

E-2

Wildlife Transects and Habitat Mapping Memo



To: Scott Miller, Golder

From: Mike Nurse, WCR

Date: October 24, 2005

Subject: Wildlife Transects and Habitat Mapping - Eagle Project

This memorandum has been prepared at your request to clarify the wildlife transects and the habitat mapping methodologies as they relate to the proposed Eagle Project site facilities layout. Methods identified in the *Wildlife Species Assessment* and the *Threatened and Endangered Species Assessment* Reports include assessments associated with transects and general mapping of plant communities and animal habitat types. As noted in these reports, seven wildlife sampling transects were established to be representative of the habitat types within the project area. In addition, broader scale habitat mapping was completed to characterize the entire project area.

Based on our conversations, surface facilities for mining are currently proposed north of Transects 1-4 within Habitat Areas “C1” and “D”. Habitat Area C1 is dominated by coniferous tree species and occurs in several locations within the project area. Habitat Area D is the most common habitat within the project area and is characterized by land that is part of recent or historic large-scale timbering operations. While transects 1 through 4 did not extend north into the area that surface facilities are currently proposed, we believe this area has been adequately characterized and the descriptions and data presented for Areas C1 and D are representative of Areas C1 and D north of Transects 1 through 4. No threatened, endangered or species of concern were identified or expected in this habitat and we do not believe additional characterization of the area north of transects 1-4 is necessary.

Description of the Transect Methodology (from: WCR, Wildlife Species Assessment 2005)

During the site survey, seven permanent wildlife sampling transects were established and surveyed with a global positioning system (GPS). The transects were labeled Transects 1-7 (**Figure 2.1**). Transects 1-4 are 3,900 ft (1190 meters (m)) in length and Transects 5-7 are 5,250 ft (1600 m) in length. The transects were established to conduct wildlife assessments within a continuum of habitat types and to include assessment of the habitats types present throughout the site; including those areas where mining operations may be established. Transects were also established to sample known locations for comparison with potential future studies. The data collected will be used to identify potentially sensitive areas on the project site and as baseline information.

The seven transects are located within various habitat types found throughout the project area. Along each transect, three (3) sampling stations were established, creating a total of 21 sampling stations. Station locations were chosen to include all habitat types along the transects, and avoid overlap of bird sightings between stations. Each station was uniquely labeled with identification of the transect number and bird and small mammal sample plots. The first sampling station along Transect 1 was labeled T1B1M1. The T1 represents Transect 1, B1 is Station 1 for bird surveys and M1 is Station 1 for small mammal data collection. The habitat types associated with each station were documented and photographed.

The small mammal and bird sampling stations covered multiple habitat types including clear-cut areas with multiple stages of succession, mature upland coniferous forest, mature forest with coniferous and deciduous overstory, and spruce bog. Four stages of clear-cut habitats were noted which include: 1) no overstory or shrub layer, 2) young red pine with sparse herbaceous layer, 3) young jack pine with sparse understory, and 4) mix of young deciduous and coniferous forest with sparse herbaceous layer. The mature forest and spruce bog habitats consist of old cut with mixture of deciduous and coniferous, open-stand coniferous with sparse understory, mature coniferous woods with scattered deciduous trees and sparse understory, and black spruce bog. These habitat types encompass the majority of ecotypes found on the parcel, excluding some of the wetland complexes near the Salmon Trout River.

Description of Habitat Area C1 (from: WCR, Threatened and Endangered Species Assessment, 2005)

This upland woodland habitat is present in the eastern portion of the study area and is dominated by coniferous tree species. Deciduous trees are interspersed in the coniferous woodland; however, they represent less than approximately 10 percent of the total number of trees. The dominant tree species within this habitat type are jack pine (*Pinus banksiana*), red pine (*P. resinosa*), and white pine. The herbaceous understory of this habitat type contains trailing arbutus, wintergreen, running ground pine (*Lycopodium clavatum*), and bunchberry, among others. The plant species identified in Habitat Area C1 yield a FQI of 23.5.

Description of Habitat Area D (from: WCR, Threatened and Endangered Species Assessment, 2005)

Habitat Area D is dominated by upland pine trees (*Pinus spp.*), which were planted and are in various stages of reforestation. This habitat type includes land areas that have been recently and historically cutover as part of large-scale timbering operations. This habitat type is present throughout the study area and is the most abundant habitat type. Plant species include a few coniferous tree species, numerous upland weedy pioneer species, and a few floristically conservative upland grass species. The dominant tree species are jack pine and red pine. A few of the many herbaceous plant species identified in this habitat are quack grass (*Agropyron repens*), tickle grass (*Agrostis hyemalis*), Canadian thistle (*Cirsium arvense*), orchard grass (*Dactylis glomerata*), poverty grass (*Danthonia*

spicata), hair grass (*Deschampsia flexuosa*), orange hawkweed (*Hieracium aurantiacum*), Canada bluegrass (*Poa compressa*), and sheep sorrel (*Rumex acetosella*).

Habitat Area D contains only thirty-six plant species, likely due to lumbering and reforestation activities. A low FQI value of 20.2 (17.2 including adventives) was calculated for this habitat area.

No threatened, endangered, or species of concern were as identified along any of the transects extending into this area, nor are any expected to be present. Similar to Habitat Area C, the woodland tree species and slash piles within this area provide good habitat for wildlife. However, their distance from the river and other larger bodies of water limits their value to bald eagles. Despite the presence of conifer uplands, the ram's head lady's-slipper is not expected to be present due to the high level of disturbance.