3.4 Terrestrial Environments

3.4.1 Vegetation

Vegetation studies over the exploration area were initially conducted in 1998 by Page Burt of Rankin Inlet. A comprehensive plant species list and a description of habitats were prepared. A description of habitat types throughout the Project area with a map showing their distribution was developed. A similar effort was completed in 2008 and 2009 to describe the vegetation and habitats along the proposed road to the Discovery gold deposit, to the F Zone area and along the proposed all-season road alignment between Rankin Inlet and the Project. Figure 3-5 shows the distribution of various types of vegetation along the road routes. The dominant factor shaping the distribution of habitat types seems to be the amount of moisture available, with the wetter areas having more vegetation and the ridge tops the least. The greatest species diversity occurs in the transition zone between the wet meadows and well drained communities on slopes. No plant species at risk of extinction were found in the Project area.

3.4.2 Wildlife

The area of the Project is within the ranges of 40 bird species and 17 mammal species. The wildlife species inventory of the region was developed from existing information on the distribution of birds and mammals in Nunavut, and from baseline study results and observations by Project staff as recorded in the camp wildlife log.

Wildlife studies on the caribou herds using the Project area were initiated in the fall of 1997 when the Project collaborated with the Wildlife Service of the Government of the Northwest Territories, now Nunavut, by deploying satellite telemetry collars on female caribou. Systematic wildlife studies in the Project area were initiated in the spring of 1998 when Arc Wildlife Services Ltd. of Calgary undertook bird and mammal studies. These studies continued through the summer of 2000. Annual data reports were submitted for 1998, 1999 and 2000. Golder Associates continued the studies in 2008 and 2009.

The normal assemblage of bird and mammal species expected for sub-arctic tundra ecosystems was found. Large birds, such as sand hill cranes, loons and tundra swans, were studied in more detail than other waterfowl and passerines. Swans exhibit high nest-site fidelity, returning to the same area on an annual basis. Raptors, including rough-legged hawks and peregrine falcons, were noted but no nests were located within the active exploration area of the Project. Raptor nest site searches along the proposed road alignment were included in 2008 surveys. Mammals present include lemming, ground squirrel, red fox and caribou.

Aerial surveys showed that the Project area is on the periphery of the ranges for two caribou herds. Portions of the Qaminirjuaq herd may pass through the Project area very quickly in summer and occasionally be present in some years from late October through March. It is at this time of year that most caribou harvesting by Rankin Inlet hunters is done. Telemetry data also showed that the caribou present in the fall of 1997 included females that travelled north of Chesterfield Inlet for calving in the spring of 1998 and so may belong to the herd(s) calving in the Lorillard River / Wager Bay area. Figure 3-6 shows the area surveyed for caribou and other large mammals. There are no known caribou calving

grounds in or near the general area that could be affected by building and operating the Meliadine Gold Mine.

No bird or mammal species at risk were found in the Project area. No critical habitat for any local wildlife species has been identified in the course of completed baseline studies in the Project area. Additionally, no critical wildlife habitat in the local area was identified by the Nunavut Planning Commission in its preparation of the Keewatin Regional Land Use Plan (NPC 1991, revised and submitted for approval by the federal and territorial ministers in June 2000).

3.5 Marine Environment

The Meliadine Gold Project will not require any changes to the port facilities in Rankin Inlet. During construction there will be a short term increase in barge traffic, but this will decrease substantially during the operation of the Project. The Project is not, therefore, expected to impact the marine environment.

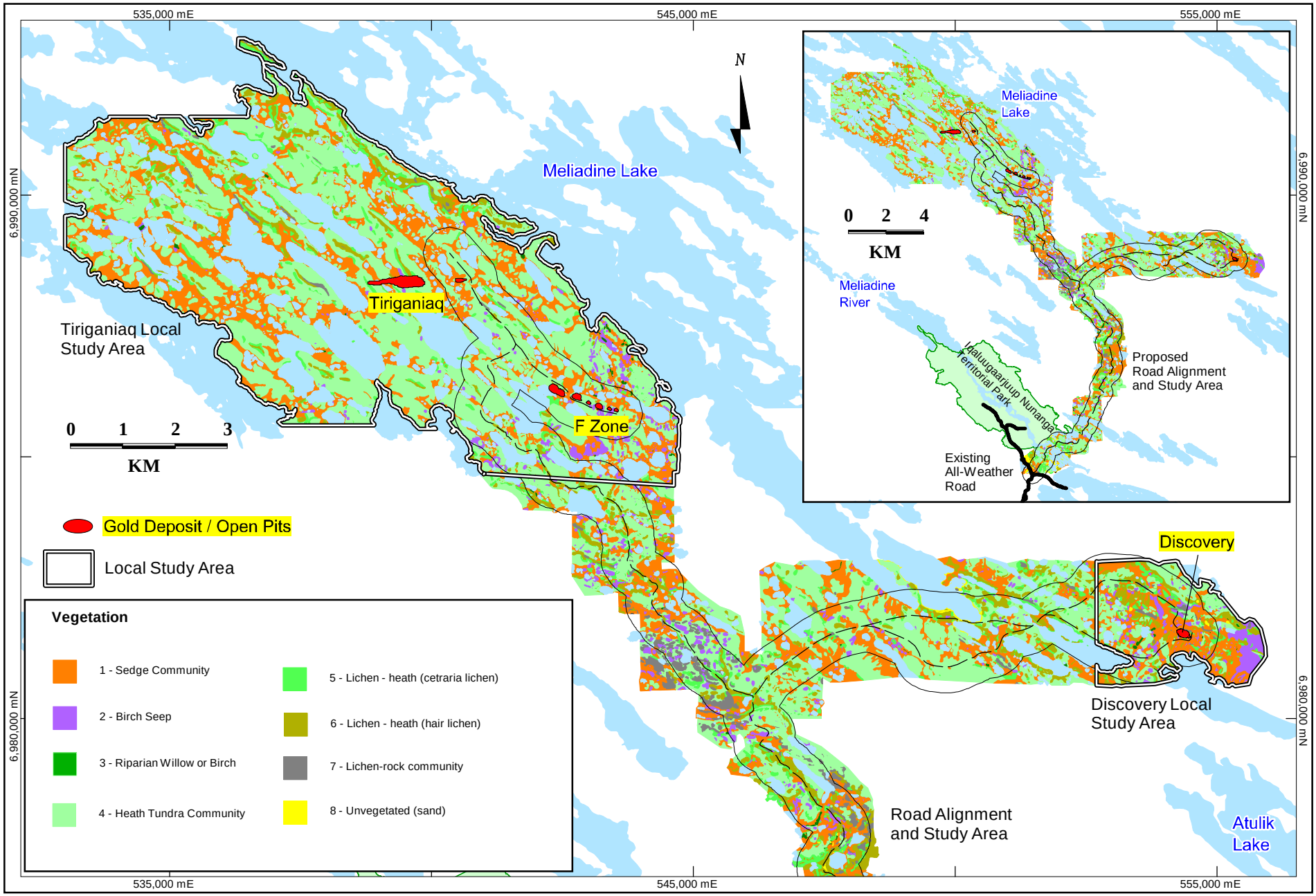

Figure 3-5: Vegetation Studies

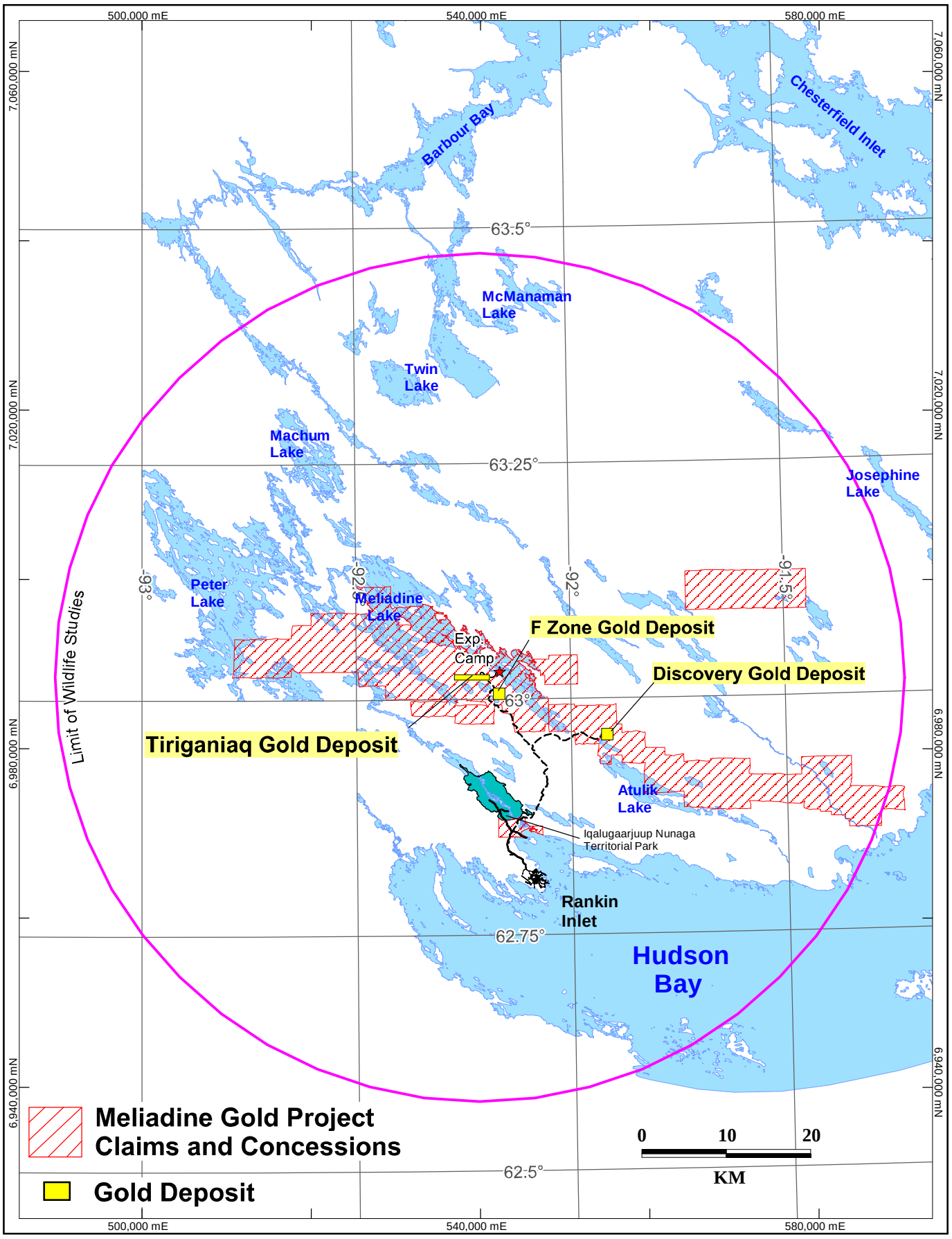

Figure 3-6: Wildlife Survey Area

SECTION 4: EXISTING SOCIOECONOMIC STATUS AND LAND USE

4.1 Local Community Demographics

Table 4-1 describes the population for Kivalliq communities from 2006 and 2001. Additional baseline socioeconomic data collection was initiated in January 2010 and will be reported in the draft Environmental Impact Statement.

Table 4-1: Comparative Kivalliq Community Population Totals for 2001 & 2006

Community	2006	2001	Change	% Change
Arviat	2060	1899	161	8.5
Baker Lake	1728	1507	221	14.7
Chesterfield Inlet	332	345	-13	(3.8)
Coral Harbour	769	712	57	8.0
Rankin Inlet	2358	2177	181	8.3
Repulse Bay	748	612	136	22.2
Whale Cove	353	305	48	15.7
TOTAL	8,348	7,557	791	10.5

Data Source: Statistics Canada 2008

4.2 Traditional Knowledge

The Meliadine Gold Project initiated a study of traditional knowledge for the Project area in September 1997. The study was governed by a steering committee of Rankin Inlet and Chesterfield Inlet elders. Work by the committee included reviewing the interview guide used to gather local knowledge of the area, especially from elders who lived in the area in the early days or prior to the establishment of Rankin Inlet in the 1950s.

The study provided insight into the use of Meliadine Lake by the Inuit, where historical caribou trails are found in the vicinity of the proposed mine, and socio-economic concerns in the development of a mine. Figure 4-1 depicts Traditional Knowledge of the area around the proposed mine.

One of the issues raised during the course of the traditional knowledge study is the naming of local sites. While several sites have been named by the Meliadine Gold Project for operational purposes, these were reviewed with the elders. It was decided that a map of local place names should be prepared and a process developed for new names that may be required to describe land marks and locations associated with the proposed Meliadine Gold Project. It is hoped that the protocol for naming the different facets of the Meliadine Gold Project will incorporate local knowledge in a way that non-Inuit speaking persons can pronounce local names properly and so affirm and encourage the language and heritage of Inuit.

Further Inuit Qaujimajatuqangit studies were initiated in January 2010 as part of the work plan for the draft Environmental Impact Statement with the results to be used to improve the design of