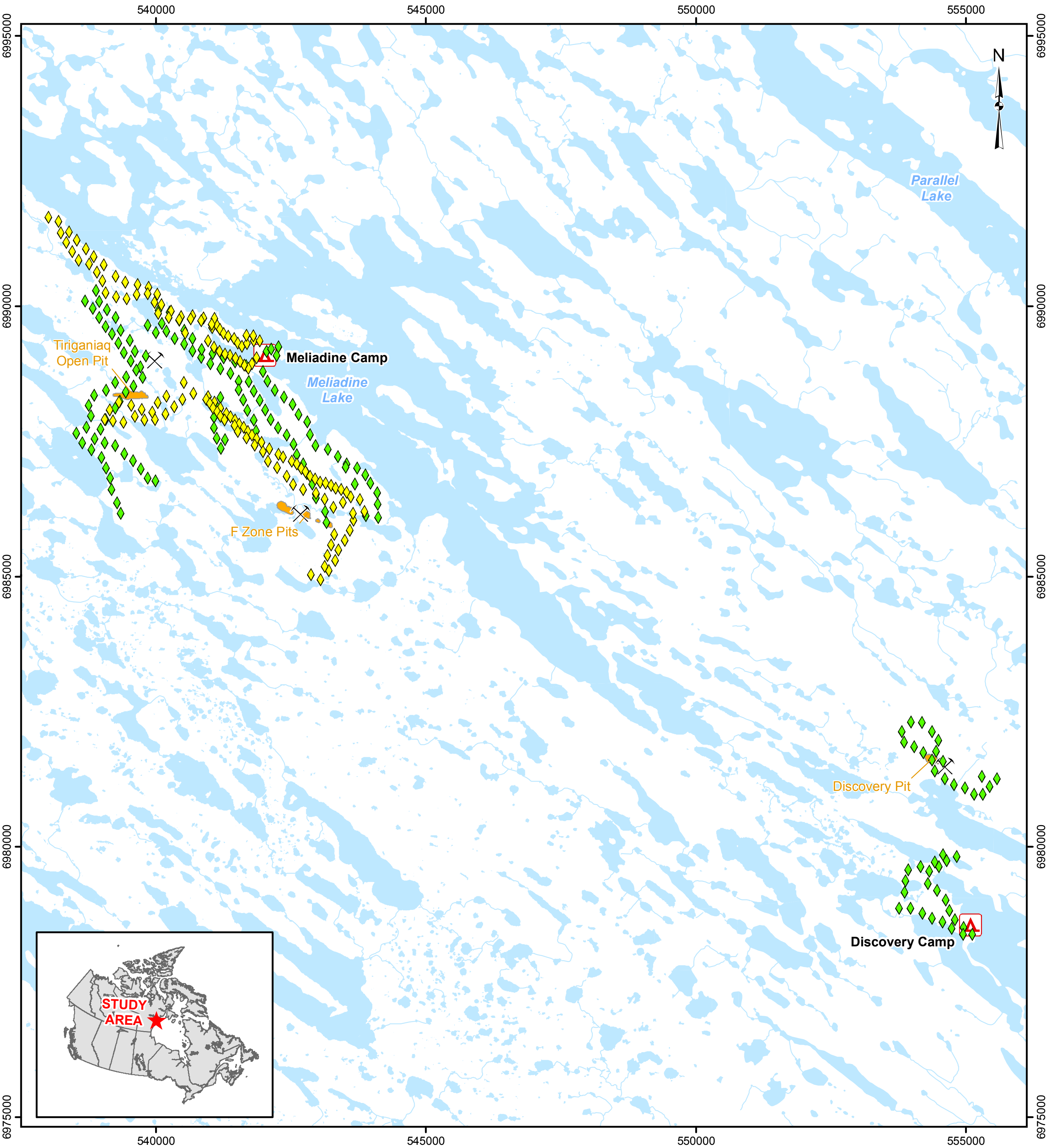


LEGEND

- Camp
- Proposed Mine Site

Bird Plot

- 2008
- 2009
- Watercourse
- Open Pit
- Waterbody

2.5 0 2.5

SCALE 1:100,000 KILOMETRES

DRAFT

REFERENCE

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

PROJECT

COMAPLEX MINERALS CORP

COMAPLEX MINERALS CORPORATION
MELIADINE GOLD PROJECT
NUNAVUT

TITLE

UPLAND BIRD PLOT LOCATIONS

Golder Associates
Edmonton, Alberta

PROJECT NO. 09-1373-0010			PHASE No. 1000	
DESIGN	PS	23 Oct. 2009	SCALE AS SHOWN	REV. 0
GIS	CDB	6 Nov. 2009		
CHECK	PS	13 Nov. 2009	**FIGURE 5-2**	
REVIEW	MJ	13 Nov. 2009		

N:\Bur-Graphics\Projects\2007\1373\07-1373-0055\Mapping\MXD\2009\Wildlife\figure-5-2_upland-breeding-bird-locations.mxd

Sixteen plots were selected based on proximity to camp and shorebird habitat suitability (Figure 5-3). To complete the rapid survey, each plot was systematically investigated by a pair of surveyors, recording all bird sign (i.e., birds, nests, other sign) on a plot map. Each survey took approximately one hour to complete. Surveyors walked slowly through the plot along a 400 m long transect. At the end of each 400 m transect, surveyors walked 50 m along the plot perimeter and then made another pass through the plot along another 400 m transect (CWS 2008). Surveyors were separated by approximately 25 m while walking transects so that any bird on transect was never further than 12.5 m from one of the 2 surveyors. During these 4 transect passes (i.e., 2 by each observer), each observer focused on the immediate 12.5 m on either side of their transects (i.e., the immediate 25 m surrounding area) providing 33% coverage of each plot. In contrast to the passive upland bird point counts, which detected birds by sound, the shorebird surveys relied on actively flushing birds, as shorebirds tend to be more cryptic than songbirds.

For each survey, plots were drawn on map sheets provided by the Canadian Wildlife Service (CWS) and GPS coordinates for plot corners were recorded. Maps included boundaries of habitat types, pond outlines, and other prominent features. Each shorebird and songbird observation record was designated as a pair, male, female, or individual of unknown sex. Presence was also recorded for bird species other than shorebirds or songbirds that were encountered in the plot. Nests and probable nests including a description of nest characteristics, were documented using another data sheet. Habitat data sheets were also completed for each plot describing the major habitat type(s) in the plot.

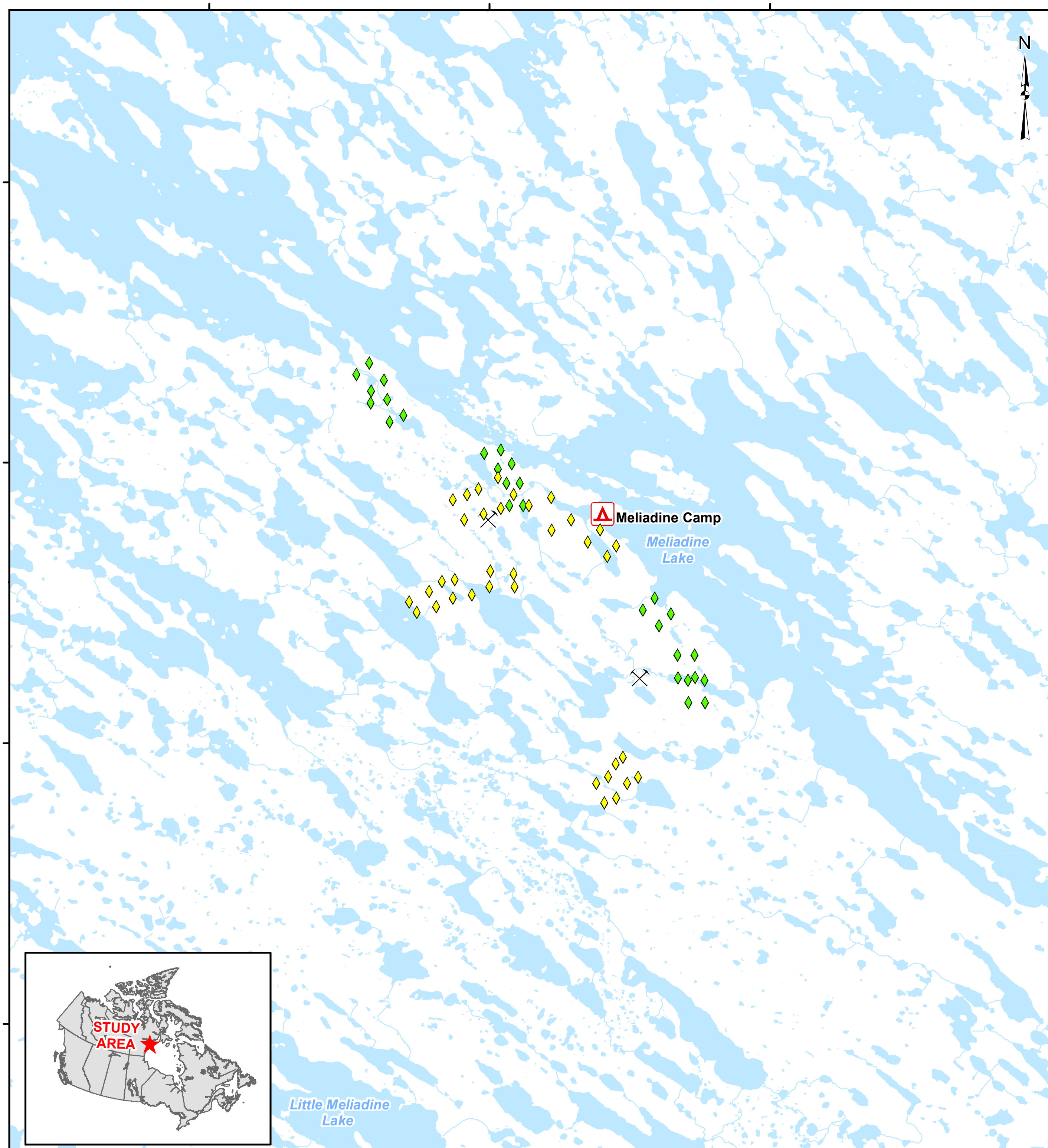
After each survey, a rapid survey summary form was prepared from the information recorded. On this form, observed nests, probable nests (based on bird behaviour), pairs and singles of each songbird and shorebird species were recorded. This summary provides the total number of resident birds recorded for each plot during the summer.

5.1.6 Waterfowl Aerial Surveys

The objectives of the waterfowl aerial surveys was to document waterfowl occupancy and productivity, providing a baseline data set describing the existing migrant and breeding waterfowl distribution, abundance, and productivity in the Project area.

In 2008 and 2009, aerial surveys were used to determine the composition of breeding waterfowl in the area and to identify areas of high use during migration, nesting, and brood-rearing. Aerial surveys were completed in June (spring/migration) and July (summer/rearing) in both years. Each survey covered 5 separate strata: Mine, North, South, East, or Discovery (Figure 5-4). The 'Mine' stratum encompasses the potential mine site footprint. The other 4 strata serve as undisturbed reference areas, representative of the study area. The North and South strata were surveyed in both years, whereas the East stratum was only surveyed in 2008. It was not surveyed again in 2009 because very few waterfowl were present due to poor habitat so instead, the Discovery stratum was surveyed.

Each stratum is comprised of five 16 km long transects oriented in an east-west direction, spaced 2 km apart. Transects were flown by helicopter at a speed of 80 to 100 km/h at an altitude of 45 m (Hines et al. 2000, 2003), following previous baseline aerial waterfowl survey techniques (Jalkotzy 1999, 2000a, 2000b). Each stratum took approximately one hour of flying time to complete.



LEGEND

Camp

Proposed Mine Site

Shorebird PRISM Plot Location

2008

2009

Watercourse

Waterbody

DRAFT

REFERENCE

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

PROJECT

COMAPLEX MINERALS CORP

COMAPLEX MINERALS CORPORATION
MELIADINE GOLD PROJECT
NUNAVUT

TITLE

SHOREBIRD PRISM PLOT LOCATIONS

Golder Associates
Edmonton, Alberta

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	**FIGURE 5-3**
REVIEW	MJ	13 Nov. 2009	

N:\Bur-Graphics\Projects\2007\1373\07-1373-0055\Mapping\MXD\2009\Wildlife\figure-04_shorebird-prism-locations.mxd

Two observers recorded all waterfowl, Sandhill Cranes (*Grus canadensis*), and Herring Gulls (*Larus argentatus*), plus incidental wildlife sightings, within 200 m on either side of the aircraft following techniques described by Larned et al. (2003). The number of young waterfowl in each brood was also recorded during the brood rearing period (July survey).

Observations of all waterfowl were recorded according to established survey protocols (USFWS and CWS 1987). Observations of lone ducks or swans were recorded as singles or pairs. Two geese or swans in close association were recorded as a pair. A hen (i.e., female duck) and 2 drakes (i.e., male duck) were recorded as a pair and a lone drake, whereas a drake and 2 hens were recorded as one pair and the second hen was not recorded. Groups of 4 or less were separated into singles and pairs if the associations were evident. Groups of 5 or more were recorded as mixed groups. Gulls were recorded due to the possibility of an increase in population size following development. Sandhill cranes were also recorded.

The population index was calculated for each stratum for each year using standard protocols (USFWS and CWS 1987). Waterfowl population index is calculated using the following equation:

$$P = A*(T/S)*V$$

Where P = population index
A = total area in stratum
T = indicated total birds
S = area of transect sample
V = visibility correction factor.

The visibility index is a standard correction factor developed for waterfowl species in tundra habitats (Table 5-3) (Conant et al 1991; Smith 1995).

Table 5-3: Visibility Correction Factor (VCF) for Species Observed during Waterfowl Aerial Surveys

Species	Scientific Name	VCF
Red-throated Loon	*Gavia stellata*	1
Pacific Loon	*Gavia pacifica*	1
Common Loon	*Gavia immer*	1
Red-breasted Merganser	*Mergus serrator*	1.27
Tundra Swan	*Cygnus columbianus*	1
Canada Goose	*Branta canadensis*	1
Lesser Snow Goose	*Chen caerulescens*	1
Northern Pintail	*Anas acuta*	3.05
Scaup species	*Aythya marila / affinis*	1.93
Long-tailed Duck	*Clangula hyemalis*	1.87
Sandhill Crane	*Grus canadensis*	1
Herring Gull	*Larus argentatus*	1
Common Eider	*Somateria mollissima*	1
Greater White-fronted Goose	*Anser albifrons*	1

VCF = 1 indicates that no visibility correction factor is to be applied
From Conant et al (1991), Smith (1995)