

EXECUTIVE SUMMARY

A Phase II ecological assessment was initiated for Shúhtagot'iné Néné candidate protected area between July 12 to 17 and July 24 to 30, 2008. A total of 49 formal site assessments were conducted across Shúhtagot'iné Néné (study area) based on an already existing Ecological Land Classification (ELC), that covered a small portion of the study area. This ELC recognized and described 15 distinct ecosystem units occurring in the region of Macmillan Pass. A total of 1,522 plant observations were documented during the 2008 field program representing 423 species and 52 families of vascular plants. Seven plant families accounted for approximately 50% of the species total and are presented here in descending order of the number of species represented; Asteraceae, Cyperaceae, Poaceae, Rosaceae, Saxifragaceae, Salicaceae and Ericaceae.

Based on a literature review, there are potentially 49 rare vascular plant species occurring within the study area; 17 rare vascular plant species have been documented and collected within the study area by other botanical researchers; 10 vascular plant species listed as rare and ranked by ENR as May Be At Risk were collected during the 2008 field program; 25 plant species ranked by ENR as Sensitive were collected during the 2008 field program.

During the 2008 field program 937 observations of wildlife were documented, including: 8 observations of fish, 339 of birds or bird sign, 587 of mammals or mammal sign, and numerous butterflies were collected. For mammals, 18 species of mammals were documented; of which, one species is listed by SARA as Special Concern; two species have been assessed by COSEWIC as Special Concern; and one species is ranked by Environment and Natural Resources (ENR) as May Be At Risk under the general status program. Woodland caribou were most commonly observed species within the study area (n=3,200), followed by Dall's sheep (n=589), moose (n=98), grizzly bear (n=36), gray wolf (n=5), and wolverine (n=3).

For birds, 100 bird species were documented within the study area. One of these species is listed by SARA as Special Concern; two species have been assessed by COSEWIC as Special Concern; and two species are ranked by ENR as May Be At Risk under the general status program. Twenty-one bird species occurring within the study area have been ascribed special conservation status by SARA, COSEWIC or NWT general status program.

For fish, 22 fish species have been documented within the study area; two of these species are ranked by ENR as May Be at Risk under the general status program.

For International Biological Programme (IBP) Sites, there are 10 International Biological Programme (IBP) sites within the study area including the Redstone – South Redstone Rivers (Raven's Throat), Caribou Flats, Keele – North Redstone Rivers (Moosehorn Headwaters), Mackenzie Mountain Barrens, Toitye Hotsprings, Sculpin Hotsprings, Lymnaea Springs, Carcajou Lake, Plains of Abraham and Cirque Lake. Biophysical characteristics considered important in the establishment of these IBP sites were high research potentials in soils, geomorphology, and ecological change in response to mining, as

well the areas support unique flora, fauna, and geomorphology and/ or includes key wildlife areas (*i.e.* salt licks) and representative flora.

For watershed protection, the study area covers a total of 11 watersheds. Of these 11 watersheds, the study area contains the entire watersheds of the Keele, Redstone, and Mountain. Shúhtagot'iné Néné candidate protected area is a large area protecting water quality and associated aquatic resources.

For landscape/ ecological representivity, Marxan, a computer modeling program designed for landscape analysis, was used to ensure the Shúhtagot'iné Néné candidate protected area adequately represents and helps to protect the region's biodiversity. Over 100 iterations of the Marxan analysis were run and the results supported that the area was representative of the region. From a non-numerical approach, Shúhtagot'iné Néné represents the region based on the numbers and diversity of the flora and fauna contained within the boundaries of the candidate area, not to mention those species that possess special conservations status. The Shúhtagot'iné Néné candidate protected area also includes a glacial refugium, something that no other Protected Areas Strategy (PAS) site, to date, possesses.

The ecological significance of the Shúhtagot'iné Néné candidate protected area includes a number of factors:

1. It supports several 'species at risk', as listed by the COSEWIC or SARA. These species are both residents in the area on a year round basis or occur there as migrants. The boreal woodland caribou is listed by SARA as Threatened; the northern mountain caribou is listed by SARA as Special Concern (Schedule I). Both occur in Shúhtagot'iné Néné at all times of the year or during part of the year. Wolverine, Peregrine Falcon and Rusty Blackbird (COSEWIC assessed as Special Concern) are year round resident and/ or are breeding and summer residents within the study area. The Rusty Blackbird, Harlequin Duck, Bull Trout and Inconnu are ranked by ENR as May Be at Risk under the general status program.
2. Shúhtagot'iné Néné contains 11 International Biological Programme (IBP) Sites within or adjacent to the study area. IBP sites are special areas, which have been nominated for a variety of reasons. Many of these sites contain features such as relict or endangered populations, unique plant associations, breeding areas, critical range for animals, pristine lakes and mineral springs.
3. Shúhtagot'iné Néné is the only candidate protected area, to date, that possess a glacial refugium, an area known to harbour unique plant and animal species.
4. Shúhtagot'iné Néné candidate area covers a total of 11 watersheds. Of these 11 watersheds, the study area contains the entire watersheds of the Keele, Redstone, and Mountain. These watersheds are important for maintaining the quality of the source waters for a number of drainages. These drainages are important for the subsistence economies and culture of the Shúhtagot'iné Néné people.

5. The Shúhtagot'iné Néné candidate area is an area containing the highest density of grizzly bears in the NWT (ENR Infobase).

The most remarkable features of Shúhtagot'iné Néné are the quintessential alpine/mountain habitats, rare species, untouched landscapes, and wildlife diversity exemplifying a true wilderness. From mountain peaks to the wetlands below, there are significant concentrations of woodland caribou, Dall's sheep, moose, grizzly bear, wolf and wolverine, species that only thrive in wilderness areas. This region also contains a large area left unglaciated containing (endemic) plant populations that only occur in that region. This is an area where ecosystems remain, to a large extent, intact and undisturbed by the influence of the outside world. With its high density of animals, high species diversity of flora and fauna, its landscape grandeur, its assemblage of species with special conservation status, and its assemblage of IBP sites, the Shúhtagot'iné Néné meets the requirements to become a National Wildlife Area.