exception of Soudan. It is also the case that the median income of individual
 95 communities is generally lower than that of St. Louis County. The median income in Babbitt and
 96 Hoyt Lakes—the communities closest to the NorthMet Project area—are two-thirds and four-
 97 fifths, respectively, of the state median income. In some study area communities, such as Ely and
 98 Tower, the median household income is slightly more than half of the state total. Poverty rates
 99 are also higher in the study area as a whole than in the state. In many individual communities,
 100 poverty rates are as high or higher than the state (with the exceptions of Hoyt Lakes, Soudan, and
 101 Tower).

102 **Table 4.2.10-5 Income and Poverty Characteristics of Study Area Communities in 2010**

Geography	Median Household Income (\$)	Percentage of State Median Household Income	Population with Income Below Poverty Level^{1,2}	Percentage of Population Below Poverty Level^{1,2}
State of Minnesota	57,243	na	542,133	11
Cook County	49,162	86	463	9
Lake County	46,765	82	1,252	12
St. Louis County	44,941	79	28,931	15
Study Area	na	na	30,646	15
Aurora	45,285	79	182	12
Babbitt	37,500	66	133	10
Biwabik	40,417	57	197	19
Bois Forte Reservation	32,656	71	100	15
Duluth	41,092	72	16,339	20
Ely	31,905	56	561	18
Fond du Lac Reservation	41,300	72	893	22
Grand Portage Reservation	33,056	58	82	17
Hibbing	36,585	64	2,737	17
Hoyt Lakes	45,338	79	89	5
Soudan	65,000	114	27	7
Tower	31,607	55	21	5
Virginia	32,664	57	1,759	21

103 Source: U.S. Census Bureau 2010a.

104 ¹ Percentage based on the “Population for whom poverty status is determined” which is less than the total population.

105 ² The United States Census Bureau defines poverty status using a set of monetary standards (consistent with *Office of*
106 *Management and Budget Statistical Policy Directive 14*) that vary by family size and composition (e.g., marital status and
107 number of children). Poverty thresholds are updated annually to reflect economic conditions. Poverty thresholds in 2009 (the
108 year for which the data in this table are presented) can be found at:

109 <http://www.census.gov/hhes/www/poverty/data/threshld/thresh09.html>

110 Percent totals may be greater or less than 100% due to rounding.

111 na = Not available

112 **4.2.10.1.2 Employment**

113 This section evaluates two different measures of employment. At-place employment describes
114 jobs that exist in a given location, regardless of where job-holders live. It is a measure of the
115 economic activity in a community. However, workers in northeastern Minnesota are often
116 accustomed to driving long distances to jobs, particularly in the mining industry (Powers 2007).
117 Thus, information about at-place employment is supplemented with information about jobs held
118 by residents. This second measure describes the extent to which a community’s residents are
119 employed.

120 **At-place Employment**

121 Tables 4.2.10-6 and 4.2.10-7 show at-place employment trends for the study area by major
122 industry classification. Data from 1980 and 1990 are reported by SIC (Table 4.2.10-6), while
123 2009 data reflect industries as defined by the North American Industrial Classification System

124 (NAICS) (Table 4.2.10-7), which replaced the Standard Industrial Classification (SIC) system in
125 1997.

126 **Table 4.2.10-6 At-place Historical Employment by Major SIC Industry in 1980 and 1990**

Major Industry	Minnesota		Cook County		Lake County		St. Louis County	
	1980	1990	1980	1990	1980	1990	1980	1990
Year	1980	1990	1980	1990	1980	1990	1980	1990
Agricultural services	3,950	6,812	na	na	A ¹	B	93	152
Metal mining	16,182	7,437	0	A	F	E	12,208	5,317
Construction	82,673	76,200	75	101	E	B	4,305	2,577
Manufacturing	392,742	394,202	122	C	366	621	8,595	6,162
Transportation, communications, utilities	84,967	106,166	22	A	113	122	3,360	3,713
Wholesale trade	114,717	133,464	A	A	74	B	4,247	2,907
Retail trade	322,153	395,801	265	459	590	633	16,457	16,602
Finance, insurance, real estate	101,314	133,678	34	82	102	C	3,211	2,805
Services	367,202	573,009	358	F	455	595	16,716	22,598
Public administration	8,780	5,387	A	A	18	A	366	184
Total	1,494,680	1,832,156	895	1,401	2,985	2,555	69,558	63,017

127 Source: UVGSDC 2008.

128 ¹ Letter codes indicate suppression flags in the original data set—cases where exact data were withheld by the United States
129 Census Bureau in order to protect company-confidential data. As a result, study area data cannot be calculated. Flags indicate
130 approximate employment, as follows: A: 0-19 employees; B: 20-99 employees; C: 100-249 employees; E: 250-499 employees;
131 F: 500-999 employees.
132 na = Not available

133 **Table 4.2.10-7 At-place Employment by Major NAICS Industry in 2009**

Major NAICS Industry	Minnesota		Cook County		Lake County		St. Louis County	
	Number	% of Total	Number	% of Total	Number	% of Total	Number	% of Total
Forestry, fishing, hunting	2,462	<1	A ¹	na	A	na	172	<1
Mining, quarrying, oil/gas	4,703	<1	B	na	C	na	3,151	4
Utilities	13,711	<1	120	6	B	na	921	1
Construction	99,101	4	B	na	96	3	3,261	4
Manufacturing	307,822	13	9	<1	F	na	4,378	5
Wholesale trade	131,638	5	283	14	B	na	2,279	3
Retail trade	291,328	12	A	na	332	11	12,583	15
Transportation, warehousing	75,384	3	59	3	A	na	1,934	2
Information	64,096	3	36	2	C	na	2,187	3
Finance and insurance	148,621	6	B	na	179	6	3,655	5
Real estate	36,296	2	B	na	84	3	1,017	1
Professional, sci., tech. svcs.	139,270	6	26	1	B	na	3,269	4
Management	118,124	5	42	2	41	1	937	1
Admin., support, waste mgt.	123,915	5	C	na	B	na	3,212	4
Educational services	66,458	3	304	15	E	na	2,360	3
Health care, social assistance	421,935	18	641	33	54	2	21,789	27
Arts, entertainment, recreation	39,550	2	46	2	607	21	1,221	2
Accommodation, food svcs.	213,136	9	A	na	174	6	9,308	11
Other svcs.	119,334	5	-	0	-	0	3,995	5
Industries not classified	290	<1	-	0	-	0	5	<1
Total	2,417,174	100.0	1,975	100.0	2,955	100.0	81,634	100.0

134 Source: U.S. Census Bureau 2009.

135 Percent totals may be greater or less than 100% due to rounding.

136 ¹ Letter codes indicate suppression flags in the original data set—cases where exact data were withheld by the United States
 137 Census Bureau in order to protect company-confidential data. As a result, study area data cannot be calculated. Flags indicate
 138 approximate employment, as follows: A: 0-19 employees; B: 20-99 employees; C: 100-249 employees; E: 250-499 employees;
 139 F: 500-999 employees.
 140 na = Not available

141 In 2009, the top employment sectors in the study area were health care and social assistance,
 142 retail trade, manufacturing, educational services (which does not include public schools or other
 143 public education functions), and accommodation and food services. SIC and NAICS data are
 144 available for counties, whole zip codes, and Metropolitan Statistical Areas, but not for the
 145 specific geographic areas considered in this chapter (i.e., most of the study area communities
 146 occupy only a portion of a zip code; thus, the data for the whole zip code are not appropriate).
 147 Therefore, only county-level data are used. The U.S. Census Bureau withholds some data for
 148 smaller geographies (such as cities); therefore, study area totals cannot be calculated.

149 Mining employment has declined consistently in all three study area counties, from more than
 150 12,000 in 1980 to approximately 3,000 in 2009 in St. Louis County. **Mining related employment**
 151 **is volatile and fluctuates from year to year due to the market price of commodities being**

152 extracted. Since mining employment can vary greatly from one year to the next, the decline
153 observed from 1980 and 2009 does not represent a steady reduction in mining related
154 employment. At the same time, service-related employment in the study area (which includes the
155 NAICS categories for professional services, management, health care, education,
156 arts/entertainment, and accommodation/food) has increased substantially since 1980, mirroring
157 broader state and national trends.

158 **Industry Concentrations**

159 Certain industries, particularly mining and utilities, are more concentrated in the study area,
160 particularly St. Louis County, than in the state as a whole. Sector concentration can be measured
161 by the location quotient (LQ), which is the ratio between the local economy and the economy of
162 a reference unit, such as the state. For this analysis, the LQ was calculated using each study area
163 county as a local economy and the state as the reference unit. Given the number of industry totals
164 that were suppressed by the U.S. Census Bureau in Tables 4.2.10-6 and 4.2.10-7, a combined
165 study area LQ could not be calculated. A LQ of 1.00 indicates that a given industry is exactly as
166 strong, in terms of employment, in the local economy as it is in the reference economy. A LQ
167 below 1.00 indicates a relatively weak local industry, while a LQ above 1.00 indicates a
168 relatively strong local industry.

169 As illustrated by Table 4.2.10-8, the LQ for the mining industry in St. Louis County is nearly 20,
170 meaning that mining employment in the county is approximately 20 times as concentrated as in
171 the state as a whole. As noted above, LQs for the study area as a whole could not be calculated
172 because of data confidentiality. However, this concentration has been declining in recent years.
173 In 1980 (Table 4.2.10-6), St. Louis County accounted for approximately 75 percent of the state's
174 mining employment. In 2009 (Table 4.2.10-7), that share had fallen to approximately 66 percent
175 of state mining employment. Mining employment in other study area counties was minimal.

176 The high LQ for the utilities industry is likely tied to power plants and utility infrastructure that
177 support the region's mining activity. Other relatively high LQ values vary by county, but
178 generally include educational services, health care and social assistance, and arts/entertainment.
179 Forestry, fishing, and hunting have high LQ values in St. Louis County, while Real Estate has a
180 high LQ value in Lake County. Industries with particularly low LQ values include manufacturing
181 and management. These findings support stakeholder observations about the strength of the
182 region's tourism economy (real estate in Lake County, arts, entertainment, accommodation, and
183 food).

184 **Regional Tourism**

185 Tourism is rooted in the Arrowhead region's unique recreation opportunities such as BWCAW,
186 and is more broadly dependent on recreational opportunities such as hunting, fishing, boating,
187 sightseeing, and wilderness experiences provided by the region's high-quality natural
188 environment.

189 Mining and tourism have coexisted in the study area for decades. As shown in Table 4.2.10-7,
190 industries associated with tourism (arts, entertainment, recreation, accommodation, and food)
191 account for nearly 13 percent of all employment in St. Louis County (data could not be summed
192 for the entire study area). The "attractive landscape and climatic features [of the region have]
193 attracted recreationists, retirees, and other new residents" (Powers 2007). In particular,
194 retirement income (from individuals who move to the Arrowhead region for its recreational and

195 scenic resources) has been an important source of economic vitality for the region's communities
196 (Powers 2007). These non-mining economic gains have occurred in the presence of active
197 mining activity (including the Northshore Mine adjacent to the NorthMet Project area) and the
198 remnant landscape of past mining activity.

199 ***Retirees***

200 The demographic data in Section 4.2.10.1.1, as well as some of the industry clusters identified
201 above support the views, expressed by some stakeholders, that the study area is an increasingly
202 attractive location for retirees. The median ages in nearly all study area communities increased
203 between 2000 and 2010, and are, in most cases, higher than the state median (Table 4.2.10-2).
204 The relative strength of the Health Care and Social Assistance industry category is also
205 consistent with an older population in need of such services.

206 The employment status data in Table 4.2.10-9 may also support this conclusion about retirees:
207 statewide, 71 percent of residents over the age of 16 participate in the workforce (that is, they
208 hold or are actively looking for a job). By comparison, only 62 percent of the over-16 population
209 in the study area are in the workforce. While some of this difference is likely attributable to long-
210 term unemployment (which often leads workers to drop out of the workforce entirely), this gap
211 may also suggest the presence of retired individuals, who are, by definition, no longer in the
212 workforce.

213 Research also shows links between the presence of recreation and natural amenities and
214 increased retirement throughout the United States (see McGranahan 1999). The economic data
215 cited above, combined with the amenities present in and near the study area—such as BWCAW,
216 Superior National Forest, and the other resources described throughout this SDEIS—are
217 consistent with the findings of this type of research.

218 **Table 4.2.10-8 Location Quotients for Major NAICS Industries in the Study Area, 2009**

Industry	Cook County	Lake County	St. Louis County
Forestry, fishing, hunting	na	na	2.07
Mining, quarrying, oil/gas	na	na	19.84
Utilities	10.71	na	1.99
Construction	na	0.79	0.97
Manufacturing	0.04	na	0.42
Wholesale trade	2.63	na	0.51
Retail trade	na	0.93	1.28
Transportation, warehousing	0.96	na	0.76
Information	0.69	na	1.01
Finance and insurance	na	0.99	0.73
Real estate	na	1.89	0.83
Professional, scientific, technical services	0.23	na	0.70
Management	0.44	0.28	0.23
Admin., support, waste mgt.	na	na	0.77
Educational services	5.60	na	1.05
Health care, social assistance	1.86	0.10	1.53
Arts, entertainment., rec.	1.42	12.55	0.91
Accommodation, food services	na	0.67	1.29
Other services	NA	NA	0.99
Industries not classified	NA	NA	0.51

219 Source: U.S. Census Bureau 2009.

220 Note: LQs compare county employment to statewide employment. LQs for the entire study area cannot be calculated.

221 na = Not available

222 **Jobs Held by Residents**

223 Employment data for residents of study area communities is shown in Table 4.2.10-9.
 224 Unemployment rates in Lake and Cook counties were generally consistent with or lower than
 225 statewide unemployment. However, unemployment in St. Louis County and particularly in
 226 individual St. Louis County communities was generally much higher than in the state as a whole.
 227 These data are estimates based on information collected by the U.S. Census Bureau from 2005-
 228 2009, and thus may not fully capture the depth of the unemployment effects that the study area
 229 has experienced as a result of the national recession during and following that time period.

230 Occupation (e.g., general type of work) and industry classifications of jobs held by study area
 231 residents are shown in Tables 4.2.10-10 and 4.2.10-11. These data show that management,
 232 science, business, arts, sales, education, health, manufacturing, and retail make up a large
 233 percentage of the jobs held by study area residents. The sectors of agriculture, forestry, fishing
 234 and hunting, and mining (including metal mining such as the NorthMet Project Proposed Action)
 235 account for a higher share of locally held jobs than the statewide average. This is especially true
 236 for communities closer to the mine (e.g., Aurora, Babbitt, Biwabik, and Hoyt Lakes).

237 Occupational categories are provided for each community per the U.S. Census Bureau's SIC
 238 definitions. The occupation categories also show the prevalence of management and service job
 239 functions as opposed to more traditional production and manufacturing activities typically
 240 associated within mining.

241 **Table 4.2.10-9 Employment Status of Study Area Communities, 2009**

Geography	Total Population ≥16 Years	In Civilian Labor Force¹	Employed	Unemployed	Unemployment Rate (%)
State of Minnesota	4,111,966	2,916,931	2,730,721	186,210	6
Cook County	4,455	2,875	2,741	134	5
Lake County	9,143	5,596	5,395	201	4
St. Louis County	164,849	102,619	94,402	8,217	8
Study Area	178,447	111,090	102,538	8,552	7.7
Aurora	1,264	681	641	40	6
Babbitt	1,167	579	544	35	6
Biwabik	508	318	240	78	25
Bois Forte Reservation	850	481	445	36	8
Duluth	71,606	46,415	42,629	3,786	8
Ely	3,064	1,751	1,617	134	8
Fond du Lac Reservation	3,089	1,935	1,662	273	14
Grand Portage Reservation	331	227	218	9	4
Hibbing	13,222	7,166	6,531	635	9
Hoyt Lakes	1,740	996	834	162	16
Soudan	397	273	256	17	6
Tower	353	201	178	23	11
Virginia	7,157	3,814	3,413	401	11

242 Source: U.S. Census Bureau 2010a.

243 ¹ Excludes armed forces personnel, and individuals who reported that they were not seeking employment.
 244 Percent totals may be greater or less than 100% due to rounding.

245 **Table 4.2.10-10 Employment in Study Area Communities by Occupation**

Geography	Civilian Employed Pop. ≥16 Years	Occupation (% of total employed population)				
		Management, Science, Business, Arts	Services	Sales/ Office	Natural Resources	Production/ Transportation
State of Minnesota	2,730,721	38	16	25	9	13
Cook County	2,741	33	18	27	13	9
Lake County	5,395	27	22	22	14	15
St. Louis County	94,402	34	21	24	11	10
Study Area	102,538	34	21	24	11	10
Aurora	641	25	21	17	21	16
Babbitt	544	21	19	27	14	18
Biwabik	445	22	30	17	16	15
Bois Forte Reservation	240	22	26	29	14	10
Duluth	42,629	37	23	24	7	9
Ely	1,617	25	31	29	10	5
Fond du Lac Reservation	1,662	24	25	23	11	17
Grand Portage Reservation	218	21	38	24	15	2
Hibbing	6,531	27	23	28	13	10
Hoyt Lakes	834	20	21	20	18	21
Soudan	256	22	28	20	14	17
Tower	178	26	29	17	19	8
Virginia	3,413	31	22	25	16	6

246 Source: U.S. Census Bureau 2010a.

247 Percent totals may be greater or less than 100% due to rounding.

248 **Table 4.2.10-11 Employment in Study Area Communities by Industry**

Geography	Civilian Employed Population ≥16 Years	Industry (% of total employed population)												
		Forestry, Fishing, Hunting, and Mining	Construction	Manufacturing	Wholesale	Retail	Transportation and Utilities	Information	Finance, Insurance, Real Estate	Professional, Scientific, Management, Administration	Education, Health	Arts, Entertainment, Recreation, Accommodation, Food	Other Services, except Public Administration	Public Administration
Minnesota	2,730,721	2	6	14	3	12	5	2	7	9	24	8	4	3
Cook County	2,741	2	10	7	1	14	2	1	9	10	13	20	4	9
Lake County	5,395	8	7	9	1	10	5	2	6	6	27	13	4	3
St. Louis County	94,402	4	7	7	2	12	6	2	5	6	31	11	4	5
Study Area	102,538	4	7	7	2	12	5	2	5	6	30	11	4	5
Aurora	641	15	14	8	2	8	9	1	5	4	25	8	0	1
Babbitt	544	17	5	7	2	11	4	1	6	6	19	12	6	5
Biwabik	445	15	5	4	2	16	4	1	3	3	35	10	2	1
Bois Forte Reservation	240	5	8	5	1	4	6	0	1	3	16	35	2	14
Duluth	42,629	1	5	6	2	12	5	2	5	7	35	12	4	4
Ely	1,617	6	5	3	1	12	1	1	5	13	20	19	8	6
Fond du Lac Reservation	1,662	1	7	12	4	11	3	1	4	4	21	16	3	12
Grand Portage Reservation	218	0	5	2	1	19	2	0	14	6	15	25	2	9
Hibbing	6,531	7	6	9	2	13	7	1	4	6	27	9	6	4
Hoyt Lakes	834	13	8	12	0	14	9	0	6	8	21	5	3	3
Soudan	256	7	8	12	2	4	5	0	8	1	23	26	0	5
Tower	178	1	2	8	2	8	0	0	7	1	19	33	12	7
Virginia	3,413	6	8	7	1	12	5	2	7	7	28	8	4	5

249 Source: U.S. Census Bureau 2010a.

250 Percent totals may be greater or less than 100% due to rounding.

251 **Income**

252 Table 4.2.10-12 shows the average income earned by employees in each major NAICS industry.
253 Mining and utilities pay very high average wages statewide and in St. Louis County. However,
254 wages paid to health care and social services workers account for more than one-quarter of the
255 total wages paid by private companies in St. Louis County and for more than 16 percent of
256 statewide wages.

257 **4.2.10.1.3 Public Finance**

258 Sales and use tax revenues from study area counties by all industries and the mining industry are
259 summarized in Table 4.2.10-13. This table illustrates the relative sales and use tax contribution
260 from the mining industry in the state.

261 The mining and processing of base and precious metals in the state are not currently subject to
262 production tax. However, mining is subject to the following taxes (MDR 2011):

- 263 • Net proceeds tax: tax proceeds are distributed to the state general fund if mined resources do
264 not fall within the taconite assistance area. Taxes paid on mined resources within the taconite
265 assistance area (which includes the NorthMet Project area) are distributed as follows: 5
266 percent to the city or town where mined, 10 percent to the Municipal Aid Account, 10
267 percent to the school district, 20 percent to the Regular School Fund, 20 percent to Taconite
268 Property Tax Relief, 5 percent to IRRRB, 5 percent to the Douglas J. Johnson Economic
269 Protection Trust Fund, and 5 percent to the Taconite Environmental Protection Fund.
- 270 • Occupation tax: 2.45 percent of the taxable amount (typically the mine value), as determined
271 by the Minnesota Department of Revenue. Revenue generated through the occupation tax is
272 credited to the general fund, with 10 percent designated for the University of Minnesota, 40
273 percent designated for public elementary and secondary schools, and 50 percent remaining in
274 the state's general fund.
- 275 • Sales and use tax: 6.875 percent of all purchases that do not qualify for an exemption.
- 276 • Withholding tax on royalty payments: 6.25 percent of royalty payment.

277 Ad valorem tax is established and collected by the counties, local communities, and school
278 districts according to Minnesota state law.

279

280 **4.2.10.1.4 Housing**

281 Table 4.2.10-14 illustrates the housing characteristics of the study area. Much of the overall
282 vacancy rate reflects the large number of seasonal (vacation) homes in the region, particularly in
283 Cook and Lake counties where nearly two-thirds of vacant housing units are for seasonal use.
284 Excluding seasonal units, vacancy rates in the study area are somewhat higher than in the state as
285 a whole, although vacancy rates in individual communities vary significantly. There are
286 approximately 5,400 hotel rooms and 1,175 occupied berths and 225 vacant berths in mobile
287 home parks in the study area (Maddy 2012). Hotels and mobile homes are often used by mine
288 construction employees, especially those with short-term assignments. The study area has a
289 slightly lower share of owner-occupied housing units than in the state. Household sizes are
290 smaller in the study area than in the state as a whole. These data are consistent with trends (see
291 Section 4.2.10.1.2) suggesting that the study area is becoming increasingly attractive to retirees,
292 who tend to have higher home ownership rates and smaller household sizes than other segments
293 of the population.

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294 **Table 4.2.10-12 Payroll (\$1,000s) by Major NAICS Industry, 2009**

Industry	Minnesota		Cook County		Lake County		St. Louis County	
	Payroll	Avg. per Employee	Payroll	Avg. per Employee	Payroll	Avg. per Employee	Payroll	Avg. per Employee
Forestry, fishing, hunting	\$79,116	\$32,135	D	na	\$172	na	\$4,723	\$27,459
Mining, quarrying, oil/gas	\$322,301	\$68,531	D	na	D	na	\$196,993	\$62,518
Utilities	\$1,085,613	\$79,178	\$5,043	\$42,025	D	na	\$73,916	\$80,256
Construction	\$5,558,534	\$56,090	D	na	\$2,959	\$30,823	\$179,640	\$55,087
Manufacturing	\$14,782,085	\$48,022	\$483	\$53,667	\$23,083	na	\$187,373	\$42,799
Wholesale trade	\$8,320,168	\$63,205	\$6,647	\$23,488	D	na	\$96,299	\$42,255
Retail trade	\$6,773,100	\$23,249	D	na	\$7,672	\$23,108	\$265,991	\$21,139
Transportation, warehousing	\$2,938,953	\$38,986	\$2,589	\$43,881	D	na	\$73,216	\$37,857
Information	\$3,920,852	\$61,172	\$1,518	\$42,167	\$2,540	na	\$82,475	\$37,711
Finance and insurance	\$10,454,638	\$70,344	\$804	na	\$5,819	\$32,508	\$146,947	\$40,204
Real estate	\$1,335,591	\$36,797	\$796	na	\$1,339	\$15,940	\$25,263	\$24,841
Professional, sci., tech. svcs.	\$8,121,631	\$58,316	\$611	\$23,500	\$1,172	na	\$148,666	\$45,478
Management	\$9,246,827	\$78,281	\$989	\$23,548	\$972	\$23,707	\$59,195	\$63,175
Admin., support, waste mgt.	\$4,215,273	\$34,017	D	na	D	na	\$65,069	\$20,258
Educational services	\$1,661,448	\$25,000	\$6,027	\$19,826	\$11,497	na	\$50,130	\$21,242
Health care, social assistance	\$16,303,572	\$38,640	\$11,675	\$18,214	\$1,447	\$26,796	\$822,689	\$37,757
Arts, entertainment, rec.	\$1,087,163	\$27,488	\$655	\$14,239	\$9,972	\$16,428	\$18,759	\$15,364
Accommodation, food svcs.	\$3,068,339	\$14,396	D	na	\$2,722	\$15,644	\$125,175	\$13,448
Other svcs.	\$2,898,411	\$24,288	\$-	na	\$-	na	\$79,563	\$19,916
Industries not classified	\$5,619	\$19,376	\$-	na	\$-	na	\$169	\$33,800
Total	\$102,179,234	\$42,272	\$52,668	\$26,667	\$86,786	\$29,369	\$2,702,251	\$33,102

295 Source: U.S. Census Bureau 2009.

296 Letter codes indicate suppression flags in the original data set—cases where exact data were withheld by the United States Census Bureau in order to protect company-confidential
297 data. Flags indicate approximate employment, as follows:

298 A: 0-19 employees; B: 20-99 employees; C: 100-249 employees; E: 250-499 employees; F: 500-999 employees.

299 na = Not available

300 **Table 4.2.10-13 Select Sales and Use Tax Statistics (\$1,000s)**

Total Tax (Sales and Use)						
Year	Cook County		Lake County		St. Louis County	
	All Industries	Metal Mining	All Industries	Metal Mining	All Industries	Metal Mining ²
1995	\$3,345	NR ¹	\$4,318	NR	\$91,008	NR
2000	\$4,192	0	\$5,390	0	\$114,011	\$4,150
2009	\$5,897	0	\$8,515	0	\$158,227	\$7,210

301 Source: MDR 2010.

302 ¹ NR: Not reported

303 ² 2009 data reported as "Mining – All Other".

304 **Table 4.2.10-14 Study Area Housing Unit Characteristics, 2010**

Geography	Total HU	Occupied HU (%)	Owner-Occupied HU (%)	Renter-Occupied HU (%)	Vacancy Rate (%)	Vacancy Rate, Non-seasonal (%)	Average Household Size (persons)
Minnesota	2,347,201	89	65	24	11	6	2.48
Cook	5,839	43	32	11	57	5	2.05
Lake	7,681	63	51	12	37	6	2.21
St. Louis	103,058	82	59	24	18	6	2.25
Study Area	116,578	79	57	22	21	6	2.24
Aurora	887	88	68	20	12	9	2.09
Babbitt	818	86	74	13	14	9	2.07
Biwabik	543	86	63	24	14	10	2.03
Duluth	38,208	93	57	37	7	6	2.23
Ely	2,022	83	54	29	17	13	1.93
Hibbing	8,200	90	64	26	10	8	2.17
Hoyt Lakes	1,016	87	77	10	13	9	2.27
Soudan	244	84	75	9	16	8	2.18
Tower	331	80	54	26	20	10	1.89
Virginia	4,738	90	51	38	11	10	1.95
Bois Forte Reservation	451	65	46	20	35	5	2.97
Fond du Lac Reservation	1,729	89	66	23	11	3	2.72
Grand Portage Reservation	313	82	41	41	18	4	2.20

305 Source: U.S. Census Bureau 2010a.

306 Percent totals may be greater or less than 100% due to rounding.

307 HU = Housing unit(s).

308 **4.2.10.1.5 Public Services and Facilities**

309 **Water and Sewer**

310 Table 4.2.10-15 summarizes the condition of public water and sewer facilities throughout the
311 study area. All of the cities evaluated have public water and wastewater systems, with varying
312 degrees of available capacity. Residents and businesses in unincorporated areas typically rely on
313 individual wells and septic systems. Potable water for municipal systems comes from either
314 groundwater or surface water (notably, Duluth obtains its drinking water from Lake Superior).
315 Most of the public water and sewer infrastructure supporting the study area communities was
316 constructed to accommodate larger populations than currently reside in the area (e.g., the 1980
317 and 1990 populations listed in Table 4.2.10-1).

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318 **Table 4.2.10-15 Water and Wastewater Capacity**

Geography	Water			Wastewater		
	Capacity (MGD) ¹	Average Demand (MGD)	System Issues/Upgrades	Capacity (MGD)	Average Demand (MGD)	System Issues/Upgrades
Aurora	0.864	0.222	Study underway with Biwabik to identify new water source. Considering building a new facility for both.	0.900	0.200	\$7 million upgrade in the last four years.
Babbitt	0.600	0.200	None	0.500	0.200	Consulting firm hired to look into upgrading or rebuilding a new wastewater plant.
Biwabik	0.430	0.128	Study underway with Aurora to identify new water source. Considering building a new facility for both.	0.220	0.160	None
Duluth	40	19	Water tower to go online mid-May 2012 adding 900,000 gallons to the 68 million storage capacity.	100	16	The city is upgrading or replacing two wastewater lift stations each year at an annual cost of \$600,000 per year.
Ely	1	0.350	\$350,000 rehab work every year.	1.5	0.400	\$350,000 rehab work every year.
Hibbing	3.2	2.3	None	4.5	2	Wastewater inflow & infiltration concerns throughout the city; certain neighborhoods have wastewater backups during large rain events.
Hoyt Lakes	1.5	0.307	Minor upgrades to the water plant.	0.650	0.270	Began preliminary engineering for rebuilding wastewater facility.
Soudan/ Tower ²	0.300	0.0900	Needs new water tower.	0.176	0.13	None
Virginia ³	5	1.7	None	4.3	2	Starting project to expand wastewater plant and reduce mercury; projected completion 1st quarter 2013.

319 Source: Maddy 2012.

320 ¹ MGD = million gallons per day.

321 ² Soudan and Tower share resources

322 ³ Data reflect current wastewater system. Once wastewater upgrade is complete, capacity will increase to 9.9 mg/d and average demand will go up to 3.1 mg/d.

323 **Emergency Services**

324 Table 4.2.10-16 illustrates the available public safety resources. Each county in the study area
 325 has its own sheriff’s department, which provides law enforcement and other services for
 326 unincorporated areas. Municipalities provide their own police protection, except for Aurora,
 327 which contracts with the St. Louis County Sherriff’s Office (SLCPD 2012) and Biwabik, which
 328 receives law enforcement from Gilbert (Maddy 2012). The St. Louis County Sherriff’s Office
 329 also maintains countywide 911 service, coordinating police, fire, and emergency medical
 330 response. Similarly, each community maintains its own fire department, typically a volunteer
 331 department. The City of Babbitt fire department provides emergency response to the Northshore
 332 Mine, and has up-to-date equipment.

333 A variety of public and private ambulances provide emergency medical service for the study
 334 area. Ambulance service is integrated into some municipal fire departments (such as Babbitt,
 335 Duluth, Hibbing, and Virginia). Other municipalities either contract with nearby cities or with
 336 private ambulance services.

337 ***Table 4.2.10-16 Public Safety***

Geography	Police Officers	Firefighters	EMS Ambulance Personnel
Aurora	5	22	7
Babbitt	4	35	25
Biwabik	7 ²	21	21
Duluth	152	125	48
Ely	8	32	27
Hibbing	30	23	19
Hoyt Lakes	6	21	23
Soudan/Tower ¹	1	15	19
Virginia	18	21 ³	21 ³

338 Source: Maddy 2012.

339 ¹ Soudan and Tower share resources.

340 ² Biwabik receives law enforcement from Gilbert.

341 ³ Firefighters are full-trained EMS and operate ambulance services from fire hall.

342 **Medical Services**

343 The study area communities are served by both medical clinics and hospital facilities. The
 344 closest medical facility to the NorthMet Project area is Essentia Health Northern Pines in Aurora.
 345 This 16-bed facility has Level IV trauma status, indicating that staff are able to stabilize patients
 346 for transport to more advanced trauma centers (Essentia 2012). Other nearby Level IV trauma
 347 centers are in Ely and Virginia, while the nearest advanced care (Level II) hospitals are Essentia
 348 Health St. Mary’s Medical Center and St. Luke’s Hospital, both in Duluth (MDH 2011).

349 **Education**

350 Table 4.2.10-17 shows the capacity and enrollment of public schools. As with other public
 351 services and facilities, each municipality maintains its own public school system, supplemented
 352 with county-run independent school systems. Most public schools in the region are designed to
 353 accommodate larger populations. Some jurisdictions, such as the Duluth school district, are
 354 choosing to close or repurpose school buildings.

355 **Table 4.2.10-17 Capacity and Enrollment of Public Schools**

Geography	Capacity	Enrollment	Facilities to be <u>U</u>graded, <u>R</u>eplaced, <u>C</u>ombined, or <u>C</u>losed
Aurora ¹	1,500	886	The district plans to replace boilers and resurface parking lots at their facilities.
Babbitt	1,200	348	None
Biwabik ¹	1,500	886	The district plans to replace boilers and resurface parking lots at their facilities.
Duluth	9,800	8,308	School district is downsizing and modernizing its facilities, resulting in one less high school, one less middle school, two less elementary schools, and one less K-8 facility.
Ely	1,775	542	None
Hibbing	2,680	2,319	None
Hoyt Lakes ¹	1500	886	The district plans to replace boilers and resurface parking lots at their facilities.
Tower/Soudan ²	175	94	None
Virginia	1,623	1,623	Considering setting up portable classrooms for fall 2012; community is in the process of securing funding and support to either add or build new facilities.

356 Source: Maddy 2012.

357 ¹ These communities are part of the Mesabi School district.

358 ² Soudan and Tower share resources.

359 The region is also served by a number of community and technical colleges (MNSCU 2012):

- 360 • **Mesabi Range Community and Technical College (Virginia and Eveleth):** Offers 50
361 diploma, certification, or degree (A.A.) programs, with notable specialties in wind energy
362 technology, and human services.
- 363 • **Vermilion Community College (Ely):** Offers 30 programs, many focused on environmental
364 programs and outdoor careers, such as water quality science, outdoor therapeutic recreation,
365 sports management, park ranger training.
- 366 • **Hibbing Community College:** Offers a mix of more than 40 programs ranging from
367 traditional liberal arts to career-oriented programs.
- 368 • **Fond du Lac Tribal and Community College (Cloquet):** Offers nearly 40 programs,
369 ranging from liberal arts and nursing to specialty programs in American Indian studies,
370 geospatial technologies, environmental science, and clean energy technology.
- 371 • **Lake Superior College (Duluth):** Offers nearly 100 programs, with heavy emphasis on
372 nursing and other medical specialties, along with a full range of liberal arts and professional
373 training.

374 The study area is also home to two four-year institutes of higher learning. These include the
375 University of Minnesota Duluth, with nearly 12,000 enrolled undergraduate, graduate, and other
376 students (University of Minnesota Duluth 2011); and the College of St. Scholastica in Duluth,
377 with more than 4,000 enrolled students (CSS 2012).

378 **4.2.10.1.6 Subsistence**

379 There is no nationwide federal definition of subsistence, nor has the State of Minnesota
380 developed a formal definition. Title VIII of the Alaska National Interest Lands Conservation Act
381 (P.L. 96-487) defines subsistence for rural Alaska residents (regardless of whether they are
382 Native American) as:

383 the customary and traditional uses...of wild renewable resources for direct, personal, or
384 family consumption as food, shelter, fuel, clothing, tools, or transportation; for the
385 making and selling of handicraft articles out of non-edible byproducts of fish and wildlife
386 resources taken for personal or family consumption; for barter, or sharing for personal or
387 family consumption; and for customary trade.

388 This Alaskan definition is consistent with subsistence activities within the study area as well. For
389 many study area residents, particularly members of Bois Forte, Fond du Lac, and Grand Portage,
390 as well as other Native American bands, subsistence hunting, fishing, trapping, and gathering
391 activities are a significant activity. Individuals participate in subsistence activities for numerous
392 reasons, including food supply, personal income, and the continuance of cultural customs and
393 traditions.

394 As part of the 1854 Treaty, Native American bands retain the right “to hunt, fish, trap, and gather
395 for subsistence on public lands and waters open to the public (publicly owned and accessible to
396 the public without charge) within the [1854 Ceded Territory]” (MDNR 2010). The 1854 Treaty
397 and subsequent court interpretations also include limited rights to commercial harvest.

398 A 2002 study of subsistence activities amongst the Bois Forte and Grand Portage Bands (Vogt
399 2004) demonstrates the wide variety of species and items collected as part of subsistence
400 activities in the study area, including the following:

- 401 • fish: more than 25 species, with the most commonly harvested being walleye, northern pike,
402 lake trout, and crappie;
- 403 • birds and mammals: more than 10 species, with the most commonly harvested being deer,
404 grouse, moose, and duck; and
- 405 • plants: more than 12 species/items, with the most commonly harvested being wild rice,
406 various berries, and maple sap/syrup.

407 Among the survey respondents, subsistence activity (including hunting, fishing, and plant
408 gathering) accounted for approximately one meal per week. Subsistence activity typically occurs
409 either on Native American reservations or within other parts of the 1854 Ceded Territory.
410 Fishing and hunting occur throughout the year, although harvesting fish for consumption is more
411 prevalent during warmer months, while harvesting land animals is more prevalent during colder
412 months (Vogt 2004). Grand Portage’s subsistence fish consumption averages 144 grams/day,
413 five times higher than the MPCA assumed fish consumption rate of 30 grams/day. Fond du Lac’s
414 subsistence fish consumption is on average 60 grams/day, two times higher than the MPCA
415 assumed fish consumption rate (MPCA 2012c). The impacts of mercury bioaccumulation on
416 subsistence activity is discussed in Section 5.2.10.2.6.

417 In addition to the survey results described above, Table 4.2.9-3 in Section 4.2.9 shows other
418 animal and plant species that have historically been, and/or could potentially be harvested in the
419 1854 Ceded Territory.

420 The 1854 Treaty Authority manages big game (moose, deer, and bear) hunting, as well as
421 furbearer trapping (Pine Marten, Fisher, otter, and bobcat) on behalf of the Bois Forte and Grand
422 Portage bands, in accordance with a 1988 negotiated agreement with Minnesota. Under this
423 agreement, big game harvests are limited. Harvests for all species (including big game and
424 trapping) have generally declined since 1994 (Edwards 2012).

425 The Mine Site and Transportation and Utility Corridor fall partially within the state-defined
426 moose harvest area, although no moose were harvested by the bands within approximately 20
427 miles of this location from 1994-2011. The majority of deer hunting and a portion of furbearer
428 trapping occurred in St. Louis County during this time period (Edwards 2012).

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