

Figure 4.5-2b

Figure 4.5-2b

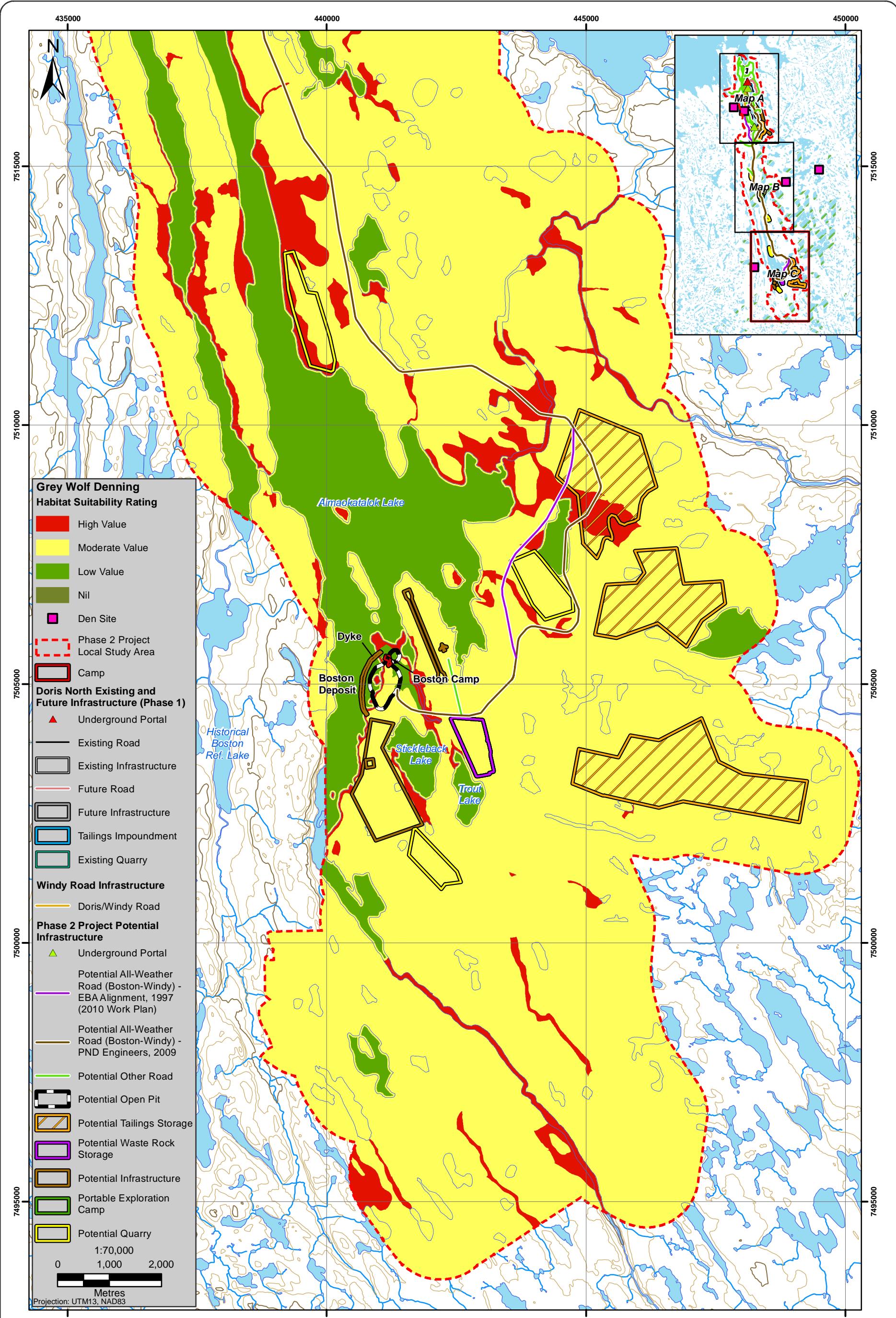


Figure 4.5-2c

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Plate 4.6-1. Young peregrine falcon chicks on a grassy ledge nest in the LSA during the summer season, July 2010.

The tundra peregrine falcon is ranked as special concern by COSEWIC (2009) but is considered secure by the Canadian Endangered Species Conservation Council (CESCC 2006). The peregrine falcon is also protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), restricting the import and export of birds and eggs (COSEWIC 2009). For these reasons, habitat suitability modelling was completed. In addition, habitat ratings can be applied to other cliff-nesting raptors (e.g., gyrfalcon, rough-legged hawk, and golden eagle).

4.6.2 Habitat Suitability Model Development

The life requisites rated for peregrine falcon are living and reproducing during spring (nesting) and summer (brood rearing) (Table 4.6-1). This covers the bulk of the time that this migratory species is present within the region. Since adults and young do not leave the nest until young are ready to fly in August (Rescan 2011b), only one model was created to cover both spring and summer habitat.

Table 4.6-1. Seasonal Life Requisites of Peregrine Falcon

Season	Date	Life Requisite	Habitat Preference
Spring (Nesting)	May - June	Living and Reproducing	Tall, steep cliffs with flat ledges suitable for nest sites; nearby water for prey selection
Summer (Brood Rearing)	July - August	Living and Reproducing	Tall, steep cliffs with flat ledges suitable for nest sites; nearby water for prey selection

The main habitat requirements for this species are a nest site (most commonly scrapes on cliff ledges), a nesting territory (i.e., the defended area of approximately 1 km from the nest site), and a home range (i.e., the non-defended area in which the species hunts for food outside of the defended territory, which can extend to 27 km from the nest site) (GNWT ENR 05). The area within 400 metres of

nesting locations is considered to be the most important hunting area. A significant reduction in abundance of passerine species has been shown within this area, indicating heavy predation by peregrine falcons (Wightman and Fuller 2005).

4.6.2.1 Model Assumptions

The HSRs for the ecosystem units are described in Appendix 6 (Table 1.4-2). The following general assumptions were made to define HSRs:

- High habitat values were assigned to a 400 metre radius around known nesting locations (occupied and abandoned nests). As well, potential nesting locations (polygons mapped as containing a rock outcrops with steep slopes modelled from DEM) were also considered high value habitat.
- Moderate habitat values were given to all other polygons that have a rock outcrop component, but where GIS analysis did not detect steep slopes. These areas were considered moderate value as the resolution of base elevation data may not be sufficient to detect small cliffs.
- Low habitat values were given to the majority of the remaining ecosystem units as potential hunting areas. Twenty-two ecosystems were considered to have low habitat value (for prey opportunities), but no nesting potential: betula-ledum lichen, dry and riparian willows, emergent marsh, wet meadow, polygonal ground, and eriophorum tussock meadows, betula-moss, dry carex-lichen, dwarf shrub-heath, lake, low bench floodplain, pond, river, shallow open water, blockfields, dryas-herb mat, beach materials, disturbance features, exposed soil and barren areas, rubble, and salt water.
- Nil habitat values were not assigned to any ecosystem units as peregrines are aerial hunters that prey on flying passerine species which can occur over any ecosystem unit.

4.6.3 Results and Discussion

High value tundra peregrine falcon habitat covered 12.0% of the LSA and was restricted to the immediate vicinity of known nesting sites and cliffs modelled in GIS (Table 4.6-2; Figure 4.6-1). The majority of the LSA was considered to be low value peregrine habitat (81.2%), while 6.8% of the LSA was moderate value habitat and no part of the LSA was considered to be nil value habitat. Moderate value habitat includes rocky areas in the LSA that GIS modelling suggested did not contain cliffs, but that had the potential to contain cliff habitat.

Table 4.6-2. Area and Proportion of High, Moderate, Low and Nil-rated Habitat within the LSA Tundra Peregrine Falcon

Suitability Rating	Amount of Habitat	
	Area in LSA (ha)	Percent of LSA (%)
Spring/Summer (Nesting and Brood Rearing)		
High	6,755.4	12.0%
Moderate	3,809.0	6.8%
Low	45,712.7	81.2%
Nil	0.0	0.0%