



Statistical procedures followed Smith (1995), where duck and goose population indices were based on indicated birds. Indicated bird estimates were calculated from observations based on the following formula:

$$T = 2*(S + P) + G$$

Where T = indicated total birds

S = the number of lone drakes observed

P = the number of pairs observed

G = the number of birds in groups

For this calculation, drakes in groups smaller than 5 were considered as singles (S), except for scaup species, whereas 5 or more grouped drakes, including scaup or any individual scaup, were considered as a group (G). Population indices of the non-duck and non-goose species were based only on the total number of birds observed.

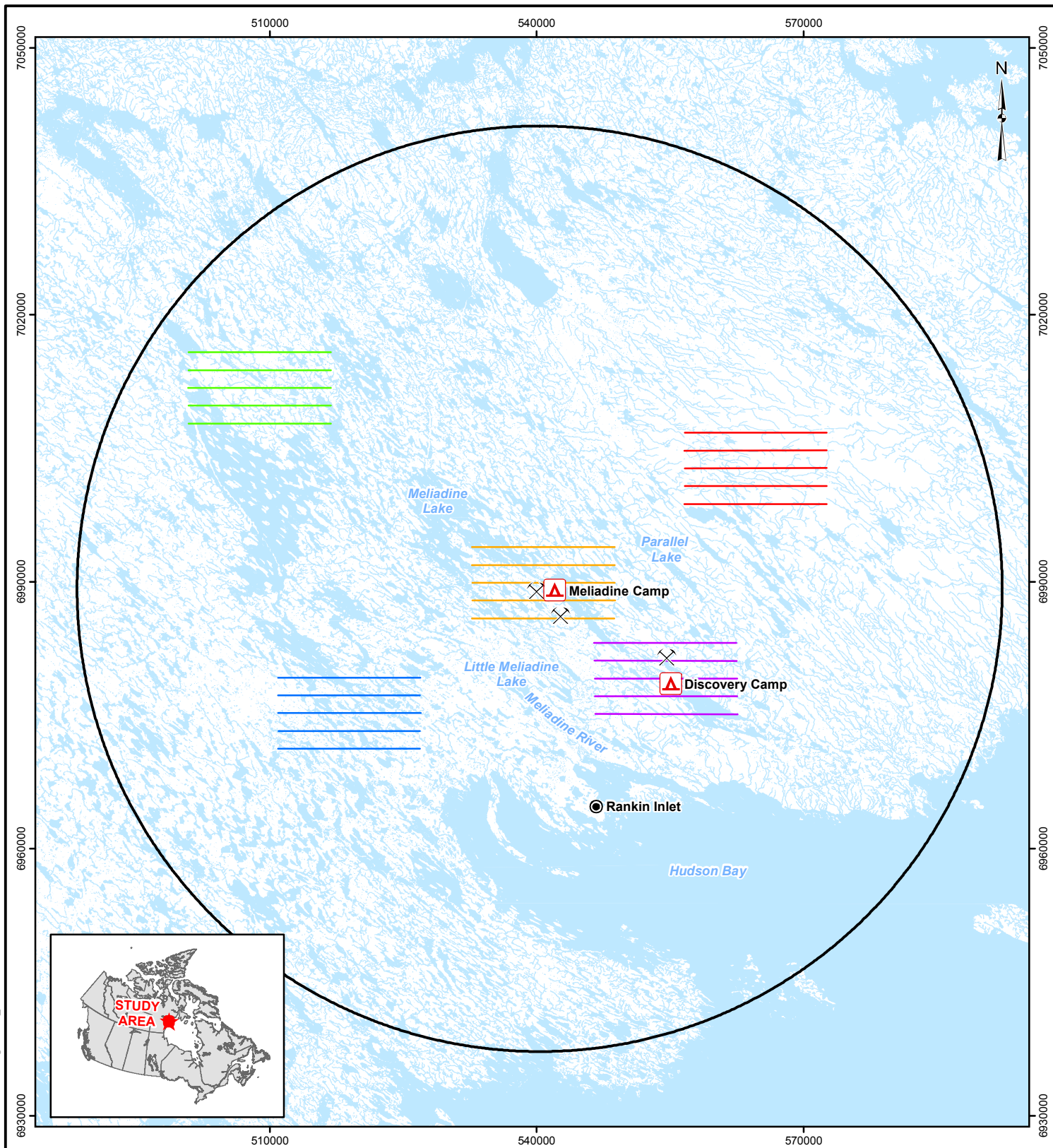
5.1.7 Loon and Swan Nest Surveys

Loon and swan nest surveys were completed to provide productivity data on Tundra Swans and the Pacific Loons. The objectives were to compare Tundra Swan and Pacific Loon occupancy and productivity between 2 study areas, the area potentially affected by mine development and a control area nearby among years, and to determine if mine-related activities influence nest site selection.

Loon and swan nest surveys were completed in 1998, 1999, 2000, and 2009. The area potentially affected by mine development, the mine area, encompasses the anticipated Project footprint. The control area was located to the immediate south of the mine area (Figure 5-5). The mine survey area is approximately 39 km² and contains 209 lakes, whereas the control area is approximately 51 km² and contains 210 lakes. In 1998, the control area was not surveyed and the mine area was slightly larger, approximately 55 km². The sizes of the lakes are similar in the 2 areas, although there is greater variation in the size of the lakes within the mine area. Aerial surveys consisted of total-coverage helicopter surveys of the mine area and the control area. All lakes and wetlands were searched, with special attention paid to shorelines. During the aerial surveys, the crew included the pilot, an observer/navigator/recorder, and 2 rear-seat observers. Navigation was by GPS, with frequent checks on the 1:50 000 scale topographical map of the area. All observations of loons and swans were recorded and a GPS waypoint of the location was taken. During the spring surveys (June or early July), adults on nests were counted to determine occupancy (Table 5-4). During the summer surveys (mid- to late July or early August), young were counted to determine productivity (Table 5-4).

In 1998, 1999, and 2000, systematic total-coverage ground searches also occurred to confirm species and occupancy. For these surveys, 2 observers systematically walked the entire area and recorded all observations of loons and swans. The shorelines of all lakes and wetlands were searched intensively to confirm nesting and loon species.

N:\Bur-Graphics\Projects\2007\1373\07-1373-0055\Maping\MXD\2009\Wildlife\figure-54_waterfowl-aerial-transects.mxd



LEGEND

- | | | | |
|---------------------------|-------------------------------|--|---------------------------------|
| | Camp | | Watercourse |
| | Proposed Mine Site | | Terrestrial Regional Study Area |
| Waterfowl Transect | | | |
| | East Stratum (2008) | | Waterbody |
| | Mine Stratum (2008 and 2009) | | |
| | North Stratum (2008 and 2009) | | |
| | South Stratum (2008 and 2009) | | |
| | Discovery Stratum (2009) | | |

REFERENCE

Base data obtained from NTDB. Wildlife data obtained from field survey.
Projection: UTM Zone 15 Datum: NAD 83

DRAFT

15 0 15
SCALE 1:600,000 KILOMETRES

PROJECT
COMAPLEX MINERALS CORP
COMAPLEX MINERALS CORPORATION
MELIADINE GOLD PROJECT
NUNAVUT

TITLE WATERFOWL AERIAL TRANSECTS AND SURVEY STRATA



PROJECT NO. 09-1373-0010			PHASE No. 1000	
DESIGN	PS	23 Oct. 2009	SCALE AS SHOWN	REV. 0
GIS	JW	6 Nov. 2009		
CHECK	PS	13 Nov. 2009		
REVIEW	MJ	13 Nov. 2009		

FIGURE 5-4