

Compendium of Research Undertaken in Nunavut 2007



Nunavut Research Institute

FORWARD

The Nunavut Research Institute was created in 1995 when the Science Institute of the NWT was divided into eastern and western operations. In the eastern arctic, the re-named institute was amalgamated with the Nunavut Arctic College.

The Nunavut Research Institute focuses on supporting scientific research and the development of technology across a broad spectrum of issues and concerns. The institute's interpretation of research is broad – incorporating Inuit Qaujimanituqangit, social sciences, and natural sciences. The following mission statement guides the activities and services provided by the Institute:

The mission of the Nunavut Research Institute is to provide leadership in the development, facilitation and promotion of Inuit Qaujimanituqangit, science, research and technology as a resource for the well being of the people of Nunavut.

Institute services are guided by the core values of Nunavut Arctic College – strong communities, cultural appropriateness, partnerships, quality, access, responsiveness and life-long research, which is linked to community needs, and making greater use of the Inuit Qaujimanituqangit in research projects.

This compendium of research has been produced as part of the Institute's effort to communicate information about recent research projects, undertaken in Nunavut and under the authority of the Nunavut Scientists Act.

FOR MORE INFORMATION

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PROJECT TITLE: Calibration and Validation of the Cryosat Radar Altimeter: Field Studies on Devon Ice Cap, Nunavut

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License Number: 0200507R-M

Research Location: North Baffin

SUMMARY

The two main objectives are 1) to differentiate seasonal elevation changes and long term changes in ice cap thickness and 2) to determine the relationship between surface elevation and changes in ice mass. Long term ice cap thickness will be calculated as the difference between stake movement and average accumulation rates . The rate of the transformation of ice to snow at each site will be estimated by measuring changes in the length of the cable attached to the bottom of a 20 m borehole and to the ice surface. The change in the length between 2004 and 2006 will indicate the magnitude of elevation change that is caused by firm compaction and not related to changes in ice mass.

PROJECT TITLE: Sources of Methyl Mercury and Greenhouse Gases to the High Arctic Ecoregion

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Research Location: North Baffin

SUMMARY

In the Canadian Arctic, some marine and freshwater animals contain levels of methyl mercury (a toxic form of mercury) high enough to cause health risks to the northern people who eat them as traditional foods. Our past studies on Ellesmere Island, Nunavut, have shown that snow can contain high levels of methyl mercury, especially when the snow contains high levels of sea salt. This finding strongly suggested that the methyl mercury in snow contains high levels of sea salt. This finding strongly suggested that the methyl mercury in snow originated in the ocean. We will collect seawater near Resolute Bay in May and August 2005, both under the sea ice and from the open ocean in the summer, for analyses of mercury. We will stay at the Polar Continental Shelf Program research station, and go to our sampling sites by snowmobiles and boat. We will also sample five small ponds near the Lake Hazen camp in Quttinirpaaq National Park on Ellesmere Island in July 2005 to determine if they are sites where large quantities of methyl mercury are naturally produced. It is expected that as temperatures in Arctic rise due to climate warming, more of these ponds will form on the Arctic landscape due to melting of permafrost. When these ponds form, vegetation that is flooded begins to decompose, and bacteria that produce methyl mercury thrive. We will fly to the Lake Hazen site in a Twin Otter, where we will camp in tents and walk to the different ponds that we will be sampling. We will collect small amounts of the water and bottom mud in each pond. By understanding the sources of methyl mercury to high Arctic food chains, we will be able to determine whether contamination of traditional Arctic foods by methyl mercury can be reduced

PROJECT TITLE: Baseline Environmental Field Study for the Mary River Project Project Description

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Research Location: North Baffin

SUMMARY

Baffinland Iron Mines Corporation is currently conducting an advanced exploration program at the Mary River Project, located approximately 160 kilometres south of Pond Inlet. Current exploration activities in the area commenced in 2004 and are on-going seasonally. Baseline environmental data collection will commence in the spring of 2005, and will continue until 2007, to provide good information to contribute to the development of an Environmental Impact Assessment for the project area. There will be three field visits this season between May and October. We expect to continue the baseline studies for three years until October 2007. Areas of study are the anticipated mine site location, Nuluujaak Mtn. and the potential transportation corridors (northeast to Milne Inlet (1 option) or southerly to Steensby Inlet (2 options)). Activities that will take place to conduct baseline monitoring are: -Set up a meteorological station for monitoring temperature, rainfall, wind direction and speed. -Establish water quality and flow sampling locations (ground water and surface water). -Fly two potential transportation corridors (the abandoned road from Nuluujaak Mtn to Milne Inlet) and a second potential route south to Steensby Inlet. -Sound monitoring. -Wildlife survey (observations only). -Bethnic and fish sampling. -Soil and sediment sampling. -Marine survey (observations only). -Archaeology (observations only)

PROJECT TITLE: Geology of ancient reefs

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License Number: 0202807N-M

Research Location: North Baffin

SUMMARY

This project will investigate an abrupt climate change event that occurred about 280 million years in the area now occupied by Ellesmere Island. The event led to a rapid and irreversible cooling of the area, at a time when the rest of the world was getting warmer possibly due to an increase in carbon dioxide. The climate change event was recorded in several reefs. Ancient reefs, and rocks in between them, are rich in ecological information. Their study can yield insights into the environmental conditions that accompanied their growth. For instance modern reefs are rapidly declining in numbers and diversity and several factors have been invoked to explain their demise. One such factor is global warming.

PROJECT TITLE: Geology and geochemistry of Borup Fiord Pass and Surrounding area

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License Number: 0201007R-M

Research Location: North Baffin

SUMMARY

Borup Fiord Pass, northern Ellesmere Island -the low-lying narrow valley linking the head of Esayoo Bay to the head of Hare Fiord -hosts unique sulfur-rich springs that emerge through and onto glacial ice. This site is thought to be the best terrestrial analogue for Jupiter's Ice moon Europa. Jupiter's moon Europa is a high priority for future space exploration, as its probable subsurface ocean represents a possible habitat for microbial life. To better understand geological features, which may be influencing the origin of the spring systems, local geologic mapping will be conducted. Mapping will include walking out stratigraphic sections, and mapping their spatial distribution within the region. A maximum of 40 hand samples, no more than 10 cm in diameter, will be collected to help in rock type identifications. The modern spring system will also be examined. After initial reconnaissance of the site, a sampling strategy will be developed to characterize the geochemistry of all sites with active discharge. In addition, other water bodies will be sampled including glacial discharge, meltwater streams, and nearby lakes. Sampling procedures for spring and glacial melt waters will follow standard protocols for inorganic and stable isotope analyses. For chemical analyses, water samples will be filtered and stored in the dark in bottles until analyzed, and samples will be kept in coolers until transferred to laboratory refrigerators.

PROJECT TITLE: The dynamic response of Arctic glaciers to global warming: A Canadian contribution to International Polar Year project Glaciodyn (IPY30)

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Number in Party: 14

License Number: 0200607N-M

Research Location: North Baffin

SUMMARY

The purpose of this project is to provide a better understanding of the mechanisms that control the flow rates of the Belcher Glacier. Identification of these factors should allow us to model how this glacier will respond to future climate warming and determine the impact that these changes will have on the mass balance of the ice cap as a whole.

PROJECT TITLE: Community Based Monitoring on Sea Ice Climate Variability and Change

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Research Location: Sanikiluaq

SUMMARY

We would like to propose a Hudson Bay pilot community-based monitoring program to be hosted by Sanikiluaq. This program will focus on sea ice and climate to identify what changes may be occurring and to better understand why these changes occur. Specific objectives of the program are as follows: (1) to develop long term monitoring of physical climatic variables over sea ice within the Canadian Arctic; (2) to promote interaction between youth and monitors within a community using the focus of climate variability and change and (3) to promote interaction of youth between Arctic communities through a focus on climate variability and change. The major infrastructure of this program will be an automated weather station to be installed on the sea ice near Sanikiluaq that will collect meteorological data, including: downwelling and upwelling long and shortwave energy, wind speed and direction, and temperatures of the air, snow, sea ice and ocean. This station will be at a defined monitoring site to be located between 10 to 30 km offshore. The automated station will download data via a line of site radio telemetry to a computer to be housed within the community. The monitoring site will be visited on a regular basis (2 weeks to 1 month interval) by 2 trained community-based monitors, hired through the Municipality of Sanikiluaq. During these site visits, the automated station will be checked for damage. The monitors will also record visual observations of the site, take a picture and collect distributed measurements of snow depth and ice thickness. These data will then be entered into the computer housed in the community. We are also developing an interactive educational website where all data collected as part of the community-based monitoring program will be displayed in near real time. The purpose of this website will be to entice young and old students on cryospheric (ice-system) sciences and in particular issues of climate change, while providing a forum to observe what is happening near their own community and across other Canadian Arctic communities. Through ArcticNet and additional funding sources, this program is planned to continue for many years. Furthermore, assuming a successful pilot program within Sanikiluaq, an annual expansion of this program to surrounding communities in Hudson Bay is planned.

PROJECT TITLE: Axel Heiberg Island Project

Principle Investigator: Scott, Robert

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License Number: 0201407N-A

Research Location: North Baffin

SUMMARY

The main aim of the research project is to characterize the nature and provenance of northerly-derived Late Palaeozoic and Mesozoic clastic strata along the northern margin of the Sverdrup Basin, and to use the information to constrain Arctic Ocean plate reconstructions. The proposed fieldwork forms an integral part of the PhD research project of Jenny Omma, a second year PhD student based at CASP, Department of Earth Sciences, University of Cambridge, United Kingdom. The work also forms part of a larger CASP circum-Arctic project and builds on sixty years of CASP fieldwork in the Arctic. It should also be mentioned that an attempt to undertake CASP fieldwork in June-July 2006 on northern Axel Heiberg Island was thwarted by unusually persistent bad weather. There was no PCSP funding connected to this work.

PROJECT TITLE: United Nations Convention of the Law of the Sea (UNCLOS)

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Number in Party: 4

License Number:

Research Location: North Baffin

SUMMARY

Canada ratified the United Nations Convention of the Law of the Sea (UNCLOS) in November 2003, and Canada now has until the end of 2013 to submit evidence to the United Nations Commission for the Limits of the Continental Shelf (CLCS) to support the establishment of the outer limits of its continental shelf in both the Atlantic and Arctic Oceans. The mapping for UNCLOS is a joint responsibility of NRCan and DFO. Specifically, the Geological Survey of Canada (GSC/NRCan) is responsible for the seismic surveys, while Canadian Hydrographic Service (CHS/DFO) is responsible for the bathymetric surveys. Foreign Affairs Canada will be responsible for the international aspects of the program, such as submitting the final claim to the UN Commission. The first step in the Arctic is to establish the 'natural prolongation' of the continental shelf. In winter of 2007 (March-May) the Canadian Hydrographic Service plans to conduct an on-ice bathymetric survey from CFS Alert to collect detailed bathymetry of the trench between Ellesmere Island and Lomonosov Ridge as well as bathymetry on the west of Lomonosov Ridge. The plan calls for two 206 L helicopters based at Alert with support by Twin Otter. This is the first of a multiyear program.

PROJECT TITLE: Postglacial paleoclimatology of the central Canadian Arctic

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Research Location: North Baffin

SUMMARY

Our study is the analysis of climate change during the past 10,000 years from sites across the Canadian Arctic. We collect and analyze the sediments from the bottom of lakes. Material from the land and the lake itself constantly falls to the bottom, where it accumulates through time. By going deeper into the sediment, you are going back through time. We take a core from the lake bottom, and study the pollen to determine how the vegetation in the region surrounding the lake has changed through time. This research tells us how climate changes of the past affected the lake and the vegetation, and in this way, we can infer how sensitive the arctic ecosystems are to future climate changes. To collect the samples, we will make a small camp of tents (4 persons, 2 weeks) in the Sawtooth Mountains of Ellesmere Island. We are brought to the site, and taken out at the end of the study, by helicopter. It takes several days to collect the cores. The camp is removed at the end of the study, so we leave nothing on site and there is no long-term development associated with this study. We collect our cores using a small hand-operated coring device (5-cm in diameter) from the ice surface. We will analyze 2-3 lakes within walking distance of the site.

PROJECT TITLE: Contaminant effects on nestling glaucous gulls in the Arctic

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License Number: 0200107R-M

Research Location: North Baffin

SUMMARY

The purpose of this study is to determine whether contaminants are affecting the health and fitness of glaucous gulls in the Canadian arctic. The glaucous gull has been selected as a representative sentinel species because of the elevated levels of many contaminants known to occur in this species, relative to other species of wildlife in the arctic. Over a three-year period, a maximum of 70 glaucous gull chicks, approximately 20-25 days old will be collected for contaminants analysis and assessment of health. The study will be conducted at two locations: 1) Devil's Island near Cape Vera in Cardigan Strait (2005-2006) and 2) near Karrak Lake in the Queen Maud Gulf Bird Sanctuary (2007). Karrak Lake is the site of an existing Canadian Wildlife Services (CWS) field camp. The Devil's Island site is about a 20 minute flight from the existing Cape Vera CWS camp. A temporary tent camp will be set up at Devil's Island for 3-4 weeks each summer. The work at Karrak Lake, which will be done between early July and early August, will benefit from the infrastructure and logistics already in existence there. Transport into the study sites will be by aircraft (3-4 flights per year at Devil's Island, 2 flights at Karrak Lake). Annual progress reports and a final report to one of the study's major funders, the Northern Ecosystem Initiative, will be one way in which the study results are disseminated. In addition, the project will provide an annual newsletter to communities located near the study sites. At the end of the study, the study leader will be available for community visits to discuss the study's results if people from the community wish to have such discussions.

PROJECT TITLE: The nature and significance of perennial springs in the Canadian high Arctic

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Number in Party: 9

License Number: 0202007N-M

Research Location: North Baffin

SUMMARY

We propose to investigate cold perennial springs found on Axel Heiberg Island in the Canadian high Arctic. This research began in 1990 and has gradually evolved into an integrated study on the biophysical and chemical processes associated with cold saline groundwater. The aims of this research are 1) to understand and explain processes related to the interaction between water, frozen ground unique to cold environments, and 2) to describe the characteristics of microbial communities associated with springs, lakes and permafrost in cold polar deserts. To our knowledge this is the only research in the Canadian Arctic concerned with perennial springs and microbiology. These efforts have contributed to a better understanding about the limits of life in cold climates and about unique physical processes that are occurring in the Arctic.

PROJECT TITLE: Limnology and Paleoecology of lakes and ponds from Cape Herschel, Ellesmere Island

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License Number: 0200307R-M

Research Location: North Baffin

SUMMARY

Lakes and ponds are sensitive repositories of environmental information. We (J.P. Smol, and M.S.V. Douglas) have been monitoring 45 lakes and ponds at Cape Herschel, Ellesmere Island, approximately every 3 years since 1983. This area has become a critical reference site for limnological data. Although we normally only return every 3 years to Cape Herschel, in 2006 we recorded remarkable changes in the ponds. Several had dried up, which we believe is linked to climate warming. Therefore, we propose to return to Cape Herschel in 2007 and determine if the shallow ponds are still dry. If they are no longer dry, we plan on determining what changes have occurred in the ecology of these sites with the drying in 2006. We will also determine what changes are happening in the deeper ponds that are not dry, but have reduced water levels.

PROJECT TITLE: The PolarDARN radar for Rankin Inlet (Kangiqliniq)

Principle Investigator: Sofko, George

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Number in Party: 3

License Number: 0300507R-M

Research Location: Kivalliq

SUMMARY

A large group of international scientists have joined to use radars to study high-altitude weather systems and their effects upon the low-altitude weather we experience at the ground. The SuperDARN (Super Dual Auroral Radar Network) community, with funding and/or participation from 12 countries (Canada, US Great Britain, France, Italy, Finland, Norway, Iceland, Japan, Australia, New Zealand and South Africa), has constructed 9 radars in the northern hemisphere and 7 in the southern hemisphere (including four in Antarctica) All of the 16 SuperDARN radars are located so as to examine the "auroral zone" (the zone of northern or southern lights) at high latitudes in the northern and southern regions of the earth. There is, however, a gap in the coverage over the polar regions. The magnetic north pole lies near Eureka, Nunavut. Only two radars, to be called the PolarDARN radars, are needed to view the entire "north polar cap" region centered around the magnetic pole. The first radar would be installed in Rankin Inlet, the second in Inuvik. We already take part in science projects at two sites in Rankin Inlet-at a small hut in which a camera and a radio inosonde operate. The PolarDARN radars will be portable- easy to install and remove, with no environmental damage. The radars measure the high altitude "weather maps" (which are voltage maps, because high-altitude winds are motions of electrically charged particles driven by electrical voltages). These maps are available on the internet with only a few minutes delay. Such information is important for all satellites, because satellites fly in this high altitude weather. These satellites are extremely important to the north because they transmit most communications signals (telephone, TV, internet etc.). Recently, scientists have found that the high-altitude weather is connected to the low-altitude weather, and the PolarDARN radar observations will help us to understand these connections. PolarDARN can measure part of the energy from the Sun to the Earth, namely the energy that comes from the "solar wind". This energy goes most directly to the polar regions, so these are very important regions to study. We are very fortunate that Nunavut and the NWT provide much easier access to the northern polar regions than Antarctica does to the south polar regions.

PROJECT TITLE: Muskox Project Baseline Aquatic Studies

Principle Investigator: Wray, Cheryl

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Number in Party: 6

License Number: 0400307R-M

Research Location: Kitikmeot

SUMMARY

Initial environmental studies are being considered for the subject claim area. Studies envisaged will include collection of water quality samples up to three times during the summer period (June through September), establishment of stream gauging stations and measurement of stream flows, spot vegetation surveys of the claim area to verify aerial vegetation mapping, and fisheries surveys in local lakes. Fisheries surveys would be by non-destructive methods (catch and release). Wildlife studies on Muskox are being conducted as part of the wildlife monitoring requirements for the Jericho Diamond Mine under separate permits.

PROJECT TITLE: Limnology of Cape Vera Ponds

Principle Investigator: Mallory, Mark

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Number in Party: 4

License Number: 0201207R-M

Research Location: North Baffin

SUMMARY

This project aims to gather information on water flow and water and sediment chemistry of the small, shallow ponds below the seabird cliffs at Cape Vera. The nutrients coming from seabird feces feed in to some of these ponds, providing local enrichment and enhanced shoreline growth of mosses. These ponds also support abundant insect numbers, a food source for local birds like snow buntings. However, studies elsewhere in the Arctic (e.g. Alaska) have shown that migratory wildlife inadvertently bring contaminants into these local food chains, because they pick these pollutants up in their wintering or feeding grounds, but expel them as waste at the colony. Our work will look at water flow, water movements, water chemistry and sediment chemistry to assess what ponds are affected, and if contaminants are enhanced in ponds fed with higher inputs from drainage at the colony.

PROJECT TITLE: Microbial investigations of perennial springs, permafrost and ground ice in the high Arctic

Principle Investigator: Whyte, Lyle

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Number in Party: 0

License Number: 0201307R-M

Research Location: North Baffin

SUMMARY

Relatively few reports are found describing the ecology and biodiversity of microbial communities in the Canadian high Arctic, where unique habitats exist including cold perennial salt springs, glacial ice and sub glacial soil, permafrost and ground ice, and cryptoedoliths (microbial communities within rocks). Little is known about the traits that enable such microorganisms to survive and thrive in these extreme habitats. Therefore, I am presently developing and expanding a research program focused on Arctic microbial biodiversity and ecology studies in these habitats to expand our basic knowledge of Arctic microbial communities, to determine the utility of these unique environments as analogs to those which may exist or existed on Mars, and, in the longer term, the potential biotechnological applications of cold adapted microorganisms (examples: antifreeze proteins, polyunsaturated fatty acids.) In 2003, small representative samples (~2 kg of soil/ permafrost or 2-4 L of water) of the microbial populations will be obtained from the Eureka and Axel Heiberg sites. Microbial biodiversity research will be conducted in my lab at McGill University on the collected samples. This data will provide information on the microbial populations associated with these sites, the physiological types that are involved in biogeochemical processes and hopefully establish which organisms become fossilized or preserved in the system.

PROJECT TITLE: Understanding the recent Ayles Ice Shelf calving

Principle Investigator: Mueller, Derek

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Number in Party: 8

License Number: 0202707N-A

Research Location: North Baffin

SUMMARY

In August 2005, the Ayles Ice Shelf broke away from northern Ellesmere Island in the largest Arctic ice shelf calving event for the last 25 years. This event was widely reported in the international media and has recently gained substantial public interest as an indicator of climate change. We plan to survey the ice thickness and water salinity in Ayles Fiord and other fiords along northern Ellesmere Island to measure changes that have occurred in the last few years. We would also like to install a satellite beacon on the ice island to track its location, since it could cause damage to oil and gas drilling rigs and other structures. The ice island tracks will be available on the Canadian Ice Service web site. We plan to use our ice penetrating radar to measure the thickness of the Ayles Ice Island. Our science will be part of ArcticNet and the International Polar Year (IPY) efforts, in particular, the 'Fate and State of the Polar Cryosphere' project. We will also sample the ice algae on the surface of the ice island for collaborators working on the 'Microbiological and Ecological Responses to Global Environmental Change in the Polar Regions' (MERGE) project. TV crews from BBC News, Global National and other networks would like to film the new Ayles Ice Island and the remnants of the ice shelf left in Ayles Fiord.

PROJECT TITLE: 2007 Winter Wildlife Surveys Baseline Program

Principle Investigator: Landry, Francois

Affiliation:

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Number in Party: 3

License Number:

Research Location: Kivalliq

SUMMARY

Starfield Resources Inc. is exploring a significant metals deposit located in an area of Inuit Owned Land at Ferguson Lake in Nunavut. The proposed research for winter 2007 includes conducting ground and aerial surveys to look at wildlife distribution relative to the proposed development. The proposed work is to be completed over four surveys between April and September. No surveys with flight elevations of under 300m will be conducted between May 15 and July 15 within the Caribou Protection Areas. Fixed-wing surveys will also be flown outside the wildlife study area surrounding Ferguson Lake during June to determine the distribution of calving caribou near the proposed Ferguson Lake development. These surveys will be conducted in collaboration with Mitch Campbell, the Nunavut caribou specialist in Arviat. Survey methodology and data will be compatible with surveys on the Qamanirjuaq caribou herd planned by the Nunavut government for 2008. The extent of the survey area will be determined in consultation with Nunavut caribou specialists to obtain a representative sample of the area surrounding the proposed development.

PROJECT TITLE: Landscape processes at Cape Bounty, Melville Island and North Lake, Cornwallis Island

Principle Investigator: Lamoureux, Scott

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Number in Party: 10

License Number: 0201507R-M

Research Location: North Baffin

SUMMARY

Our work is intended to develop a long-term record of past weather and river conditions using lake sediments, and to determine the amount of carbon stored and released from the watershed by plants and erosion. Our work will involve obtaining sediment and water samples from the lakes and streams at Cape Bounty. We have chosen these lakes because the rivers appear to supply abundant sediment and deep lakes are needed to preserve the sediments for our research. We have been doing this work since 2003 and hope to continue for several years.

PROJECT TITLE: Hydrology of Extensive Low Gradient High Arctic Wetlands: An Examination of Sustainability

Principle Investigator: Young, Kathy

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Number in Party: 5

License Number: 0201607R-M

Research Location: North Baffin

SUMMARY

Project Objectives: 1) examine the hydrology and sustainability of isolated, linked, dying and desiccated wetland types (e.g. ponds, wet meadows) within extensive low-gradient wetlands located in two diverse regional climate settings 1)polar oasis (Eastwind Lake, Ellesmere Island); and polar desert (Creswell Bay, Somerset Island); 2) assess the role and importance of geomorphological settings (i.e. glacial moraine ground, bedrock, coastal zones (i.e. Creswell Bay), marine ice rich sediments (i.e. Eastwind Lake) in the hydrologic functioning of these wetland types; 3) utilizing a water balance framework at the plot, catchment and landscape scale assess the mechanisms for water inputs/losses and storage of these wetland systems over space and time; and 4) employing hydrologic information and understanding garnered at Eastwind and Creswell, examine the hydrology of a low-gradient wetland at the regional scale (i.e. Polar Bear Pass, Bathurst Island) so its temporal and spatial response to water inputs (meltwater, rainfall) and losses (evaporation and drainage) can be determined. This will then permit an evaluation of the future sustainability of this critical ecological site in context of varying climatic conditions and perhaps future climatic changes.

PROJECT TITLE: Coastal dynamics under changing relative sea-level and environmental forcing

Principle Investigator: St-Hilaire, Dominique

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Number in Party: 6

License Number: 0203007N-M

Research Location: North Baffin

SUMMARY

The primary goal of this research is to better understand the sensitivity and potential responses of Arctic coasts to changing marine conditions in the context of climate change. Land-based work is proposed using the following methods: multi-temporal analysis and mapping of modern and ancient (raised) coastal landforms using airphotos, satellite imagery, and Global Positioning Systems. This work will build on ongoing monitoring programs. Camps consisting of one longhouse tent and several smaller sleeping tents are needed at Cape Charles Yorke and on Griffith Island for short periods (4-5 days) to conduct necessary surveys. Air transportation, provided by Polar Continental Shelf Project (PCSP), will use helicopter and Twin Otter. Sites on Bylot and Lowther Islands and at Guys Bight will be visited for a very short time (a few hours to a full day per site) and transportation will mostly be by helicopter. Lodging for extended stays in Resolute Bay (5 days) and Pond Inlet (4-5 days) will be provided by PCSP and local lodging facilities, respectively. Study sites located in the Eastern Baffin Island region will be visited in a similar fashion in 2008.

PROJECT TITLE: A Holocene context for current Arctic warming derived from the vanishing plateau ice caps of north-central Baffin Island and lake sediments on coastal northeastern Baffin Island

Principle Investigator: Briner, Jason

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Number in Party: 5

License Number: 0201707R-M

Research Location: North Baffin

SUMMARY

The overall goal of our current research program is to investigate climate change over the recent past. We will do this in two ways. First, we will study the recent history of disappearing glaciers in the northern interior of Baffin Island. Second, we will study indicators of climate change archived in lake sediments near the hamlet of Clyde River. These projects will help us place current global warming into the context of the recent climate history of Nunavut. For these projects, we will need to collect rock and vegetation samples that are used to underlie the now-melting glaciers, and mud from the bottom of lakes. We will conduct most of our field studies via skidoo in the spring. We also hope to team up with a Geological Survey of Canada field station. If this happens, then we could use some of their supplies and transportation. No permanent structures or stations will be built, and this research has minimal impact on the landscape. In our work on Clyde foreland, we will stay in Clyde River and we will camp using tents while working in the northern interior. We have worked from Clyde River in recent years, and have involved many people from the community in our past research. This new project is an important step towards understanding how global warming will manifest itself in arctic environments like Nunavut.

PROJECT TITLE: Iqaluit Hydroelectric Environmental Baseline Studies

Principle Investigator: Flaherty, Jamie

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Number in Party: 6

License Number: 0100407R-M

Research Location: South Baffin

SUMMARY

Qulliq Energy Corporation (QEC) is currently evaluating the potential to provide hydroelectric power to the City of Iqaluit. A study carried out by Knight Piesold Ltd. in late 2005 identified 5 watercourses within 50-100 km of Iqaluit where the development of hydroelectric power may be feasible. Additional environmental information is required at the four locations before decisions can be made with respect to advancing any of the projects to a detailed feasibility study. Research activities include stream flow measurements, fisheries and aquatic surveys, and raptor surveys. Five candidate watercourses will be studied: Armshow River, Jaynes Inlet, Cantley Bay, Anna Maria Port, McKeand River.

**PROJECT TITLE: North Baffin Island Surficial Geology Studies:
Improving Exploration and Development Opportunities**

Principle Investigator: Utting, Dan

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Number in Party: 5

License Number: 0203607N-A

Research Location: North Baffin

SUMMARY

In 2007, the Canada-Nunavut Geoscience Office, in collaboration with the University of Alberta and Dalhousie University, proposes a project on northeastern Baffin Island, along the coast near Pond Inlet. This project is designed to improve the potential for exploration and resultant mining development opportunities in northeastern Baffin Island by providing an improved understanding of the distribution, nature and chemistry of surficial materials, and the glacial history of this extensively drift-covered area. A portion of the project attempts to resolve the glacial history in the northeastern sector of the Laurentide Ice Sheet.

PROJECT TITLE: 2007 Hackett River Baseline Program

Principle Investigator: Muggli, Deborah

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Number in Party: 24

License Number: 0400607N-M

Research Location: Kitikmeot

SUMMARY

Sabina Silver Corporation is exploring a significant metal deposit located near the Hackett River in Nunavut. A map of the sample area is included with this proposal. The majority of the sampling will be restricted to the mine footprint, although samples will be taken along a proposed access route, along an alternative access route, and from reference areas removed from the mine site. The proposed research for 2007 includes characterizing the aquatic biology and water quality of the site; characterizing terrestrial vegetation and soils; collecting baseline information on wildlife in the area; determining water drainage patterns; monitoring the permafrost in the area; characterizing the local climate; and assessing the potential for metal leaching or acid rock drainage. This work is being done to provide baseline characterization in the area to support future Environmental Impact Assessment. Data collected in 2007 will also be used to help plan future project infrastructure. The proposed work is to be completed between April 1st 2007 and December 31, 2007

PROJECT TITLE: Glacier Mass Balance and Pollution

Principle Investigator: Koerner, Roy Martindale

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Number in Party: 4

License Number: 0202207R-M

Research Location: North Baffin

SUMMARY

The program is an ongoing one started in the early 1960s to monitor glacier health and climatic change in the Eastern Arctic. Beginning in early April, 2003, we will re-measure the mass balance of Agassiz (N. Ellesmere), Meighen, Melville South, northwest Devon Ice Caps, and a small Glacier near Grise Fiord. There are automatic weather stations on each ice cap and these will be downloaded and re-set. Campbell Scientific will again send a technician to check and download the 3 Agassiz automatic weather stations. If convenient, he will also check out and download the AWS on Meighen Ice Cap. At the same time, snow samples will be collected from each ice cap as part of a continuing program to monitor any changes in the amounts of pollution coming into the high Arctic. Campbell Scientific will send an employee to download three stations on Agassiz Ice Cap, and Jocelyn Bourgeois (GSC) will collect samples for snow biology there.

PROJECT TITLE: Measurements of Second-year and Multi-year Ice

Principle Investigator: Johnston, Michelle

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Number in Party: 1

License Number: 0202607R-M Amendment

Research Location: North Baffin

SUMMARY

During the summers of 2000 to 2002, we measured the seasonal decrease in strength of first -year ice around Resolute. In 2003, using the Canadian Coast Guard ship Louis S. St-Laurent as a platform, we measured the properties of several multi-year ice floes and second-year ice around Cornwallis Island. Our measurements have been used by Canadian Ice Service, Transport Canada and by Industry. Using these measurements, we are gaining information about first-year, second-year and multi-year ice during one of the most important times of the year: summer, when shipping is most active. Last year we did not require a licence from NRI because we conducted field work on first-year ice off the Labrador coast. We wanted to compare the strength of Arctic ice to that of the more temperate, sub-Arctic ice. Our work in Labrador will continue next year. This year, we will again examine second -year and multi-year ice because it is of concern to both moving and stationary structures, such as ships and offshore platforms. Presently, we are able to give only an approximate area (the most-likely region) in which measurements will be conducted, since we do not yet know where the old ice will be most easily accessed, nor do we know the Coast Guard's plans. As a result, we are also submitting an application to the Aurora Research Institute. Since our work this year concerns resource exploration in Beaufort Sea, we hope that the Western Arctic will have the necessary amount of old ice. If old ice in the Beaufort Sea ice is not within our reach, we will shift our efforts to the central Arctic. Regardless of where the field program is conducted, it will consist of the same type of measurements as those made in past years (as discussed in the NRI application). The research will involve measuring the ice thickness with an auger, extracting several ice cores with a mechanical coring device and then measuring the ice strength with a borehole jack. Some of the ice cores will be transported to Ottawa for analysis whereas others will not be removed from the site (they will be placed back into the holes from which they came). No structures will be erected during the testing. The test sites will be left as we found them, minus several 10 cm diameter ice cores. The work will require a total of two weeks, between 1 July and 30 August 2005 and will use the Coast Guard Helicopter to access the ice from our base operations in the ship.

PROJECT TITLE: Geospatial Contaminant Survey of Lower Base Region of Iqaluit

Principle Investigator: Siciliano, Steven

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Number in Party: 3

License Number: 0101107N-M

Research Location: South Baffin

SUMMARY

The purpose of this research is to map the contaminants of the Lower Base Region (LBR) of Iqaluit, which is heavily contaminated with petroleum hydrocarbons and other toxicants. Since extensive residential and commercial buildings exist in the LBR, an ecological and human health risk assessment will be conducted and summarized in a map of the area.

PROJECT TITLE: Doris North Project

Principle Investigator: Ash, Gary

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Number in Party: 10

License Number: 0400407R-M

Research Location: Kitikmeot

SUMMARY

Miramar Hope Bay Ltd. Plan to carry out additional baseline aquatic investigations during the 2004 field program. The program for 2004 is considered an extension of the work done in 2003 and the data information collected is required to fill in some information gaps as we continue our advanced exploration activities in the Hope Bay Belt. A considerable amount of aquatic surveys have been completed on the belt since 1992 under a previous owner. The program in 2004 will focus on Roberts bay, Little Roberts Lake and Roberts Lake areas, located in the northern portion of the Hope Bay Belt with the closest community being Umingmaktok. Community visits to Bathurst Inlet and Umingmaktok during the summer of 2000 summarized the program anticipated in 2000 and what we might expect to do in 2004. As mentioned, the study program for 2004 is designed to compliment existing information and fill in data gaps on aquatic habitat and fish populations in the study area. The work will include both spring and fall field surveys, focusing on Arctic char spawning locations and migration patterns in and out of Roberts Lake. Tissue samples will be collected from approximately 100 fish (sculpin and stickleback) and analyzed for metal concentrations. Where possible, fish tagging will be undertaken to enable longer term monitoring. In addition, sediment samples will be collected in Roberts Bay and Roberts Lake to determine the present concentrations of metals and organic contaminants.

PROJECT TITLE: Quarternary Geology of the Bluegoose Prairie Region, Foxe Peninsula, Baffin Island

Principle Investigator: Vickers, Kayla

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Number in Party:
License Number: 0101407N-A

Research Location: South Baffin

SUMMARY

A large-scale joint geological mapping project between the Geological Survey of Canada and the Canada-Nunavut Geoscience Office was initiated in 2006 on the Foxe Peninsula, Baffin Island, NU. Continued mapping and thematic studies are proposed for the summer of 2007 in a portion of this study area, in the Bluegoose Prairie area (Figure 1). These studies form a component of an M.Sc. Thesis for the prinipal investigator (K. Vickers) under the supervision of Brent Ward at Simon Fraser University. There are three main objectives for this research: 1) To produce the first surficial geology map for the area covered by the southern half of the 1:250 000 map sheet NTS 36H, 2) To determine the late Wisconsinan ice flow history in the region, 3) To reconstruct a chronology and pattern for glacial retreat and the subsequent isostatic sea level change.

PROJECT TITLE: Boothia Mainland Project: Economic Potential Through New Bedrock Mapping and Surficial Geoscience Upgrading.

Principle Investigator: James, Donald

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Number in Party: 12

License Number:

Research Location: Kitikmeot

SUMMARY

This project is designed to evaluate economic potential of the Boothia Mainland area immediately south of Taloyoak through framework bedrock geological mapping and upgrading of the surficial geoscience information. Archean volcanic and sedimentary rocks of the Prince Albert group exposed in the region are thought to have a high potential for Au, Ni, Zn, diamond group elements. Similarly, the potential for discovery of bedrock geology of the area is complex and poorly understood, development of the regional bedrock geoscience knowledge base is a prerequisite to efficient mineral exploration in the region. Presently, little is known about the distribution of economic minerals within the study area, and only rare mineral showings have been identified in supracrustal rocks of the region. A flurry of recent diamond exploration activity and the acquisition of extensive prospecting permits in the region indicates that the area also has the potential to host diamond-bearing kimberlites. The proposed regional bedrock mapping, along with a drift prospecting survey and accompanying surficial geoscience activities, have the capability to identify new sources of AU, ZN, and PGE's associated with supracrustal rocks, as well as kimberlite indicator-mineral trails. This information will be obtained through characterization of regional geology and collection of drift samples and determination of background metal values and evaluation of regional-scale ice dynamics. Therefore, geochemical and heavy mineral surveys undertaken as part of this project will add significantly to the general geoscience knowledge of this area. Project outputs will: 1) contribute to digital northern geoscience data resources, 2) incorporate remotely sensed data and contribute to new multi-thematic models, 3) help to assess mineral potential increased community participation in exploration activities and geoscience resource development.

PROJECT TITLE: Borden Basin Project

Principle Investigator: Turner, Elizabeth

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Number in Party: 2

License Number: 0202307R-M

Research Location: North Baffin

SUMMARY

Its primary goals are: 1) investigating the properties of the rocks in the region, and what they can tell us about the geologic history of the area; and 2) understanding how zinc and lead were transported to the area and deposited there, and what factors control where they are found in the region.

**PROJECT TITLE: Mass Balance Measurements of White and Baby
Glaciers, Axel Heiberg Island, NU**

Principle Investigator: Ecclestone, Miles

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Number in Party: 4

License Number: 0202407R-M

Research Location: North Baffin

SUMMARY

Our research objective is to continue monitoring the mass balance of White and Baby Glaciers. Present computer models suggest that the Arctic regions will get warmer first and will provide the first definitive proof of global warming. Monitoring these glaciers and improving our measurement techniques may provide first hand evidence of any such warming. Essentially the mass balance of a glacier is determined by measuring the amount of snow that falls and accumulates on the upper parts of the glacier. Depending on which is bigger, accumulation or melt, the glacier gains or loses mass. We need a very long record of annual measurements of accumulation and melt to be able to distinguish whether the glacier is reacting to normal weather variations or because the climate is changing.

PROJECT TITLE: Northern Shrimp Research Foundation, Shrimp Survey for NAFO 2G and 0B

Principle Investigator: Chapman, Bruce

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Number in Party: 5

License Number:

Research Location: Davis Strait

SUMMARY

The survey proposed for 2007 will be similar to 2006 with sampling stations including those adjacent to Resolution Island in SFA 3. The survey for 2007 is proposed to take 52 days, four more than 2006, and include a total of 255 stations. This includes 78 stations in 2G, 119 stations in 0B, and 58 stations adjacent to Resolution Island. Tavel Limited (TAVEL) has been contracted by the Northern Shrimp Research Foundation (NSRF) to manage a five year shrimp scientific survey (2005-2009) in NAFO regions 2G and 0B. This science initiative will be completed in collaboration with Fisheries and Oceans (DFO) to collect and analyze scientific data regarding the northern shrimp fishery. This science survey will be completed over a 45 day period each year, generally being executed from late July through August. The 45 days will be generally split between each area of 2G and 0B. All work conducted will be done aboard Fishery Products Internationals vessel 'Cape Ballard'. All crew and supplies will be provided previous to vessel departure, and there is no intent to land at any location in Nunavut and will not involve any Nunavut residents.

PROJECT TITLE: Flashline Mars Arctic Research Station

Principle Investigator: Zubrin, Robert

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Number in Party: 9

License Number: 0202507R-M

Research Location: North Baffin

SUMMARY

The Mars Society is a private international society dedicated to furthering the human exploration and settlement of the planet Mars. In July 2000, the Mars Society established a research facility at the Mars-like Haughton impact crater site on Devon Island, Nunavut, called the Flashline Mars Arctic Research Station (FMARS). Designed to simulate a landed space craft on Mars, the FMARS project serves three goals: 1) To provide a testbed for studying the many aspects of field exploration operations on a human mission to Mars. 2) To provide a capable field research laboratory to help further our understanding of the Arctic, the Earth, Mars, and the possibilities and limits of life on our planet and beyond. 3) To inform and inspire people around the world to take a greater interest in space and science by bringing before them in a tangible form the vision of human exploration of Mars.

PROJECT TITLE: The Ecology of Arctic lakes and ponds in the Kivalliq Region

Principle Investigator: Quinlan, Roberto

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License Number: 0300707N-A

Research Location: Kivalliq

SUMMARY

It is anticipated that recent climate warming will strongly impact the ponds, lakes and rivers of Canada's Arctic. These anticipated impacts include changes in aquatic insect populations, which are important food sources for fish and migratory birds, and changes in the flow and chemistry of freshwaters due to increased melting of permafrost. Relatively little research on aquatic insect changes, due to climate change, has been conducted in Kivalliq compared to the Northwest Territories, Kitikmeot, Qikiqtaaluk and High Arctic regions. During the summer of 2007, we propose to sample ponds, lakes, and surrounding vegetative communities, inland of the community of Rankin Inlet, Arviat, and Baker Lake in the Kivalliq region. We hope our research in the area will provide valuable new information on recent changes in water flow, pond chemistry and status of aquatic insect populations.

PROJECT TITLE: Biophysical Baseline Study Program for the Back River Project

Principle Investigator: Laudrum, Arlene

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Number in Party: 15
License Number: 0400707N-M

Research Location: Kitikmeot

SUMMARY

Dundee Precious Metals Inc. is a mining company that is exploring the Goose Lake / George Lake properties. These properties are between Bathurst Inlet and Contwoyto Lake in the Kitikmeot Region. Dundee has been doing geology and diamond drilling work on these properties for 3 years and has found a large amount of gold. Dundee has a 50-man tent-frame camp at Goose Lake and a smaller camp at George Lake. Dundee believes that there could be enough gold to start a mine and is having research studies completed to evaluate the possibilities. Dundee is currently studying the possibility that the mine could be an open pit mine with a life of over 10 years. One of the necessary studies before the mine can be built is scientific research of the environment (water, wildlife, fish, vegetation, and so on). Gartner Lee limited is a consulting company who has been hired by Dundee to carry out these scientific studies in 2007. Overall, these scientific studies will be carried out for several years. These scientific studies are generally referred to as 'Environmental Baseline Studies' and are a necessary part of all mining projects.

PROJECT TITLE: Impacts of Lesser snow goose populations on the trophic status of the lakes and ponds of southeastern Southampton Island, Nunavut

Principle Investigator: Pienitz, Reinhard

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Number in Party:

License Number: 0301107N-A

Research Location: Kivalliq

SUMMARY

This fieldwork planned for summer of 2007 will be the continuation of our successful field activities initiated in 2005 in Sirmilik National Park on Bylot Island, Nunavut. Our research studies the impacts of increasing pressure from expanding animal populations on freshwater ecosystems (lakes, ponds) in the East Bay Bird Sanctuary (EBBS), southeastern Southampton Island, Nunavut. The projects main purpose is to generate information about the development of lake water quality within the study area, and to determine the impact of present and past changes in size of bird populations on the freshwater ecosystems within the EBBS, since such pressures are expected to become increasingly intense alongside with accelerated warming in the Arctic. It is therefore critical to gain a clear understanding of the impact of contamination by animal excrements (feces) on the water quality of the abundant lakes and ponds of Southampton Island. Within a very short time frame (5-6 days in July 2007), we are planning to collect water sediment samples from about 15 to 20 lakes and ponds located next to the Lesser Snow Goose colonies within EBBS. Our logistic base will be in Coral Harbour (no camp is needed), and transportation to East Bay Bird Sanctuary will be by helicopter (provided by PCSP) in collaboration with the research team of Jim Leafloor (Canadian Wildlife Service, Winnipeg).

PROJECT TITLE: High Arctic Ground Temperature Monitoring

Principle Investigator: Walker, Anne

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Number in Party: 2

License Number: 0203707N-M

Research Location: North Baffin

SUMMARY

For the past 20 years, the Climate Research Division (Climate Processes Section) of Environment Canada has maintained a number of automated climate/ permafrost stations at sites in northern Canada to support cold climate research activities within the Division. This has included the development and validation of climate models. Meteorological and ground temperature data sets collected at these sites have also been provided to Dr. Sharon Smith of the Geological Survey of Canada (Natural Resources Canada) to support the NRCan led permafrost monitoring network. One of these sites is located at Hot Weather Creek, near Eureka, on Ellesmere Island. This Station has been in operation since approximately 1990. Maintenance of instruments and retrieval data sets from this site has been facilitated through collaboration with university researchers who carry out research activities in the Hot Weather Creek area. These researchers include, Dr. Greg Henry (UBC) and Dr. Antony Lewkowicz (U. of Ottawa).

PROJECT TITLE: Baseline Assessment of Surface Hydrological Conditions

Principle Investigator: Topp, Brent

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Number in Party: 2

License Number: 0301007N-A

Research Location: Kivalliq

SUMMARY

The Kiggavik Sissons Project is a uranium surface exploration project located approximately 80 km west of Baker Lake. The project is made of two large groups of mining leases and mineral claims subdivided into Kiggavik to the north and Sissons to the south. The Kiggavik camp was first established in 1977 and it was occupied for drill programs until 1997. Exploration drilling has not taken place at the project since the end of the 1997 field season. The focus of the hydrological assessment is to gather baseline streamflow and lake water level information from drainage areas in the Kiggavik-Sissons area.

PROJECT TITLE: Integrated Assessment of Climate Change Impacts and Adaptation Options in Nunavut Communities Activity

Principle Investigator: Mate, David

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Number in Party: 0

License Number: 0101607N-M

Research Location: South Baffin and North Baffin

SUMMARY

The Government of Nunavut and the Earth Sciences Sector of Natural Resources Canada, in collaboration with the Canadian Institute of Planners, Canada Nunavut Geoscience Office, and Memorial University proposes to develop an adaptation to climate change study in the communities of Clyde River, Iqaluit and Hall Beach. The aim of this project is to build on the Adaptation Action in Arctic Communities workshop, coordinated by the Government of Nunavut (December 2006), and contribute to the development of a Nunavut Adaptation Plan. It strives to integrate traditional knowledge and scientific research on climate change impacts to improve community planning capacity. The intent is to work with community decision-makers and the community at large, particularly in Clyde River, Iqaluit and Hall Beach.

PROJECT TITLE: Scientific Investigations supporting the Resolution Island cleanup project

Principle Investigator: Rutter, Allison

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Number in Party: 9

License Number: 0101007R-M

Research Location: South Baffin

SUMMARY

The Analytical Services Unit, Queen's University will have a team on site at Resolution Island again this year. Our work is currently focused on monitoring, now that the major cleanup undertaken by the Qikiqtaaluk Corporation for Indian and Northern Affairs Canada is complete. The majority of the work will involve sampling and analysis of plants, soils and water from monitoring wells. The three permanent barriers will be monitored, repaired, tested and if necessary modified. Further monitoring will be conducted with respect to hydrocarbon contamination remediation. The experimental in situ landfarm established in 2005 and the large landfarm established in 2004 will be monitored and maintained.

PROJECT TITLE: The Southampton Island Integrated Geoscience Project

Principle Investigator: Chakungal, Joyia

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Number in Party: 31

License Number: 0300907N-A

Research Location: Kivalliq

SUMMARY

Between June 25th and August 25th, 2007 the Canada - Nunavut Geoscience Office (CNGO) and the Geological Survey of Canada (GSC) propose to conduct an integrated geoscience project on eastern and central Southampton Island, Nunavut. The primary objective of the Southampton Island Integrated Geoscience project (SIIG) is to increase the level of mineral exploration and reduce investment risk by exploration companies in this relatively under-explored region of Nunavut. The hamlet of Coral Harbour would benefit directly from mineral and energy exploration activity and related sustainable development opportunities on Southampton Island. To meet these objectives, the project will make publicly accessible all geoscience knowledge that is gathered from the integrated bedrock and surficial mapping that is to be carried out this summer. This joint CNGO - GSC mapping initiative will be co-lead by Joyia Chakungal from the CNGO and a research scientist from the GSC. The field work will cover parts of NTS map sheets 45N-P, 46A-C, 46F and G. Ground-based activities will commence following completion of a detailed aeromagnetic survey that will be flown over eastern and central Southampton Island in the spring of this year. The current level of basic geoscience available for the Southampton region is inadequate to meet current exploration demands. Regional-scale mapping of the bedrock geology of Southampton Island has not occurred since 1969. Only the most general of rock distinctions are made on the existing geological map, and only a very rudimentary understanding of the surficial geology exists. Currently there is no publicly available, regional-scale surficial (till) geochemical data which is essential for understanding exploration potential for metals and diamonds. Therefore, developing a modern understanding of the timing of ice-flow, till and rock geochemistry and geochronology is fundamental in promoting the exploration potential of Southampton Island. Field work in 2007 will be guided by Remote Predictive Maps, produced in advance of ground-based studies by integration of remotely sensed (satellite) data, air photographs, geophysical data, and archival geoscience data. The helicopter supported field work will be based out of one field camp, located approximately 70 km north of Coral Harbour (Lat - 64°46'59.25 N Long 82°55'43.27 W).

PROJECT TITLE: Fish Habitat Assessment Study For Breakwater & Marine Resupply Facilities Development -Chesterfield Inlet, Pangnirtung & Qikiqtarjuaq

Principle Investigator: Whelan, Michael

Affiliation: Nunami Jacques Whitford
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Number in Party: 5

License Number: 0500707N-A

Research Location: South Baffin and Kivalliq

SUMMARY

The Government of Nunavut (GN) Department of Economic Development and Transportation has proposed the development and upgrading of the Marine Resupply and Breakwater Facilities in Chesterfield Inlet, Pangnirtung and Qikiqtarjuaq, NU. To gain project approval the Department of Fisheries and Oceans (DFO) requires that an assessment of fish habitat in the area of the proposed structures be completed. Nunami Jacques Whitford has been hired to complete these assessments (the Project) on behalf of the GN during August 2007.

PROJECT TITLE: Arctic Ocean Climate Change Project

Principle Investigator: Hamilton, Jim

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Number in Party: 5

License Number: 0203107R-M

Research Location: North Baffin

SUMMARY

An oceanographic study in the eastern end of Barrow Strait has provided continuous measurements of water current, temperature and salinity from August 1998 to present, under research licence 0205005R-M. The objective of the work is to develop an understanding of the the circulation in the area, and to quantify the heat and fresh water movement between the Arctic Ocean and the Northwest Atlantic so that the coupling between these two oceans is better understood. Measurements, combined with modeling studies, are being used to determine how this coupling affects the local, regional and global climate systems. The data collected also provides a baseline for further studies. A continuation of this program has been funded to provide an extended continuous time series of data that can be examined for trends that may be linked to climate change. Quantified change in the fresh water outflow through Barrow Strait would be a useful global warming indicator. The principal method of data collection is 10 moorings that support current meters for measuring the speed and direction of the water flow, and "CTDs" for measuring salinity and temperature. The tops of all of the moorings are well below the surface (deeper than 25m). They are deployed by a Canadian Coast Guard ship in August, left on site for one year, and then recovered the following August. The ship also conducts a "CTD" survey, which involves lowering an instrument over the side of the ship to measure salinity, temperature and depth, at specific locations. Plans are to continue the program, replacing the mooring array and completing the CTD survey in August of each year.

PROJECT TITLE: Variation and forcing of fluxes through Nares Strait and Jones Sound

Principle Investigator: Melling, Humfrey

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Number in Party: 12

License Number: 0203207R-M

Research Location: North Baffin

SUMMARY

In August 2006, DFO's Institute of Ocean Sciences, working with US partners, plans to recover 23 oceanographic moorings from the waters of Nares Strait, between Ellesmere Island and Greenland. The region and locations of moorings are shown. The work will be conducted from the CCGS Henry Larsen. The moorings were installed in August 2003 from the US icebreaker Healy. We attempted their recovery from the ice surface in April 2005, but were compelled to cancel the operation when unexpectedly strong winds (over 110 km/h) destroyed our camp at Lafayette Bay.

PROJECT TITLE: AREVA Kiggavik-Sissons Project Aquatic Baseline Program

Principle Investigator: Schryer, Rick

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Number in Party: 13

License Number: 0301307N-M

Research Location: Kivalliq

SUMMARY

AREVA Resources Canada Inc. (AREVA) proposes to construct and operate a uranium mine located in the Kivalliq region of Nunavut, southeast of the Thelon River. The Kiggavik-Sissons Project is at the surface exploration phase. The project is made of two large groups of mining leases and mineral claims subdivided into Kiggavik to the north and Sissons to the south. Field personnel will be transported to camp by helicopter. Lakes and streams will be accessed by boat and helicopter.

PROJECT TITLE: Dietary Accumulation and Tissue Distribution of Polyfluorinated Substances in Two Ringed Seal Populations in the Canadian Arctic

Principle Investigator: Sturman, Sabrina

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Number in Party: 2

License Number: 0203307R-M

Research Location: North Baffin

SUMMARY

The purpose of this project is to investigate the level of new contaminants found in stain repellents in the food web of ringed seal in the Canadian arctic. We are looking at the ringed seal diet because some of the highest amounts of these compounds have been detected in polar bear, and their diet consists primarily of ringed seal. We are measuring the amounts of contaminants in small fish (arctic cod and capelin), shrimps and algae, sediments, and water to understand transfer up the food chain. We are studying the coastal ecosystem of Resolute Bay because ringed seal have been previously collected from the area by members of HTA as part of the northern contaminants monitoring program. We will also be examining the distribution of contaminants in the tissues of ringed seal, obtained from local hunters during the spring substance hunt, as studies conducted to date have focused primarily on liver residues. We would like to do this sampling in June as melting snow and ice will move the contaminants into seawater. Exact timing would depend on discussion with the HTA but, based on past years, would probably be between June 1 and June 13, 2006. We will hire a person from Resolute to help us with the sample collection. Fish sample numbers will be limited to 20. All sampling would be done near or in Resolute Bay as dependent on ice conditions. We will report our results annually to the Hamlet of Resolute Bay.

**PROJECT TITLE: The Starfield Resources Ferguson Lake Project -
Traditional Knowledge Study**

Principle Investigator: Campbell, Tracy

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Number in Party:
License Number: 0301707N-M

Research Location: Kivalliq

SUMMARY

The Traditional Knowledge (TK) Study will be designed and implemented through collaboration between Starfield Resources Inc. and communities involved in the study, with the aim of fulfilling proponent's needs and regulatory requirements, providing tangible benefits to participating communities, and addressing community concerns.

PROJECT TITLE: Responses to climate change in polar desert ecosystems

Principle Investigator: Henry, Greg

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Number in Party: 9

License Number: 0203407R-M

Research Location: North Baffin

SUMMARY

This project began in 1998 and builds on a long-term study I established in 1992 to investigate the effects of climate warming on tundra ecosystems. My long-term experimental plots are established at Alexandra Fiord, Ellesmere Island where I have conducted ecological research since 1980. The plots are warmed by 2-3 degrees Celcius by placing small (1.5 m diameter), open top greenhouses over them. In some of the plots, snow is removed so plants start to grow earlier, and in others snow is added so they will start to grow later. In other plots, I add some fertilizer to stimulate plant growth. All of these experiments are meant to cause changes that may happen in the future as the climate gets warmer. We found that warming has changed the amounts of nutrients available to plants, and there are more nutrients available in the warmed soils of some sites, especially the wetter sites. There was not a large effect of the warming on the rate of nitrogen fixation in the soils, which is an important process that supplies new nitrogen to ecosystems. The numbers and kinds of plants (part of biodiversity) in the plots have changed in the warmed plots. We do not fully understand what these changes in biodiversity will mean for tundra ecosystems, but changes in numbers and types of plants will affect animals feeding on them. One of the most important ways we can determine the effects is to measure the changes in plots like these over many years, which is what we continue to do.

**PROJECT TITLE: Roche Bay Magnetite Project -
Environmental/Archaeological Baseline Studies**

Principle Investigator: Hoos, Richard

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Number in Party: 7

License Number: 0203507R-M

Research Location: North Baffin

SUMMARY

Roche-Bay PLC has retained EBA Engineering Consultants Ltd. (EBA) to initiate baseline environmental and archaeological studies in 2006 at their proposed magnetite (iron ore) project, located approximately 60 km south of Hall Beach, Nunavut. The proposed baseline study program will involve the following key field studies: vegetation classification, surface water quality sampling, hydrology, aquatic resources study, terrestrial wildlife study, marine wildlife study, species of special concern and their habitats, and archaeological resources. A helicopter will be used to transport field personnel to remote sampling sites. A helicopter or small fixed-wing aircraft will be used for aerial transect surveys. A small boat will be used for marine wildlife surveys. The existing exploration camp and infrastructure at Roche Bay will be used for accommodation and services.

PROJECT TITLE: Inputs of mercury and other contaminants to Lakes near Lake Hazen (Ellesmere Island), Nauyuk Lake (Kent Peninsula) and Resolute Bay (Cornwallis Island)

Principle Investigator: Gantner, Nikolaus

Affiliation: Department of Environmental Biology
University of Guelph
Guelph
ON, CA

Number in Party: 5

License Number: 0203807R-M

Research Location: North Baffin, Kitikmeot

SUMMARY

The purpose of this project is to study changes in amounts of contaminants over time in lakes in the Canadian arctic. We have been working on Lake Hazen in Quttinirpaaq National Park on Ellesmere Island and in lakes in the Resolute Area on Cornwallis Island. In Lake Hazen, we have found that mercury concentrations have not changed significantly since 1990 in fish. This is good news and indicates that Lake Hazen, because of its large size, is responding more slowly than smaller arctic lakes to changes in mercury inputs to the arctic. We are planning to measure other contaminants such as chemicals containing bromine and fluorine that are used in our homes to prevent fires and on our clothing to prevent stains in fish collected from Lake Hazen, but that work is not yet completed. For 2006 we would like to continue to collect 10-20 char from small lakes in the Resolute Bay area. We have been studying contaminants in fish and water quality in these lakes, including Char Lake and Resolute Lake, since 1997 with the help of the Community of Resolute Bay. Our purpose is also to explain how contaminants move through the food web and how they end up in fish. We are also interested in links to climate warming, because it may lead to more mercury in the lakes. In 2006, we also propose to study lakes in the Kitikmeot Region (Nauyuk Lake, Kent Peninsula). Fish in the lakes in this area have been studied previously by DFO scientists. Climatic variation and change has been reported to be more pronounced in this region than in the Lancaster Sound area. We would collect 10 to 20 fish per lake along with emerging insects and lake water. Samples of fish from earlier years are also available from DFO from small lakes around Nauyuk Lake and we will compare them with newly collected fish to see if amounts of mercury have changed over time.

PROJECT TITLE: Heat effects and energy potential of salt domes in Axel Heiberg Island, Nunavut

Principle Investigator: Zentilli, Marcos

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License Number: 0203907R-M

Research Location: North Baffin

SUMMARY

In Axel Heiberg Island, Nunavut, there are many columnar rock structures called "salt domes", which are composed mainly of the minerals gypsum, anhydrite and rock salt, and some include volcanic rocks. These materials are better conductors of heat than surrounding rocks, and therefore salt domes bring heat from deep in the Earth and in some areas have melted the permafrost, generating year-round springs where salty water comes out at about 5 degrees Celcius summer and winter. Because these springs are warm, they contain live bacteria and other life forms, therefore they are considered possible analogs to places where life could have flourished in the now frozen planet Mars. We study the long-term effects that this heating from the salt domes, such as changing the potential for petroleum, and possible links with intense volcanic activity that took place there 100 million years ago. We also study the possible application of heat-exchanging technology to utilize the localized Earth heat for heating homes or research stations, such as the McGill Arctic Research Station at Expedition Fiord. We study the possibility that some salt domes may be actively growing by several centimetres a year, and also their capacity to provide an inexhaustible source of gypsum and anhydrite alabaster, which would be mined as an alternative carving stone for Nunavut. The work in the field in July 2006 will consist of making better maps so that the salt domes appear in more detail; collecting hand-size samples of rocks within and around salt domes to be studied by various methods in the laboratory; and taking measurements that enable us to estimate the movement of salt domes along faults that also cut volcanic rocks. Surveying and satellite technology, combined with our field results, will allow us to estimate the rate of growth of the salt structures with better precision.

PROJECT TITLE: Northern Ellesmere Island in the Global Environment (NEIGE)

Principle Investigator: Vincent, Warwick

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Number in Party: 7

License Number: 0204007R-M

Research Location: North Baffin

SUMMARY

Ecosystems along the northern coast of Ellesmere Island are responding to accelerated climatic change. These changes can occur gradually over decades, yet they can also be suddenly disruptive. Our aim is to monitor trends over the longer term, to evaluate the ecological responses to the crossing of the thresholds, and to define the structure, biodiversity and functioning of these northern-most ecosystems. Field research will involve profiling lakes and fiords to monitor changes in salinity as well as sampling small amounts of sediments and micro-organisms that are found on the surface of ice shelves. During the field season, we will stay in Quttinirpaaq National Park. Transportation out of the park to sample areas outlined in this proposal will be by helicopter, Twin Otter or snowmobile.

PROJECT TITLE: Transport of organic contaminants via migrations of sea-run Arctic charr

Principle Investigator: Swanson, Heidi

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Number in Party: 2

License Number: 0401207R-M

Research Location: Kitikmeot

SUMMARY

Scientists have shown that migrating sockeye salmon contribute high levels of some pollutants (eg DDT, PCBs) to Alaskan lakes. They have also shown that Arctic grayling living in lakes with migrating salmon have higher pollutant levels than those living in lakes without migrating salmon. This is because migrating fish can transport pollutants from the ocean into lakes. This project will investigate whether sea-run Arctic char transport pollutants from the ocean into lakes through their annual migrations. In summers 2006, 2007, and 2008, six lakes (three with sea-run charr, three without) located near Hope Bay (2006 and 2007) and Nayauk Lake (2008) will be sampled for fish and insects that represent whole food webs. Pollutants in fish will be compared between systems that do and do not support sea-run char. The results will help us understand how levels of pollutants vary among fishing locations and be useful for predicting how pollutant levels respond to climate change (because migration will also be affected by climate change).

PROJECT TITLE: Southampton Island, NU Aeromagnetic Survey

Principle Investigator: Coyle, Maurice

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Number in Party:

License Number:

Research Location: Kivalliq

SUMMARY

An aeromagnetic survey will be flown over the eastern part of Southampton Island, Nunavut, between June 7 and August 7, 2007. Aeromagnetic surveys are one of the tools used by geologists. The instrument measures the magnetic properties of the buried bedrock. These rocks may contain valuable mineral deposits, such as gold, diamonds, copper, lead and zinc. Understanding the geology of this area will allow informed land use decisions to be made. This survey will be used to fill a gap in our knowledge of the area. It will support geological mapping and resource assessment in an area near the community of Coral Harbour. The aircraft and crew will use existing facilities. No structures will be erected.

PROJECT TITLE: Bear Island Environmental Site Investigation

Principle Investigator: Spagnuolo, Lou

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Number in Party: 10

License Number: 0101907N-A

Research Location: South Baffin

SUMMARY

The Government of Canada has initiated the Federal Contaminated Sites Action Plan (FCSAP) to clean up federally owned contaminated sites and to address the environmental liabilities associated with each site. The FCSAP program provides funding for the remediation of contaminated sites posing risks to human health and / or the environment. Indian and Northern Affairs Canada (INAC) has applied for, and secured, funds under this program for the investigation of two abandoned Mid-Canada Line Radar stations (Sites 412 and 413) located on Bear Island (54 20'N, 81 05'W) in the central northern portion of James Bay, Nunavut (Figure 1)

PROJECT TITLE: PIN-B (Clifton Point) Environmental Site Investigation

Principle Investigator: Spagnuolo, Lou

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Number in Party: 10

License Number: 0401407N-A

Research Location: Kitikmeot

SUMMARY

The Government of Canada has initiated the Federal Contaminated Sites Action Plan (FCSAP) to clean up federally owned contaminated sites and to address the environmental liabilities associated with each site. The FCSAP program provides funding for the remediation of contaminated sites posing risks to human health and /or the environment. Indian and Northern Affairs Canada (INAC) has applied for, and secured, funds under this program for the investigation of the abandoned Intermediate Distant Early Warning (DEW) Line site at PIN-B, Clifton Point (69 12'N, 118 37'W), located on the coast of Amundsen gulf (Figure 1). The site is situated about 1 km inland from the coast and accessible by sea-lift. In addition, there is one airstrip located between the station and beach area which is reported in fair condition and is accessible for most of the year. An abandoned airstrip at the west end of the main airstrip is reported as unusable. The nearest community is Kugluktuk, approximately 220km to the southeast in Nunavut.

PROJECT TITLE: Environmental Monitoring for Meadowbank gold project, Baker Lake

Principle Investigator: Gebauer, Martin

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Number in Party: 21

License Number: 0301407N-M

Research Location: Kivalliq

SUMMARY

Agnico-Eagle Mines Ltd. Has received a NIRB Project Certificate for its Meadowbank gold project, located 70km north of Baker Lake, Environmental monitoring has been ongoing at this site since 1999; similar monitoring work will continue through construction, operation and closure (an estimated 12 -year horizon). The purpose of the monitoring program is to avoid or mitigate negative impacts from mine activities, and to meet the conditions and commitments of the NIRB Project Certificate. Sampling areas include the local and regional lake and land systems around the mine site and the all-weather road connecting to Baker Lake. In 2007, the monitoring program will focus on collecting additional baseline data, as well as information needed for regulators and final site design. Monitoring of bridge and culvert installations along the all-weather road will also be done during and post road construction.

PROJECT TITLE: Biophysical remote sensing of arctic tundra ecosystems along a latitudinal gradient

Principle Investigator: Treitz, Paul

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License Number: 0401506N-M

Research Location: Kitikmeot

SUMMARY

Boreal and tundra environments account for a large proportion of Canada's land surface and are important systems within the context of global climate change research. These northern environments are thought to be particularly sensitive to changes in climate, yet it remains unclear as to how these environments will respond. It is expected that any alterations in arctic tundra ecosystem function associated with increased temperatures will be expressed through shifts in vegetation growth patterns, species composition and abundance. Remote sensing provides a means for monitoring these shifts using satellite images collected at frequent time intervals. However, this potential requires detailed field studies for validating appropriate remote sensing methods and scales of observation.

PROJECT TITLE: Mapping Mantle Diamond Potential/Churchill Diamonds

Principle Investigator: Snyder, David

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Number in Party: 5

License Number:

Research Location: Kivalliq

SUMMARY

The objective of this study, begun in the NWT in the late 1990's, is to investigate the structure and composition of the Earth's crust and mantle to depths of 0-300 km with a view to characterizing diamond reservoirs to make diamond exploration more efficient and low impact. The research will lead to improved mineral exploration strategies, improved estimates of damaging large earthquakes, and a superior framework for handling Canada's natural resource potential over the next decade. Recordings of the arrival of earthquake waves provide the highest resolution and lowest impact way of imaging structures deep in the Earth.

Seismic stations will be installed via helicopter or chartered plane at various sites in the survey area - a corridor along the western coast of Hudson Bay between Churchill and Pond Inlet. Many stations will be located near existing mines or exploration camps such as those near Rankin Inlet and Igloolik. The stations, each of which will be deployed for between three and five years consist of a geophysical sensor, satellite dish, solar panels and battery/electronics boxes deployed on sand or flat bedrock. Seismic waves from earthquakes around the globe will be recorded by the sensor and transmitted to the University of Western Ontario using satellite telemetry link (same as television signals). From there, the data will be distributed to researchers by way of the internet at the site www.polarisnet.com.

Magnetotelluric stations measure Earth conductivity over several days and consist of an electronics box and five sensors. Sites are located in gravel as sensors must be buried to form a cross 100m in length.

PROJECT TITLE: CANDAC

Principle Investigator: Drummond, James

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Number in Party: 20

License Number: 0204107R-M

Research Location: North Baffin

SUMMARY

It is anticipated that the beginning stages of global warming will become apparent in the polar regions earlier than at mid-latitudes. For this reason, a group of Canadian atmospheric scientists from across the spectrum of institutional research, has come together to form CANDAC, the Canadian Network for Detection of Atmospheric Change. This group led by Principal Investigator Professor James Drummond of the University of Toronto, includes many of the top atmospheric scientists in Canada from universities, private industry, and government agencies. In addition, CANDAC will also partner with foreign efforts such as the American Study of Environmental Arctic Change (SEARCH) program, as appropriate. CANDAC will begin operations in the summer of 2005 in the vicinity of the Meteorological Service of Canada's (MSC) Eureka weather station located on Ellesmere Island.

PROJECT TITLE: 2007 Ferguson Lake Environmental Baseline Studies

Principle Investigator: Landry, Francois

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Number in Party: 3

License Number: 0301907N-A

Research Location: Kivalliq

SUMMARY

Starfield Resources Inc, is exploring a significant metals deposit located in an area of Inuit Owned Land at Ferguson Lake in Nunavut. The proposed research for 2007 under the Nunavut Research Institute scientific research licence includes characterizing the local water flow patterns; aquatic biology and water quality of the site; and hydrocarbon content of surface soils. This work is being done to provide additional baseline characterization in the area and in response to recommendations and recommended conditions of a screening decision by NIRB (NIRB File no. 07EN001). The proposed work is to be completed between June 30, 2007 and September 30, 2007 by Rescan Environmental Services personnel.

PROJECT TITLE: 2007 Bathurst Inlet Port and Road Project Baseline Study

Principle Investigator: Landry, Francois

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Number in Party: 8

License Number: 0401307N-A

Research Location: Kitikmeot

SUMMARY

The Bathurst Inlet Port and Road Project consists of a port on Bathurst Inlet connected to the mines and mineral deposits in Nunavut and Northwest Territories by a new 211 km all-weather road to Contwoyto lake, and the existing "Tibbitt to Contwoyto" winter road. A map of the sample area is included with this proposal. The Project proponents are the Kitikmeot Corporation and Nuna Logistics Limited, both Inuit owned companies. The proponent previously submitted a Project Description that was reviewed by NIRB, however, that Project was put on hold in November 2002 as a result of low base metal prices. A previous baseline study was completed in 2001 and 2002 by Rescan Environmental Services Limited and the current proposed research will provide current and complimentary baseline data for the Project.

PROJECT TITLE: Offshore Geological Investigations of Baffin Bay, Lancaster Sound, and adjacent areas

Principle Investigator: Sonnichsen, Gary

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Number in Party: 5

License Number:

Research Location: North Baffin

SUMMARY

The purpose of this research project is to improve the understanding of the seabed conditions, surficial geology, and paleoceanography (ocean and sea ice conditions in the past) in Baffin Bay, Lancaster Sound, and adjacent areas. This information will help provide sustainable and effective management of the Northwest Passage. It will help protect the environment during potential economic development of marine resources (i.e. oil and gas exploration, mineral exploration, shipping routes) by providing information for policy regulation and engineering design. Understanding the sea ice extent, ocean water temperatures, and ocean productivity for the past 10,000 years in the Baffin Bay area will contribute to our understanding of present day climate change.

The project will take place in Baffin Bay, northern Labrador Sea, Davis Strait, Disko Bugt (Greenland), Lancaster Sound and the North Water polynya. All of the research will be conducted onboard the Canadian Coast Guard vessel Hudson which is based out of Dartmouth, Nova Scotia. This proposed expedition will take place between August 30 and September 26, 2007, which includes the time required to travel to and from Nova Scotia. The Hudson will be carrying 32 Canadian Coast Guard crew, and 27 scientists coming from the Geological Survey of Canada, the University of Quebec at Montreal, and the University of Quebec at Rimouski.

The main activities during this field research are collection of seabed sediment samples by piston coring and seafloor data by seismic reflection profiling. Sediment samples will be collected with a core sampling tool called a piston corer. This device is lowered on a cable from the ship to the seabed. The properties of the seabed and sediments under the seabed will also be investigated using echosounders and seismic reflection equipment. The seismic sources used for this project fall well below the 40 psi air pressure in water guideline and therefore do not trigger an environmental assessment under the Canadian Environmental Assessment Act (CEAA). There will be limited water column sampling using Niskin water collection bottles, a conductivity/temperature/depth profiler, and a small plankton net. Water column data will be used to calibrate the results obtained from the laboratory analysis of the seabed sediment samples.

Near the end of the project (approximately September 19, 2007), the CCGS Hudson will visit Pond Inlet to disembark some scientific personnel from the vessel for travel south by plane. At this time there may be some need for accommodations for several people in Pond Inlet. During the rest of the project, the CCGS Hudson will be working far offshore and will probably not be visible from the Nunavut coastline.

The results of this research will be communicated by community visits in the winter of 2007-2008, and by the attendance of scientific personnel at conferences and workshops. This research will result in publications in various scientific journals over the months and years following the project.

PROJECT TITLE: Storm Studies in the Arctic (STAR) and Aircraft Research

Principle Investigator: Hanesiak, John

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Number in Party: 21

License Number: 0102307N-M

Research Location: South Baffin

SUMMARY

Between October 1 and December 15, 2007, we are planning a major field experiment based out of Iqaluit to provide a better understanding of the physical features of Arctic storms and their hazards, the processes controlling them, and our predictive capabilities for them. A smaller February 2008 blowing snow project, based out of Iqaluit is also planned. A variety of instruments (see application) will be deployed in the Environment Canada compound at Iqaluit airport and portable/ removable automatic weather stations placed in other southern Baffin Island locations. A portable Doppler radar will be installed near the Natural Resources Canada facility in Iqaluit, a research aircraft (based out of Iqaluit) will fly into the storms and a research ice-breaker will sample ice and weather in the Hudson Strait region. We will launch approximately 80 weather balloons from the Environment Canada facility at Iqaluit airport and possibly in Pangnirtung during storm events.

PROJECT TITLE: Metal Uptake from Vegetation to Caribou in the Canadian Arctic

Principle Investigator: Katz, Sharon

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Number in Party: 8

License Number: 0301807N-A

Research Location: Kivalliq

SUMMARY

Conduct a targeted scientific program to analyze heavy metals and trace elements (32 elements, including mercury), and stable isotopes in vegetation and soil samples, and correlate the results with concentrations in caribou from a related NCP program [Mary Gamberg].

Test if contaminant patterns in caribou tissues will vary with patterns observed in lichen/moss, or willow/soil.

Target vegetation species: one lichen and two plants that are part of caribou diet will be sampled. The lichens Gray reindeer lichen (*Cladina rangiferina*) and Easter lichen (*Stereocaulon paschale*) are ground dwelling lichens that are common and abundant in northern environments, and an important constituent of caribou diet. The plants used in this study are willow (*Salix* spp.) and cotton grass (*Eriophorum scheuchzeri*). To help interpret the results of multi-element analysis of lichen and moss, soil samples (1 pool of multiple 0-5 cm depth cores collected with a small soil auger 2.5 cm diameter) will be collected at the same sites as lichen, willow and cotton grass.

PROJECT TITLE: Biophysical Baseline Study Program Izok Mine Development Project

Principle Investigator: Fratton, Glenda

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Number in Party: 12

License Number: 0401507N-M

Research Location: Kitikmeot

SUMMARY

Zinifex is currently in the early stages of planning a potential mine in Nunavut called the Izok Lake Mine Development Project. The Izok property, known to contain zinc, copper and lead ore deposits, is located approximately 360 km north of Yellowknife and 90 km west of the Lupin mine site in the Kitikmeot Region of Nunavut. The closest communities include Kugluktuk and Umingmaktok. The potential Izok project includes a mine site and an access road between Izok Lake and the Lupin mine site. Zinifex has retained Gartner Lee Limited to undertake baseline field programs. The overall objective of the baseline field programs is to gather information that can help Zinifex understand and document the potential environmental effects of the project. This information can also be used to develop mitigation measures and plans for the project. The planned field studies are scheduled to begin in late July 2007 and continue to June 2008. The field program includes studies in hydrology, water and sediment quality, aquatic organisms (fish and benthic organisms), and climate.

PROJECT TITLE: Biophysical Baseline Study Program for the Izok to High Lake Road project

Principle Investigator: Mougeot, Charlotte

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Number in Party: 4

License Number: 0401607N-M

Research Location: Kitikmeot

SUMMARY

Zinifex (formerly Wolfden Resources Inc.) is undertaking feasibility studies for a potential road in the Kitikmeot Region of Nunavut called the Izok to High Lake Road Project. The proposed road alignment for the project runs north-south and extends between the High Lake Property and a point 10 km west of the Lupin mine site. The southern end of the road (near Lupin) is located approximately 360 km north of Yellowknife. The closest Nunavut communities include Kigluktuk and Umingmaktok.

PROJECT TITLE: ArcticNet 2007 expedition: Integrated Regional Impact Study of the Canadian High Arctic

Principle Investigator: Fortier, Martin

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Number in Party: 82

License Number: 0500907R-M

Research Location: Nunavut Wide

SUMMARY

The main objective of the proposed research project is to assess the changes occurring in the Eastern Canadian Arctic's coastal marine ecosystem in response to climate warming. Using the Canadian research icebreaker CCGS Amundsen to access the vast expanses of the coastal Canadian Arctic, mooring and sampling operations in the Nunavut region are planned to take place.

PROJECT TITLE: The Resolute Bay Observatory (RBO) - In Support of Science

Principle Investigator: Kelly, John

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Number in Party: 10

License Number: 0204707R-M

Research Location: North Baffin

SUMMARY

The Resolute Bay Observatory (RBO), previously known as the Early Polar Cap Observatory, is the most northern polar cap facility funded by the United States National Science Foundation (NSF). The RBO is of considerable importance to the upper atmospheric science community and provides the necessary infrastructure for housing instruments that collect data used by scientists world wide for continued research investigating the Sun's influence on our planet's atmosphere.

SRI International (SRI) designed and built the facility in 1992 with a contract to a Canadian-based construction company. SRI has since operated, maintained and coordinated the science endeavors at the RBO for the NSF. The observatory is located on 11,640 m² of land that is leased for 20 years from the Resolute Bay Airport on Cornwallis Island. It is approximately 5km North East of the Resolute Bay Airport and positioned approximately 40 m below a hilltop, providing excellent shielding for sensitive receivers systems and blockage of light from the airport community.

The facility is approximately 427 m² with half of it being used for housing scientific instruments and the other half used for visitors' quarters. There are three darkrooms for optical instruments, including roof hatches, with a total of four domes, and a support room adjacent for experiments and the associated data acquisition systems. The facility is powered alternately by two 50 kW diesel generators. The RBO is operated and maintained without a permanent site crew. The required on-site support, such as logistics, technical support, routine maintenance and daily site inspections, is provided by subcontracting to a local company in Resolute Bay.

Ongoing scientific investigations at the RBO use optical instruments and both passive and active radio frequency instruments by scientists whose goals include a wide variety of investigations, using the following instruments, listed with their Principle Investigator.

**PROJECT TITLE: Traditional Knowledge of Northwestern Hudson Bay
Polar Bears: Distribution, Habitats, Food and Behavior**

Principle Investigator: Sahanatien, Vicki Ann Marie

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Number in Party: 5

License Number: 0300407N-M

Research Location: Kivalliq

SUMMARY

The polar bears of Northwestern Hudson Bay and the Foxe Basin region are not well known to researchers and wildlife managers. The most recent polar bear studies occurred in the 1980s. The only biological data collected since that time are harvest and defense kill information. This gap in information is an important opportunity to tap into and explore approaches for incorporating traditional ecological knowledge into scientific research. My study area is in Northwestern Hudson Bay. This is also referred to as the Foxe Basin polar bear population. The focus of my research is polar bear habitat selection (small and large scale), the effects on climate change on available polar bear habitat (sea ice), polar bear movements, and behavior. The existing oral history collections, reports and published literature of Inuit knowledge of polar bears were reviewed. New information will be collected using interviews and focus groups with knowledgeable Inuit and non-Inuit from communities in the study area. All sources of information will be combined into a database that can be used for research, management and public education.

PROJECT TITLE: Inuit Qaujimajatuqangit and Social Studies for the Mary River Project

Principle Investigator: Cook, Richard

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Number in Party:

License Number: 0200807R-M

Research Location: North Baffin

SUMMARY

Baffinland Iron Mines Corporation (Baffinland) is carrying out advanced exploration of the Mary River Iron Ore Project. Environmental and engineering studies have also started and will continue over the next couple of years with the intention of completing a feasibility study to bring the Iron Ore Deposits into production. The environmental studies will document the existing condition of the land and wildlife in the region. The engineering studies will document the existing condition of the land and wildlife in the region. The engineering studies will determine the economical environmental, socio-economic and technical factors that need to be identified and met to determine how iron ore at the Project site could be mined. If these studies determine that the iron ore deposit can be mined economically, Baffinland would require an environmental assessment to determine how to eventually construct and operate a mine that maximizes benefits, while minimizes impacts to both the environment and the local communities. Environmental studies are being carried out by Knight Piesold Ltd. With the assistance of the community, Knight Piesold is planning an Inuit Qaujimajatuqangit (IQ) study in Pond Inlet. A community working group (IQ organization) will provide overall direction to the study and to identify interviewers and holders of IQ. The IQ organization will also help decide what questions to ask on how people used the land in the past and how they use the land today, on the movements of fish and wildlife, and culturally significant areas. The community will also help determine priorities for what kinds of IQ they would like to collect.

PROJECT TITLE: Aboriginal Ecotourism: Potentials for Partnership in Sustaining Livelihoods, Well-Being and Biodiversity

Principle Investigator: Blangy, Sylvie

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Number in Party:
License Number: 0100307N-M

Research Location: South Baffin

SUMMARY

The purpose of this collaborative research project is to examine the interactions between biodiversity, community well being; culture and ecotourism, in partnership with the community members of Cape Dorset, Nunavut. The project will take place in Cape Dorset, Nunavut in several phases from Feb 2007 to July 2008: 1) First phase from Feb 27, 2007 to March 8, 2007; 2) Second phase in the autumn of 2007; 3) Third phase in the spring of 2008.

PROJECT TITLE: Things Change, We Change: Planning for Community Resilience in the Canadian Arctic

Principle Investigator: Parewick, Kathleen

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Number in Party: 2

License Number: 0400407R-M

Research Location: Kitikmeot / North Baffin

SUMMARY

How do human communities cope with change and uncertainty? What distinguishes the community that bounces back from hard knocks and the one that comes apart at the seams? How can communities become more resilient? Arctic communities are experiencing dramatic climate change. While the Arctic peoples of Canada are very resilient and expert in the practice of adaptation, the rates of physical change that their coastal communities are currently observing are without precedent. Community planning and development work are institutional practices that have evolved to support the continual adaptation needed to sustain human communities. This project examines local planning and development functions to determine how they might better serve to build community resilience and support local climate change adaptation. In 2007, participatory planning exercises in the communities of Gjoa Haven and Arctic Bay, NU are planned. Links to similar exercises begun in Tuktoyaktuk and Sachs Harbour, NWT during 2006 will be made in the context of both this project and an upcoming International Polar Year initiative. In each of the four participating coastal Arctic communities, participants consider up-to-date geophysical scientific findings, local knowledge and existing governance mechanisms and then collaborate with the researcher to produce local climate change adaptation plans. In addition to providing updated materials suitable for inclusion in official hamlet land use plans, the final adaptation plans will treat the broader spectrum of local issues that are expected to come to light during the community planning processes, and will offer some analysis respecting community capacity and resilience. Primary project partners are the Hamlet Councils, but I shall also continue to work with other interested local organizations and the agencies responsible for community planning within the NWT and Nunavut territorial governments. I expect to conduct special planning exercises with youth (including school visits) and elders in each community.

PROJECT TITLE: Powerful women, dependent women? An enquiry into the social strategies of Inuit career women.

Principle Investigator: Matthijsse, Mathilde

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Number in Party: 4

License Number: 0100107N-M

Research Location: South Baffin

SUMMARY

The main interest of the proposed research is the effects of women's entry into the labour market on intra-household relations. As relationships with kin and community have traditionally been very important, the wider concern of this research is to establish to what extent traditional forms of social relationships survive or are reproduced in the rapidly changing world of Inuit women in Nunavut. With women in the Arctic becoming more active in wage employment and more interested in further education unavailable in Nunavut, society will need to adapt its expectations of women, of families and of intra-household relations. The research is to be conducted over an approximately 12 month period in Iqaluit. Methods will include observations and open-ended interviewing. A small number of case studies will also be conducted in businesses and households. Through observations during visits, open-ended interviews with all individuals concerned and the collection of life histories, I will be able to gain an insight in the ways in which social networks are put to use, and the perceptions of different individuals involved of the changing role of women.

PROJECT TITLE: The Nunavut Wildlife Act Project: A case study analysis of wildlife co-management under the structures created by the Nunavut Land Claims Agreement

Principle Investigator: Falkiner, Jo-Anne

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Number in Party: 1

License Number: 0100207N-A

Research Location: South Baffin

SUMMARY

Co-management in Nunavut is the result of a comprehensive land claims agreement between the Inuit of the Nunavut Settlement Area and Canada. Advantages of co-management include better relationships between government bodies and user groups, possible improved resource management by integrating western science with traditional environmental knowledge, and improved stability due to more "buy-in" from user groups. However, co-management is also expensive, time consuming and has numerous challenges. I plan to use development and implementation of the new Nunavut Wildlife Act as a case study in wildlife co-management. I will examine how each body/ organization contributed to the development and implementation of the new Act. I will also examine the relationships among the various bodies / organizations managing wildlife in Nunavut and ascertain whether there is a collaborative approach to co-management.

PROJECT TITLE: Inuit Music: The Historical Relationships and Cultural Traditions Shaping the Song Repertoire of Three Bands of Caribou Inuit Living in Arviat, Nunavut.

Principle Investigator: Piercy, Mary

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Number in Party:

License Number: 0300307R-M

Research Location: Kivalliq

SUMMARY

Few studies of indigenous music have yet explored the way musical practices articulate the diversity and complex social networks within a single community. I will conduct a comparative study of the historical relationships and cultural traditions shaping the song repertoire of the Ahirmiut (Inland Inuit), Arviamiut (Sea Inuit), Padlirmiut (Nomadic Inuit) living in Arviat (previously Eskimo Point), Nunavut. These three bands of Caribou Inuit, each with their own traditions, language, and history, were brought together in Arviat as a result of a Federal Government relocation program in the 1950's (Tester and Kulchyski 1994). Musical production has been influenced by the amalgamation of the three groups of Inuit as well as by non-Inuit media and live performance. I will examine the extent and type of change, as well as the ways music functions to distinguish each group or create relationships between them, since the relocation of Inuit to Arviat in the late 1950's. My study will take into consideration earlier moments of dramatic change, such as the histories of missionization, beginning in the 1920s, that led to different denominational affiliations for the three groups, and more recent sociopolitical events such as the establishment of Nunavut as the newest territory of Canada in 1999.

PROJECT TITLE: Storying the North: Re-Telling the Bloody Falls Story

Principle Investigator: Cameron, Emilie

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Number in Party: 1

License Number: 0400207R-M

Research Location: Kitikmeot

SUMMARY

Stories are central to how we come to know ourselves and our place in the world. But stories are not benign; among other things, they are central to the establishment and maintenance of colonial and racial power. In the case of the Bloody Falls massacre stories, the narrative has been used to symbolize Inuit-Dene relations, racialized notions of morality, law, and survival in the Arctic, and to suggest that the Copper Inuit were innocent and helpless victims of attacks from neighboring groups. In this project, I aim to challenge this persistent "Arctic" story, a story that has circulated well beyond its location for the past two centuries. Building on work by McGrath (1993) and MacLaren (1991), I aim to not only question the details of the story as narrated by Samuel Hearne, but also to situate the story in a broader critical geography of narrative.

PROJECT TITLE: Sea Ice Use and its Relationship to Nunavut National Parks

Principle Investigator: Manseau, Micheline

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Number in Party: 10

License Number: 0200407N-M

Research Location: North Baffin

SUMMARY

The ultimate goal of Parks Canada's overall Inuit Knowledge Project is to explore how to work with Inuit knowledge (IK) to manage protected area, namely Sirmilik, Auyuittuq and Ukkusiksalik National Parks, three of Nunavut's four national parks. The project aims to do this by finding ways to document IK in culturally appropriate ways. Furthermore, the project team hopes to build relationships and capacity with interested Inuit organizations while providing protocols for the sharing of knowledge that communities / individuals may consider to be of a sensitive nature. Sea ice use is fundamental to all Inuit communities in Nunavut. The purpose of this "Sea Ice" project - a sub-project of Parks Canada's overall Inuit Knowledge Project - is to document the knowledge and uses of sea ice around the Inuit communities of Arctic Bay, Pangnirtung, Pond Inlet, Qikiqtarjuaq, and Repulse Bay, Nunavut, in relation to the access and management of neighboring Auyuittuq, Sirmilik, and Ukkusiksalik National Parks.

PROJECT TITLE: Human Perception, Comprehension and Awareness of Contaminants in Sanikiluaq

Principle Investigator: Clifford-Pena, Jadie

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Number in Party: 0

License Number: 0100707N-A

Research Location: South Baffin

SUMMARY

To determine the levels of awareness, local perceptions and comprehension of contaminants in the Sanikiluaq area. To assess the levels of awareness in the local community. To gain an understanding of community perceptions. To determine the impacts of contaminants on community lifestyles. To assess how the community weighs the risks and benefits associated with traditional food. To determine linkages between Traditional and Scientific Knowledge on the topic of contaminants in the Arctic environment.

PROJECT TITLE: Traditional Knowledge on Sea Ice Change in Sanikiluaq -Impacts on Inuit Hunters

Principle Investigator: Imrie, Devin

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Number in Party:

License Number: 0100807N-M

Research Location: South Baffin

SUMMARY

The purpose of this project will be to document local observations on traditional knowledge on sea ice change and variability to provide a holistic view of how changing sea ice conditions are affecting Inuit harvesting and travel in the vicinity of Sanikiluaq, NU. The objectives of the project are: 1) Document local and traditional knowledge, insights, and perspectives on how and why sea ice conditions have changed in recent years. 2) Assess the perceived impacts of sea ice change on hunting practices, harvest success, and safety. 3) Look for similarities between local knowledge and scientific data to provide a holistic assessment on sea ice changes in and around the Belcher Islands. 4) To work cooperatively with local people so as to accurately and respectfully record their knowledge, ideas, and perspectives in the research. 5) Present the findings of the research back to the community in the form of posters and a book, to aid in the transfer of knowledge from elders and hunters to the youth in Sanikiluaq.

PROJECT TITLE: Highland Pipers of the Canadian Arctic

Principle Investigator: Heath, Brad

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Number in Party:

License Number: 0203607N-A

Research Location: Nunavut Wide

SUMMARY

“Supugaqti: Highland Pipers of the Canadian Arctic” is my working title for a book on the history of the Great Highland Bagpipes (GHB) in the Canadian Arctic. My goal is to trace the history of the GHB in the Arctic and tell the stories of the colourful pipers who brought the pipes to the North. This includes people such as: Pipe Major Hannah of the Royal Canadian Highlanders (The Black Watch) who accompanied the Governor of the Hudson Bay Company (HBC) on a tour of HBC posts in 1934, and figures from the 1950s including John MacDonald and Erik Mitchell of the HBC, RCMP Constable Gordon Henderson and the late Rev. Donald Whitbread.

PROJECT TITLE: Breaking the ice: Linking Inuit toponymy and mobility with remote sensing imagery of sea ice in two Inuit communities

Principle Investigator: Henshaw, Anne

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License Number: 0201907R-M

Research Location: North Baffin

SUMMARY

This project will build on the result of place-name projects that have taken place in Clyde River and Cape Dorset. Over 1000 names have been compiled and stored in a Geographic Information Systems (GIS) database in both communities. With local interpreter and translators, we will be conducting more in depth interviews of Inuit about the places and routes in the form of map biographies. The project has four specific goals: 1) to understand how Inuit mobility has changed through time by constructing map biographies of Inuit from different generations using (GIS); 2) to understand how changes in Inuit mobility are linked to changes in sea ice by comparing historical sea ice charts and remote sensing imagery of changing sea ice conditions and features (polynyas, leads and floe edges) over time with Inuit knowledge and Inuit route systems used on a seasonal basis; 3) to create a two-way exchange program where sea ice scientists and Inuit travel the ice together to share knowledge and perspectives about specific ice conditions at each community. The exchange of knowledge will continue at Nunavut Arctic College where Inuit will learn remote sensing techniques and interpretation from scientists that they can apply in their home communities; 4) to create a web interface that will leave a legacy of data so that Inuit can access historic and real-time satellite data on changing ice conditions in their land use areas and compare them to different routes systems used on a seasonal basis. The project will also create learning opportunities for youth to help them learn place names and routes through field excursions with experienced guides and elders.

PROJECT TITLE: Inuit Qaujimajatuqangit and Land Use Studies for the Iqaluit Hydroelectric Project

Principle Investigator: Flaherty, Jamie

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Number in Party: 32

License Number: 0100507R-M

Research Location: South Baffin

SUMMARY

Qulliq Energy Corporation (QEC) is currently evaluating the potential to provide hydroelectric power to the City of Iqaluit. A study carried out by Knight Piesold Ltd. in late 2005 identified 5 watercourses within 50-100 km of Iqaluit where the development of hydroelectric power may be feasible. Additional environmental information is required at the four locations before decisions can be made with respect to advancing any of the projects to a detailed feasibility study. This includes collection of land use information to understand the present and historic use of the candidate sites, as well as the collection of Inuit Qaujimajatuqangit (IQ) on fish and wildlife ecology and movements. A land use and IQ study is proposed that includes two main components: 1) a review and summary of existing land use information and IQ; and 2) collection of information on contemporary land use and IQ from knowledgeable Elders and land users (IQ Consultants, or Qaujimajitaq). The review of existing information will evaluate and summarize land use and IQ information contained in both the Inuit Land Use and Occupancy Project (Milton Freeman Research Ltd, 1976) and the Nunavut Wildlife Harvest Study (Nunavut Wildlife Management Board, 2004). The Inuit Heritage Trust Incorporated and the Department of Culture, Language, Elders and Youth (CLEY) will also be contacted to obtain any relevant historical or archaeological information that may be of relevance.

PROJECT TITLE: Youth-led Vulnerability Research and Adaptation to Change

Principle Investigator: McKenna, Meghan

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License Number: 0202907N-A

Research Location: North Baffin

SUMMARY

The aim of the proposed research is to document changes being experienced by youth in Arctic Bay, Nunavut. Through Inuujaq School and Nunavut Youth Consulting, youth will be trained in social science research methods so that they can collect and document data together with university researchers. After completing the training, youth interested in the project will be hired by the university researcher to conduct focus groups and interviews with other youth in Arctic Bay. The purpose of these focus groups and interviews is to document what social and environmental changes youth are experiencing in Arctic Bay, what actions youth are taking to deal with these change and what actions they would suggest policy makers take to address their concerns. This research addresses gaps in knowledge regarding the cumulative affects of social and environmental changes in Arctic communities, specifically for youth. This research responds to community needs, contributing to the Arctic Bay Community Wellness plan, giving youth an opportunity to learn research and transferable skills and creating guidelines for involving youth in research.

PROJECT TITLE: Canadian Multiculturalism: Day School Contest and Perceptions of Children and Youth

Principle Investigator: Zinga, Dawn

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Research Location: South Baffin

SUMMARY

The research investigates perceptions of Canadian multiculturalism in children and youth by surveying students in grades 6-7 and grades 10-11 and the educators of those students. The research concentrates on an in-depth analysis of multicultural experiences and awareness, level of intercultural development, impact of multicultural issues on daily life, and exposure to multicultural images and experiences through the media and the school environments. Participating schools distribute the Perspectives Survey and consent forms in individual envelopes to students either in grades 6-7 or grades 10-11. The students take the surveys home to be reviewed with their parent(s) / guardian. The surveys are returned within one week in the sealed envelope. Teachers in participating classrooms are also asked to complete a survey. This research is being conducted in conjunction with a contest designed to promote awareness of Canadian Multiculturalism Day. The contest is open for students from Junior Kindergarten to Grade Twelve. Students in kindergarten classes are asked to submit pictures, students in elementary grades (grades 1-8) are asked to submit a picture (artwork) and a short piece of writing (250 words or less) on "What does Multiculturalism mean to you?" while the senior grades (grades 9-12) are asked to submit a short essay (500-1000 words) in response to the same question. The closing date of the contest will be February 28, 2005. Students participating in the contest have the option of consenting to have their entry added to a secondary dataset. The secondary dataset helps researchers to examine developmental differences in how students are able to conceptualize multiculturalism. All analysis of the secondary dataset is subject to ethics approval and must fall within the parameters outlined by the informed consent associated with the contest.

PROJECT TITLE: Movement and Diving of northern Hudson Bay narwhal: relevance to stock assessment and hunt co-management

Principle Investigator: Westdal, Kristin

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Number in Party:

License Number: 0300807N-M

Research Location: Kivalliq

SUMMARY

To improve population estimates of narwhal summering near Repulse Bay. To determine if this stock is geographically separate from other narwhal populations. To identify summer movement in the Repulse Bay area.

PROJECT TITLE: Socio-Economic and Land Use Baseline Study

Principle Investigator: Davidson, Gillian

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Number in Party: 4

License Number: 0400807N-M

Research Location: Kitikmeot

SUMMARY

The purpose is to collect socio-economic information on the current characteristics and profile of the communities that could be potentially affected by the proposed Hackett River mine development. The objective is to conduct a socio-economic baseline study to inform an Environmental Impact Statement for Rescan's client, Sabina Silver Corporation. This includes gathering data on the socio-economic, cultural, health, land use and political aspects of each community.

PROJECT TITLE: Perspective's from Nunavut School Administrators on Distributive Leadership in Nunavut Schools

Principle Investigator: Cooper, William

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Number in Party:

License Number: 0101207N-A

Research Location: South Baffin

SUMMARY

The increasing complexity of the principal's job makes effective distributive leadership essential to the organizational strategies of a school and ensures to some degree effective sustainable learning communities. By necessity, leadership in schools is increasingly being dispersed across multiple individuals in the form of distributive leadership. Through the process of interviews and analysis of perspectives of current administrators attempts to understand the nature of distributive leadership will be constructed. The descriptions and analysis provided by this study could be used to inform practice, especially those involved in the training and education of administrators within schools in Nunavut. This study has been given approval by the Behavioral Research Ethics Board (Beh-REB), University of Saskatchewan on February 27, 2007 and the Qikiqtaaluk School Operations.

PROJECT TITLE: Living with Change: Community Exposures and Adaptations in Kugluktuk, NU

Principle Investigator: Prno, Jason

Affiliation: Department of Geography
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Number in Party: 3

License Number: 0400907N-A

Research Location: Kitikmeot

SUMMARY

Canadian Arctic communities are faced with a number of risks and exposures most southern communities are not. Climate change, for one, is already having considerable impacts on the physical and social landscapes of the Arctic. Resource development (e.g. mining, oil and gas) adds further stress upon the environment, community institutions and infrastructure, and on individuals and their families. These changes have implications for ecosystems and for peoples' livelihoods and wellbeing; further, they will occur in the context of other ongoing social, cultural, economic, and political transformations in Arctic communities. The aim of this project is to work in collaboration with the community of Kugluktuk, Nunavut to characterize and understand the nature of their current vulnerabilities and ability to adapt to these multiple risks and exposures.

PROJECT TITLE: Dialogue with the Missionaries: Anglican Missions in Pangnirtung 1928 to 1952

Principle Investigator: Trott, Christopher

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Number in Party: 3

License Number:

Research Location: South Baffin

SUMMARY

This project is the first step in a much larger project that plans to return a large collection of missionary photographs and diaries in an accessible form to the people of Pangnirtung. I have applied for funding for the larger project, but the results of the competition will not be known until June 2007. The Rev. and Mrs. Arthur Turner were missionaries in Pangnirtung from 1928 to 1952 and during that time produced 680 photographs of Pangnirtung as well as extensive letters and diaries that can contribute to the social history of the community. Their daughter, Jean Turner, returned to Pangnirtung between 1963 and 1965 and produced a further 900 photographs as well as letters and diaries. These are presently held by the Turner family in Felixstowe, England. It is important that Inuit voices and understandings be included as part of the historical record. In this first stage, two elders from Pangnirtung, Eeve Anilniliak and Rosee Veevee have been invited to go to England in May 2007 to identify the people, places and events in the photographs, view the artifact and diary collection, and begin to provide their stories of the events in the photographs. These Elders have been asked to contribute to the project because of their extensive historical knowledge of the time and people, and because they were both personally involved with the entire Turner family while they lived in Pangnirtung. Identification of the photographs will provide the database to accompany digitizing the entire collection for return to Pangnirtung.

PROJECT TITLE: Mapping the Social Economy in Northern Canada - Nunavut Project

Principle Investigator: Southcott, Chris

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Number in Party: 5

License Number: 0500807N-M

Research Location: Nunavut Wide

SUMMARY

The Social Economy Research Network of Northern Canada is part of a national research suite with 6 regional networks and a coordinating Hub funded through the Social Sciences and Humanities Research Council of Canada. The Northern node is built around the three Northern Territorial Colleges and their respective research institutions and links researchers working in the North with Northern students, community organizations and educational institutions. The Node has proposed 4 research themes to be addressed. This project deals with Theme 1 to develop a profile of the social economy in Northern Canada. This will be achieved through establishing a categorization and inventory of the existing social economy organizations. The research is an important initial task of this group as it will assist the program with developing further research projects that address the needs and priorities of northern communities and organizations.

PROJECT TITLE: Socio-Economic Baseline Studies for High Lake

Principle Investigator: Klein, Heidi

Affiliation:

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Number in Party: 13

License Number: 0401007R-M

Research Location: Kitikmeot

SUMMARY

The purpose of this program is to collect socio-economic information in relation to the potential impacts of the proposed High Lake mine. The information will be used to aid in the environmental assessment of potential project impacts and of potential migration measures. Where applicable, the socio-economic information will be used to better understand how changes to the environment will affect residents of the Kitikmeot; as well as, how the project will change the lives of Kitikmeot residents directly e.g employment. The socio-economic program will begin by collecting and reviewing existing socio-economic information i.e., previous environmental assessment reports, Statistics Canada, community economic reports, etc. The seven Kitikmeot communities will be subject to this evaluation. Once the baseline data is collected, the researchers will meet with the community residents, leadership and Nunavut organizations to confirm and up-date findings and discuss potential impacts from the project. If required, there may be some one-on-one meetings. The researcher will have community meetings in order to collect information on potential socio-economic impacts. This information will ultimately be placed on the public registry for the environmental assessment completed by the Nunavut Impact Review Board. The data collected will be held in the offices of Gartner Lee. Environmental assessments are publicly open processes. It is not anticipated that there will be a need to maintain anonymity or confidentiality. The socio-economic information will be reported back to the communities through a series of workshops planned for October, January and March. It will also be reflected in the draft and final Environmental Impact Statement. The media for reporting will likely be written and video.

PROJECT TITLE: IQ for High Lake and Ulu

Principle Investigator: Klein, Heidi

Affiliation:

Gartner Lee Limited
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AB, Canada

Number in Party: 10

License Number: 0401107R-M

Research Location: Kitikmeot

SUMMARY

The purpose of this program is to collect Inuit Qaujimagatuqangit or Inuit traditional knowledge in the Kitikmeot regions, west of Bathurst Inlet, where the proposed High Lake and Ulu mines are located. The IQ will be used to aid the environmental assessment of potential project impacts and of potential mitigation measures. Where applicable. The IQ will help "flesh-out" the picture of the biophysical environment by providing long-term data to the 2-year scientific work being done. Wolfden is aware of the recently completed IQ undertaken in Kitikmeot and has been in discussions with the Kitikmeot Inuit Association. It is currently our understanding that access to that database was before the IQ information was available, hence the requirement for Wolfden to conduct a separate study. The IQ program will include the following 1) collection and review of IQ already in the public domain 2) A site visit to High Lake by Elders and Gartner Lee personnel in early August 2004 3) an IQ workshop in Kugluktuk in late August 2004 with selected elders from Kugluktuk, Bathurst Inlet, and Cambridge Bay which are the communities nearest to the mining project and 4) Integration of the results of this work with the biophysical and engineering programs providing baseline information for interpretation of results. Wolfden Resources Inc. and Gartner Lee Limited have prepared an IQ approach that addresses matters of data storage, use, ownership, access, intellectual property rights and participant consent. The IQ and the use of IQ will be reported back to the communities through a series of workshops planned for October, January, and March. It will also be reflected in the draft and final Environmental Impact Statement. The media for reporting will likely be written, mapping and video.

PROJECT TITLE: Back River Project

Principle Investigator: Klein, Heidi

Affiliation: Gartner Lee Limited
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Number in Party: 7

License Number: 0401807-Reg

Research Location: Kitikmeot

SUMMARY

Dundee Precious Metals Inc. is a mining company that is exploring the Goose Lake / George Lake properties. These properties are between Bathurst Inlet and Contwoyto Lake in the Kitikmeot Region. Dundee has been doing geology and diamond drilling work on these properties for 3 years and has found a large amount of gold. Dundee has a 50 -man tent-frame camp at Goose Lake and a smaller camp at George Lake. Dundee believes that there could be enough gold to start a mine and is having research studies completed to evaluate the possibilities. Dundee is currently studying the possibility that the mine could be an open pit mine with a life of over 10 years. One of the necessary studies before the mine can be built is scientific research of the environment (water, land, wildlife, fish, vegetation, health, social science and traditional knowledge). Gartner Lee limited is a consulting company, which has been hired by Dundee to carry out these studies in 2007. Overall, these studies will be carried out for several years.

PROJECT TITLE: Back River Project

Principle Investigator: Klein, Heidi

Affiliation: Gartner Lee Limited
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Number in Party: 3

License Number: 0401907-Reg

Research Location: Kitikmeot

SUMMARY

The purpose of this program is to collect Inuit Qaujimagatuqangit (IQ) or Inuit traditional knowledge in the Kitikmeot region, where the proposed Back River Project is located. The IQ will be used to inform the eventual environmental cumulative assessments of potential project impacts and of potential mitigation measures. Where applicable, the IQ will help 'flesh-out' the picture of the biophysical environment by providing long-term data to the 2 -year scientific work being done. Another purpose of the program is to assist in the process of preserving and sustaining traditional knowledge for Inuit elders in the potentially affected communities

PROJECT TITLE: Iglulik: One Inuit Community's Cultural Perservation History and Initiatives

Principle Investigator: Gunderson, Sonia

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Number in Party:

License Number: 0204607N-M

Research Location: North Baffin

SUMMARY

Despite the disruptive changes to Inuit culture brought about by modernization, the community of Iglulik has earned a reputation as the 'cultural hub' of Nunavut. This project will attempt to identify the environmental, historical, social and cultural factors that support this reputation.

PROJECT TITLE: Iglurjuaq: the big move

Principle Investigator: Tester, Frank

Affiliation:

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Number in Party: 4

License Number: 0204307N-A

Research Location: North Baffin

SUMMARY

The purpose is to document the experience of Inuit moving from the land and tents and igloos to wood frame houses in the community in the 1950s and 1960s. To create a historical record, on film, by documenting the experience of elders; to better understand Inuit concepts of home; to use this preliminary filmed discussion to apply for funding for a full length documentary on Inuit experience with housing.

PROJECT TITLE: Inuit Entrepreneurship

Principle Investigator: Meis Mason, Aldene

Affiliation: Faculty of Business Administration
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Number in Party: 0

License Number: 0301207N-A

Research Location: Kivalliq

SUMMARY

One of three Inuit specific in-depth cases about businesses from caribou to be part of a doctoral dissertation. Also, this case is part of "Mines, Pipelines and Caribou: Aboriginal Development in Northern Canada 'On Their Own Terms'" which explores the development context, objectives, activities and outcomes of three groups of Aboriginal communities. Communities have requested Northern specific research about traditional and emerging economy and also opportunity for their involvement and perspectives.

PROJECT TITLE: Community monitoring and traditional knowledge at Meadowbank gold project, Baker Lake

Principle Investigator: Grondin, Louise

Affiliation:

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Number in Party:

License Number: 0301507N-M

Research Location: Kivalliq

SUMMARY

Agnico-Eagle Mines Ltd. Has received a NIRB Project Certificate for its Meadowbank gold project, located 70km north of Baker Lake. Public meetings and community involvement exercises have been ongoing as part of the Meadowbank mine project since 1995, and will continue through mine constructions, operation and closure (an estimated 12 year horizon). The purpose of this research is to gather additional information required under the NIRB Project Certificate, and to continue to collect traditional knowledge that will help avoid or mitigate negative impacts from mine activities. The study area includes the local and regional lake and land systems around the mine site, the all-weather road to Baker Lake, and the shipping route through Chesterfield Inlet.

**PROJECT TITLE: Building an Intergenerational Educational Bridge:
Case Study of Elder Involvement in School Planning and Programming
within Arviat, Nunavut**

Principle Investigator: Willard, Heather

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Number in Party:

License Number: 0301607N-A

Research Location: Kivalliq

SUMMARY

The objective is to understand the opportunities and constraints of elder involvement in school planning and programming. This research focuses on identifying useful strategies for involving elders to benefit students' learning and strengthen Inuit Qaujimagatuqangit within schools. I will interview with Arviat residents, including teachers, elders, and parents who want to talk to me about elder involvement in school planning and programming. Then, to get feedback and to ensure contextual appropriateness I will share data and initial findings with a focus group of interested Arviat residents.

PROJECT TITLE: Assessing the role of IQ in Facilitating Communication and Enhancing Institutional Capacity for Learning and Adaptation: a Case Study of Narwhal Co-Management in Baffin Island, Nunavut

Principle Investigator: Dale, Aaron

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Number in Party: 0

License Number: 0204407N-A

Research Location: High Arctic

SUMMARY

To explore the flow of knowledge within Nunavut's narwhal co-management system as a means of assessing collaboration and the capacity of different actors to learn and to adapt in light of complexity, uncertainty, and change.

Objectives:

In the context of narwhal co-management, how is knowledge used/valued, how is it communicated, and how does it relate to learning and adaptation. Four strategic objectives are intended to illuminate these issues:

1. assessing the role of IQ in narwhal co-management: its role as perceived by actors at different levels, as prescribed by the NFA and related documents, and in practice;
2. Assessing the mechanisms and processes by which knowledge (IQ and WSK) is transferred across vertical and horizontal linkages, thereby assessing communication within the broader management system;
3. examining the role of IQ in encouraging the capacity to learn and to adapt in light of complexity, uncertainty, and change and;
4. examining the role of IQ in creating more collaborative, participatory management processes

PROJECT TITLE: Greenland Shark, marine ecosystems and Inuit Knowledge in Pangnirtung

Principle Investigator: Idrobo, Carlos Julian

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Number in Party: 3

License Number:

Research Location: South Baffin

SUMMARY

This project is the traditional knowledge component of the IPY project "Feeding ecology of the Greenland shark under different ice conditions" The objectives of the main project are to determine the feeding ecology of the Greenland shark (*Somniosus microcephalus*), to assess and describe the changes in the role of this shark in arctic ecosystems, and to propose this species as a sentinel ecosystems change. This traditional knowledge component of the project aims to incorporate the experiences of elders and fishers/hunters related to the local ecosystem, to represent Inuit understandings of the relationships among Greenland sharks, marine mammals (in particular, ringed seals), and sea ice.

PROJECT TITLE: Environmental Assessment Scoping for Shipping in the North: Case Study of Sirmilik National Park of Canada

Principle Investigator: Lane, David

Affiliation:

University of Manitoba
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Number in Party: 0

License Number: 0204507N-A

Research Location: North Baffin

SUMMARY

The primary aim of the project is to identify environmental areas in Sirmilik National Park of Canada that are sensitive to change and thereby vulnerable to increasing ship traffic. The goal is to identify essential questions related to scope of project and scope of assessment, for shipping and related activities that might impact Sirmilik National Park.

PROJECT TITLE: Polar Perspectives

Principle Investigator: Kunzig, Dorothea

Affiliation:
 , Germany

Number in Party: 3

License Number: 0101807-Reg

Research Location: South Baffin

SUMMARY

For this project we are interested in young Inuit, who are combining western culture with traditional aspects in self-performed music and art. We would like to see how they are looking for their own directions, their own ways to differentiate themselves and to explore their surroundings. Knowing urban southern Canada from TV, having similar dreams of life -just like almost any teenager in the world -living in a remote place like Nunavut is a special challenge. Through the influences from the outside, new lifestyles seem en vogue while traditional ways are still around. For some people, especially for the young generation this conflict between a traditional way of life and new influences also bears the possibility to create new lifestyles. After regained rights and self-government in Nunavut we would like to find out how much the young generation still looks out for the same objectives as their parents and grand-parents who build up the new territory and where the ideas of the young generation are leading to.

PROJECT TITLE: Resident's Tourism Training Desires: Pangnirtung, Nunavut

Principle Investigator: Agnew, Kelsey

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Number in Party:

License Number: 0102107N-A

Research Location: South Baffin

SUMMARY

The purpose of this study is to gain a better understanding about what type of tourism training is desired by community members who are involved with tourism and tourism development. I will be focusing specifically on the residents' perspectives in regards to this topic. Though tourism has been occurring in Pangnirtung for some time, it is important to ensure that the tourism industry is meeting the needs of the residents today. One aspect of meeting these needs involves providing training that will allow interested residents to become more involved. By gathering information on the desired tourism training, Nunavut Tourism will be able to work towards implementing suitable and appropriate training for locals.

PROJECT TITLE: Impacts of a Changing Arctic Tree Line: Photos and Plants Through Time

Principle Investigator: Doubleday, Nancy

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Number in Party: 8

License Number: 0501007N-M

Research Location: South Baffin, Kivalliq

SUMMARY

To develop deeper knowledge of the impacts of a changing arctic treeline on the health and well-being of northerners by using qualitative methods to document changing landscape and land use using photographs and plant materials.

PROJECT TITLE: Polar bears for sport: A critical analysis of the social and economic benefits and cost of conservation (trophy) hunting in the Canadian Arctic.

Principle Investigator: Tyrrell, Martina

Affiliation: Scott Polar Research Institute
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Number in Party: 0

License Number: 0302007N-A

Research Location: Kivalliq

SUMMARY

The project will determine the economic and social benefits and costs of polar bear trophy hunting to the people of Arviat. The phrase "conservation hunting" has been coined to describe a type of hunt that has significant conservation and social benefits. In 2005, a group of social scientists, ecologists, Nunavut Department of Environment and NTI representatives came together to form a loose affiliation of individuals with an interest in polar bear conservation hunting. Our interest in the polar bear hunt is timely, due to growing concern regarding the impact of climate change on polar bear habitat, global attitudes towards hunting as a "sport", and the debates emerging amongst Inuit themselves regarding the morality of the sport hunt.

PROJECT TITLE: Exploring Why Students Stay in High School: Inuit Students' Perceptions of Nutaaq Inuksuit (Guide Posts)

Principle Investigator: Tyler, Karen

Affiliation:

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Number in Party: 0

License Number: 0102207N-M

Research Location: South Baffin

SUMMARY

Inuit high school graduates obtain academic and cultural skills that enable them to further their education, be employed in leadership roles, and become contributing members of Nunavut's developing future. From 1999 to 2006, only 25% of the Inuit high schools graduated (Nunavut Department of Education, 2007). Inuit youths who do not remain in school have minimal levels of English literacy (Nunavut Tunngavik, 2006) which makes it difficult for them to obtain leadership positions (Berger, 2006) or pursue professional careers. The purpose of this research is to provide critically needed information on what Inuit students perceive helps them remain in school. This Nutaaq (New) knowledge can then be used to guide other Inuit students in the school environment; much as Inuksuit (Guide Posts) have traditionally helped Inuit find their way on the land.

PROJECT TITLE: Inuit Sea Ice Use and Occupancy Use Project (ISIUOP)

Principle Investigator: Aporta, Claudio

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Number in Party: 6

License Number: 0102607N-M

Research Location: South Baffin

SUMMARY

This project builds on research that has been undertaken with several Baffin Island communities over the past 4 - 6 years. We are now continuing this work as part of the International Polar Year (IPY) 2007-2008. This project consists of two sub-projects, Mapping Inuit Sea Ice Knowledge and Use (SIKU) in Cape Dorset, Igloolik, and Pangnirtung, and Igliniit in Clyde River.

SIKU will focus on innovative ways of representing Inuit knowledge to develop educational materials that can be used by a variety of audiences, and on evaluating the utility of the Floe Edge Service (satellite imagery of sea ice conditions) in each community. Igliniit is a pilot project to test new Global Positioning System (GPS) technology that can be mounted on a snowmobile and used to track sea ice travel routes, features, changes, wildlife, harvesting areas, etc. The Canadian IPY program is funding this project for next 5 years (until March, 2011). Normal maps show a lot of detail about the land, but ocean and water areas are often left blank. We wish to keep working closely with community members and local organizations to develop a new type of map that shows the dynamic nature and uses of sea ice according to the local experts on sea ice, to help others learn about the detailed Inuit understanding of this environment. A combination of maps, oral descriptions, pictures, and video, will be used to achieve project objectives.

These objectives are to:

- Document and map sea ice conditions, uses, and hazards
- Evaluate sea ice changes (and local impacts of change) over time
- Develop educational materials for Inuit youth, researchers, and governments

Information will be gathered through sea ice trips, focus groups, and interviews. This will allow for discussion and experience based research whereby community collaboration and input is essential to the success of the project. Sea ice trips, focus groups, and

interviews will be recorded with audio, video, photographs, maps, and GPS (where consent has been provided). Information that is collected as part of the project, as well as interim and final results, will be stored at the Geomatics and Cartographic Research Centre (GCRC) at Carleton University (with Aporta and Laidler) as well as in each community at a locally agreed-upon location. Information will be kept after it is complete, and will only be used afterwards according to consent specified by the community members involved.

PROJECT TITLE: Disaster Management and Climate Change Adaptation in the Canadian North

Principle Investigator: Morgan, Christine

Affiliation:

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Number in Party: 7

License Number: Registry 0401707

Research Location: Gjoa Haven, Kitikmeot

SUMMARY

The research / consultation project has three sections:

- 1) Disaster Management Policy and Climate Change Adaptation in the Canadian North;
- The research will investigate options for creating better-adapted and more resilient human communities and sectors through improvements in our disaster prevention, preparedness, response and recovery capacities.
- 2) Codes and Standards and Climate Change Adaptation in the Canadian North;
- The Project will address how the timely and rigorous development, renewal, application and enforcement of relevant codes and standards might be facilitated.
- 3) Understanding the significance of insurance, alternative risk spreading mechanisms, and related public policy for the risk management of physical infrastructure in the face of climate change (Canada wide);
- The goal of the recommended policy options will be to improve the risk management of Canada's physical infrastructure in respect of climate change

A case-study-based approach will be central to these projects but a literature review, nine or ten workshops along with community participation will also be an integral part of these projects.

On the basis of these Projects the NRTEE should be in a position to advise governments and other stakeholders on a suite of options for the advancement of policy and measures in order to better safeguard and protect human populations, economic interests and the environment in the Canadian North, and to ensure that infrastructure is and remains safe, reliable, effective and efficient in the face of the changing climate.

PROJECT TITLE: Natural Hazards in Iqaluit

Principle Investigator: Ford, James

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Number in Party: 0

License Number: 0102807 N-M

Research Location: South Baffin

SUMMARY

Inuit and non-Inuit in Iqaluit spend significant time traveling and hunting on the land. Natural hazards including thin ice, strong winds, storms, rough seas, and deep snow occasionally claim lives and extract significant financial cost due to lost and damaged equipment. For example, between January 2000 and October 2006, according to the Office of the Chief Coroner in Nunavut, in Iqaluit there have been 7 deaths associated with land based activities and numerous accidents. Tragedies of this nature are increasingly common, with the young particularly at high risk. Many Inuit and scientists believe the dangers are increasing with climate change and will continue to do so.

The work plan being proposed will bring together scientists, Inuit, and non Inuit in the Iqaluit to: i). identify and characterize natural hazards affecting local people, ii). document if and how these hazards are changing, iii). assess how people are affected by hazards and how they manage them, and iv). find out who is at greatest risk. The ultimate aim of the research is to identify ways to reduce vulnerability to natural hazards, especially hazards that might worsen with climate change. To this end the project will document the recommendations of local people and those responsible for hazard

management, and will identify practical ways in which the community can reduce the danger.

The research will be conducted by a research team composing locally employed Iqaluit residents and university researchers. The local research team will be involved at all stages of the research process from project design to designing a dissemination package for the community. Specific methods to be used include: interviews and focus groups with Iqaluit residents, surveys, hazard monitoring throughout the year, and collection of satellite and meteorological station data on climatic and sea ice conditions. The collection of knowledge from Iqaluit residents will follow standard procedure for working in Nunavut. All participants will be required to sign a bilingual consent form, they will have the option of remaining anonymous, the interviews will be taped and deposited in the community for safe keeping if the permission is granted, and participants will be paid according to local guidelines.

The community will be involved in the research in 4 main stages: during preliminary visits, the main research visit, analysis of information collected, and dissemination of findings to the community. The last stage is especially important, and the research team will endeavour to visit all those people who were involved in the project to discuss the findings. There will also be opportunities for local team members to attend meetings down south, to be fully funded by the project. Reports will be produced for Nunavut institutions and others with an interest in seeing the project findings and recommendations. And as with previous research conducted by Dr Ford (<http://www.arctic-north.com/JamesPersonalWebsite/>), newspaper and popular magazine articles will be produced, along with academic articles jointly authored with the local team.

PROJECT TITLE: The History of Environmental Education in Nunavut

Principle Investigator: McGregor, Heather

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Number in Party: 2

License Number: Registry 0302107 N-A

Research Location: Kivalliq

SUMMARY

Purpose: I would like to investigate the history of environmental education in Nunavut. This involves researching the traditional means of environmental education amongst Inuit, and determining to what extent those means have been replicated in the formal education system at various times.

Goals & Objectives: Through investigation of meeting transcripts, policy and curriculum documents I expect to find evidence that environmental education has increasingly been integrated into the curriculum for K-12 education in Nunavut. I also expect to find that Elders advocate for environmental education with a stronger focus on both traditional knowledge and experiential learning.

Methodology

Collection Protocol: My research will involve analysis of any writing by Inuit in English about education and/or traditional knowledge. These sources may include auto-biographies, news-paper articles, speeches, government or non-governmental organizations' documents, published oral histories etc. Curriculum materials, policy documents and Department of Education publications will also be consulted. I have received permission from the Assistant Deputy Minister of the Department of Education to access to those documents. The data will be analyzed in a qualitative way.

Secondly, the Assistant Deputy Minister of the Department of Education requires that any government meeting transcripts that include testimony by Elders, whether or not they belong to the public domain, cannot be used without consultation with those individuals.

Collection Mechanisms: To make use of Elders' testimony from government meeting transcripts: I expect that there will be five or six individuals whom I will contact for this purpose. I will provide them with an outline of my thesis topic, as well as a permission/consent letter, and a copy of the relevant testimony which I will use in my thesis, (all in English and Inuktitut). I will offer the participant the option of giving me permission to use their testimony exactly as it appears in the transcript, or under another name to protect their identity, or lastly the option to decline that I use their testimony

entirely. I will request that they respond by returning their permission letter to me within 14 working days by fax or by mail. Results of this process will be copied to the Department of Education for their records.

Indicate why specific communities or individuals were selected for your research: Only those Elders who participated in past government meetings and provided testimony which I feel is useful to my thesis will be contacted.

PROJECT TITLE: Tourism in Nunavut

Principle Investigator: Schilling, Hannah

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Number in Party: 2

License Number: 0102707 N-A

Research Location: Iqaluit, Nunavut

SUMMARY

First of all, I will try to get on as many touristic trips as possible. I want to experience the life in Iqaluit myself and I hope to see many interesting sights, nature, people and culture on the touristic trips. The second aspect of my stay will be to look through magazines and newspaper articles in local libraries to get useful, already published information that I can use for my bibliography. Besides these two aspects I would also like to interview other tourists as well as outfitters and operators. For this purpose I have prepared some questions, printed them out and would give them to willing people to fill them out.

Based on my personal experience and literature about Nunavut I want to add the interviews with tourists and operators to give my thesis an up-to-date touch. After my return home I will evaluate the interviews and can hopefully add some personal statements to my thesis. I have to pass in the thesis on April 1st 2008. It will then be published for the university: My Professor and a colleague will read and evaluate my thesis. Afterwards one copy will be stored at the library of my university.

My last test for the master's degree will be in the beginning of July. After that I will send a copy of the thesis to the Nunavut Research Institute und all the participating outfitters, operators and tourists.

PROJECT TITLE: Aboriginal Ecotourism: Potentials for Partnership in Sustaining Livelihoods, Well-Being and Biodiversity

Principle Investigator: Blangy, Sylvie

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Number in Party:

License Number: Not renewing

Research Location: South Baffin

SUMMARY

The purpose of this collaborative research project is to examine the interactions between biodiversity, community well being; culture and ecotourism, in partnership with the community members of Cape Dorset, Nunavut. The project will take place in Cape Dorset, Nunavut in several phases from Feb 2007 to July 2008: 1) First phase from Feb 27, 2007 to March 8, 2007; 2) Second phase in the autumn of 2007; 3) Third phase in the spring of 2008.

PROJECT TITLE: Should Newborn Screening Be Initiated in Nunavut for Mild CPT1 (Carnitine Palmitoyl Transferase -1) Deficiency?

Principle Investigator: Arbour, Laura

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Number in Party: 4

License Number: 0500507N-M

Research Location: Nunavut Wide

SUMMARY

CPT1 deficiency is caused by a genetic change (mutation) in the Carnitine Palmitoyl Transferase-1 gene. This gene normally produces a protein that is involved in producing energy from the fats we eat. We all have two copies of this gene (all of our genes come in pairs) as we inherited one copy from our mother and one copy from our father. People who have a mutation in both copies of their CPT1 gene produce a protein that does not work properly. These individuals have trouble producing energy from fats. The mutations do not usually affect people in day to day life, because we get most of the energy we need by breaking down sugars from our food rather than fats. However, when we get sick or are not eating enough food for other reasons our bodies start to break down our fat stores for energy. Thus, individuals (particularly infants) who have CPT1 mutations in both copies of the gene can run into health problems during periods of illness or fasting because they cannot produce enough energy from fats. The result may be low blood sugar (hypoglycemia) and seizures or, in the worst-case scenario, unexpected sudden infant death.

PROJECT TITLE: The study of Congenital Heart Defects in a Northern Population

Principle Investigator: Arbour, Laura

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Number in Party: 2

License Number: 0500207R-M

Research Location: Nunavut Wide

SUMMARY

Congenital heart malformations are a common congenital malformation, diagnosed around the world in about 1% of live births. This is also true in the Canadian Arctic, where in Nunavik, the rate of infant mortality is 5 times that of non-aboriginal Quebec and 2/3 of the neonatal deaths are due to birth defects. In Nunavut and Nunavik, a 5 year cohort of more than 2,500 Inuit births occurring between 1989-1994 evaluating the rates of birth defects, confirms that congenital heart defects, specifically septal defects (VSD's) and atrial septal defects (ASD's) were nearly 5 times more frequent than in other Canadian populations. Children and their mothers will be invited to participate in the study which will compare vitamin levels of the mothers, genetic factors of mothers and children with controls (the mothers's sisters). As well, dietary histories of the cases, controls and other women of childbearing years will be assessed for intake of nutrients important in fetal development. Histories of pregnancy exposures will be compared between cases and controls.

PROJECT TITLE: Qanuipitali? What about us, how are we? Nunavut Inuit Health Survey.

Principle Investigator: Egeland, Grace

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Number in Party: 60

License Number: 0500607N-M

Research Location: Nunavut Wide

SUMMARY

The Inuit Health Survey was developed to better understand the factors contributing to Inuit health and the Inuit spirit of thriving in the face of changes. Inuit want health information and health research that is Inuit specific and of practical relevance so that informed decisions can help minimize the negative consequences of the rapid transitions that continue to occur in Arctic communities. Nunavutmiut have expressed a need for "Timikut Qaujsaqsiatauniq" that is to have their health looked after and cared for. Also, upon learning of the Nunavik Health Survey named "Qanuippitaa" (how are we), Nunavutmiut partners responded, "Qanuipitali" (what about us, how are we?). The Inuit health survey involves: an adult health survey, child health survey and household survey.

PROJECT TITLE: Childbirth in the Canadian Arctic: The evolution of traditional Inuit midwifery

Principle Investigator: Douglas, Vasiliki

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Number in Party: 0

License Number: 0300607R-M

Research Location: Kivalliq

SUMMARY

This research project will study the history of Inuit childbirth in the Canadian Arctic, focusing on the founding and development of Inuit birthing centres in Nunavut and in Nunavik. These centres reflect how increasing autonomy is leading to changes in the administration and to the guiding paradigm of birthing in the Canadian Arctic. Traditional Inuit conceptions of health and healing are increasingly challenging the authority of western medicine with a communal approach to childbirth, symbolised by the establishment of the regional birthing centres in Puvurnituq, Inukjuak and Salluit in Nunavik and Rankin Inlet in Nunavut.

PROJECT TITLE: Health Research: Accessible, Applicable and Useable for Rural Communities & Practitioners

Principle Investigator: Edge, Dana

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Number in Party: 1

License Number: 0100607N-A

Research Location: South Baffin, North Baffin, Kivalliq

SUMMARY

Although there have been studies addressing the use of research among various practitioners, little is known about how health practitioners and community members in rural and remote Canada access research findings, nor how such findings are used in daily practice. The aim of this three-year study is to begin to understand how professionals and community members in rural and remote settings access and use health research in Canada. The specific research questions are: What resources do rural and remote health care practitioners use to obtain research findings? How do rural and remote community members access health information? How are health research findings currently being used in rural and remote communities? What strategies would improve accessibility of research / information to health care professionals and community members?

PROJECT TITLE: Nunavut Child Welfare Policy: Exploring Social Workers' Experiences

Principle Investigator: Johnston, Patricia

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Number in Party:

License Number: 0500307-Reg

Research Location: Nunavut Wide

SUMMARY

This research aims to explore social workers' experiences working with Nunavut's child welfare policies. The research questions will be tailored to ensure the research participants provide a general description of what types of situations they have experienced that fall beyond the typical application of child welfare policy, but this does not require community-specific details. There will be a thorough editing out of information that describes unique events or incidents, particular references to locations or location-specific aspects of the participant's work and experiences. This thorough editing will not compromise the quality of the data as the goal of the research is to gain a general understanding of social worker's experiences of how the participants work and practice in Nunavut, and not necessarily what specifically they have done, with whom, or in which community. Interviews will be held via telephone in English. Provisions will not be made for social workers to participate in languages other than English; however the consent form can be provided in Inuktitut.

PROJECT TITLE: How Inuit and Greenlandic nurses and nursing students experience and negotiate their roles in Western education and healthcare settings.

Principle Investigator: Moeller, Helle

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Number in Party:

License Number: 0101707N-A

Research Location: South Baffin

SUMMARY

The purpose of this anthropological research project is to examine how Canadian and Greenlandic Inuit nursing students and practicing nurses experience and describe the pedagogy, ways of knowing and world views that exists within their places of education and practice, and, how they negotiate their roles in educational and health systems developed and governed by Danes or Euro-Canadian, according to Danish and Euro-Canadian doctrine and culture, where the teaching language is Danish / English.

PROJECT TITLE: Stable isotopes in human hair: Detecting changes in diet due to globalization

Principle Investigator: Cerling, Thure

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Number in Party: 3

License Number: Cancelled

Research Location: South Baffin and North Baffin

SUMMARY

The goal of the proposed sampling is to investigate how diet has changed in a remote, isolated North American community with the impact of modern access to a globalized food market. Data from modern samples will be compared to samples collected from the same region in the 1930s, which have already been analyzed at the University of Utah. Isotopic data already measured from these anthropological samples suggested heavy reliance on marine resources, in agreement with known indigenous dietary habits in the region. We expect to see a shift in the modern samples that we would attribute to cultural shifts that have manifested in diet since the region was connected to the global food market.

PROJECT TITLE: Access to Healthy Foods in Nunavut: Understanding gendered dynamics among Culture, Economic and Environmental factors

Principle Investigator: Donaldson, Shawn

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Number in Party: 7

License Number: 0102007N-M

Research Location: South Baffin

SUMMARY

In Nunavut, many Inuit lacked food once or twice per month during the previous twelve months (Statistics Canada, 1993). Lawn (1995) found that eighty percent of Inuit women reported running out of money to purchase food between two to four times per month. The objective of this research project is to improve the present understanding of the gender specific way that economic, environment and cultural factors influence access to the food that people wish to eat in Nunavut. This understanding will be achieved through a comparative analysis of four communities. The results of this research will support health promotion strategies aimed at increasing food that is culturally acceptable. Northern health professionals must have access to the best available data, presented in an understandable and accessible manner, in order to make informed decisions and provide the best public health advice.

PROJECT TITLE: Pain and Palliative Care with Seniors in Northern Canada

Principle Investigator: MacLean, Michael

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Number in Party: 2

License Number: 0102407N-A

Research Location: South Baffin

SUMMARY

The main focus of this study is to gather information about the realities and issues surrounding pain and palliative care with seniors in Northern Canada. This information will then be analyzed in order to determine whether the guidelines developed by the Pain & Aging NET are applicable within a Northern and remote context. These guidelines focus primarily upon pain assessment, pain treatment, effects of pain, and concerns specific to seniors with dementia at the end of life. Targeted participants will be health and social work practitioners, volunteers, and family members of previous palliative care patients from the Yukon, the Northwest Territories, and Nunavut. The intent of this research is to have these individuals describe their experiences in providing care to seniors who are palliative patients, or family members who were palliative.

PROJECT TITLE: Building Community and Public Health Capacity

Principle Investigator: Underwood, Jane

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Number in Party: 3

License Number: 0102507N-M

Research Location: South Baffin

SUMMARY

The Project currently being implemented is Project #3 of a three phase project. Project 1 explored the demographic characteristics of community health nurses in Canada. Project 2 involved a survey of CHNs across Canada (except Ontario) and examined enablers, barriers and strategies for CHNs to practice the competencies associated with their specialty. Project 3 explores what organizational design characteristics best support Public Health Nurses (PHNs) to practice their skills and knowledge.

PROJECT TITLE: Job Satisfaction of Primary Health Care Nurse Practitioners

Principle Investigator: Lamarche, Kimberley

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Number in Party: 2

License Number: Registry 0501107

Research Location: Nunavut Wide

SUMMARY

This study will be a cross sectional non-experimental descriptive correlational design. Correlational design will be used for this study to answer the research questions in terms of describing relationships as there is literature to support the relationship between the variables studied in other populations. There will be no manipulation of the variables involved. In this aspect of the study, protection against bias will be planned for by selecting an appropriate sample size and by using an established instrument. In addition to 21 socio-demographic questions, there will be two established job satisfaction measurement tools used. The Misener Nurse Practitioner Job Satisfaction Scale (MNPJSS) and the Minnesota Satisfaction Questionnaire (short form) (MSQ-SF), both available in Appendix E, will be used for this study. The MSQ-SF is a 20 item scale derived from the long-form MSQ. Factor analysis of the 20 items has resulted in two factors to be examined --Intrinsic and Extrinsic Satisfaction. Scores on these two factors plus a General Satisfaction score will be obtained from this measure. The MSQ-SF measures the intrinsic and extrinsic components of job satisfaction and enables the researcher to determine individual differences between subjects even if they exhibit the same general satisfaction score. It will take approximately 15 minutes to complete all 3 of the questionnaires. The overall purpose of this study is to examine the current level of job satisfaction, and to discuss the extrinsic and intrinsic job satisfaction characteristics of licensed Canadian primary health care nurse practitioners (PHCNPs). The study will identify specific factors that contribute to the blend of personal and professional factors that affect job satisfaction.