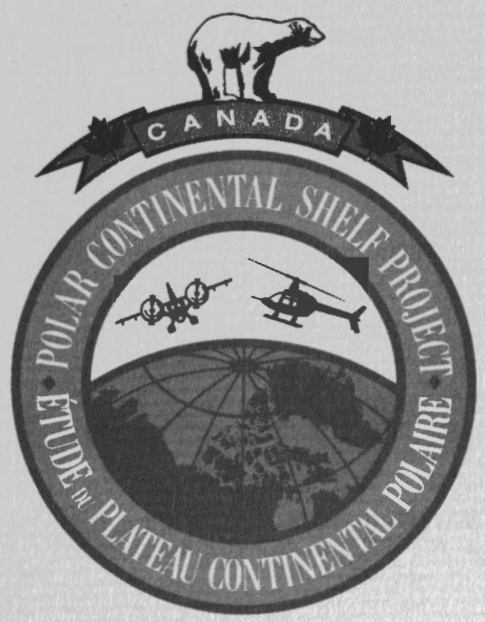
POLAR CONTINENTAL SHELF PROJECT



NEWSLETTER 1993

Energy, Mines and Resources Canada
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Canada

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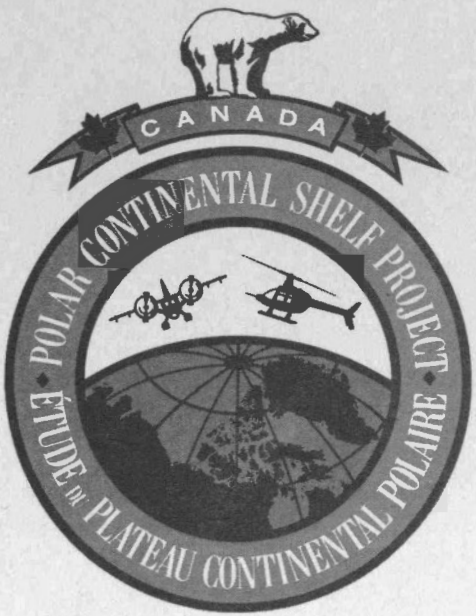
POLAR CONTINENTAL SHELF PROJECT



NEWSLETTER
1993

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ANTHROPOLOGY

Amadjuak Lake Project **Project:** 244-91

Period: 1 - 31 July

Area: Amadjuak Bay and Tasikutaak Lake

Name: Stenton, Douglas R.

Canadian Circumpolar Institute
Arctic College
Box 600
Iqaluit, Northwest Territories
X0A 0H0

Tel: (819) 979-4051
Fax: (819) 979-4579

This project combines archaeological, oral historical, biological and environmental data. It examines the organization responses to recurring episodes of scarcity of key terrestrial resources (caribou). The aims of the project are to improve our understanding of the functions of site types in Thule settlement systems, and thereby reconstruct more accurate models of prehistoric Arctic hunting systems.

King William Island Archaeological Investigations **Project:** 33-93

Period: 15 - 29 July

Area: Cape Felix and Terror Bay

Name: Arnold, Charles

Prince of Wales Northern
Heritage Centre
Government of the NWT
Box 1320
Yellowknife, Northwest Territories
X1A 2L9

Tel: (403) 873-7551
Fax: (403) 873-0205

Archaeological investigations will be carried out at two locations on King William Island where recent finds of evidence of the Franklin Expedition of 1845 have been reported. The sites will be thoroughly documented and further reconnaissance will be carried out.

Archaeological Investigations in the Pond Inlet Region

Project: 133-78

Period: 15 - 30 July

Area: Pond Inlet

Name: Mary-Rousselière, Father G.

Catholic Mission
Pond Inlet, Northwest Territories
X0A 0S0

Tel: (819) 899-8833

To continue archaeological investigations in Navy Board Inlet and Eclipse Sound.

ARCHAEOLOGY

Richards Island Archaeological Survey **Project:** 221-93

Period: 13 - 22 June

Area: Richards Island

Name: Sutherland, Patricia D.

Archaeological Survey of Canada
Canadian Museum of Civilization
P. O. Box 3100, Station B
100 Laurier Street
Hull, Quebec
J8X 4H2

Tel: (819) 776-8188
Fax: (819) 776-8300 or
(613) 832-2244

The landscape of the interior of Richards Island is quite ancient and as such might provide evidence for a lengthy human use of the region. As part of the NOGAP Archaeology Project's goal of providing land managers with a means of assessing the archaeological potential of different regions, the Richards Island Archaeological Survey will endeavour to ground-truth a geomorphic terrain model of the southern sector of Richards Island.

The Bluefish Caves: Investigations into the Recent Pleistocene of Eastern Beringia **Project:** 103-93

Period: 15 june - 1 july

Region: Village of Old Crow and Bluefish

Name: Cinq-Mars, Jacques

Canadian Museum of Civilization
P. O. Box 3100, Station B
100 Laurier Street
Hull, Quebec
J8X 4H2

Tel: (819) 776-8193
Fax: (819) 776-8300

The primary objective of the project is to complete the collection of data required to write an analytical monograph on the archaeological and paleoecological significance of the Bluefish caves in the Beringian environment.

Igloolik Archaeology Project **Project:** 184-92

Period: 15 June - 30 August

Area: Foxe Basin

Name: Rowley, Susan

6660 Forest Glen Road
Pittsburgh, Pennsylvania
15217 USA

Tel: (412) 421-7183
Fax: (412) 268-8757/ c/o Hadi

The Igloolik Archaeology Project seeks to increase our understanding of the human history of northern Foxe Basin, NWT through archaeological research. This summer's work focuses on the excavation of a pre-Dorset summer camp, late Dorset house and Thule winter house as part of the Igloolik Archaeology Field School. In addition, a survey will be conducted for previously unrecorded sites and sources of raw materials in Fury and Hecla Straits.

Mount Oliver Thule Archaeology Project **Project:** 291-91

Period: 17 June - 11 August

Area: Mount Oliver, Hazard Inlet

Name: Whitridge, Peter James

Department of Anthropology
Arizona State University
Tempe, Arizona
85287-2402 USA

Tel: (602) 965-6213
Fax: (602) 965-2012

Archaeological research will continue at the large Thule winter settlement of PaJs-2, with the excavation of 3-4 semi-subterranean dwellings selected on the basis of detailed survey data collected during 1992. The overall goal of the multi-year project is to elucidate Thule social organization through an assessment of differential consumption of economic resources between households and gender cohorts.

McDougall Sound Archaeology Project **Project:** 223-89

Period: 23 June - 14 August

Area: Little Cornwallis Island

Name: Helmer, James W.

Department of Archaeology
University of Calgary
2500 University Drive N.W.
Calgary, Alberta
T2N 1N4

Tel: (403) 220-7543
Fax: (403) 282-9567

The 1993 McDougall Sound Archaeology Project will focus on the excavation of selected features at the late Dorset Tasiarulik site (QjJx-10) on southeastern Little Cornwallis Island, NWT. This project will also involve the completion of the ground survey of the LCI coast and an aerial reconnaissance of selected locations along the coasts of Cornwallis, Baillie-Hamilton and Bathurst islands.

Tuktoyaktuk Peninsula Archaeological Survey **Project:** 91-93

Period: 24 - 30 June

Area: Tuktoyaktuk Area

Name: Swayze, Ken

Canadian Museum of Civilization
P. O. Box 3100, Station B,
100 Laurier Street
Hull, Quebec
J8X 4H2

Tel: (819) 776-8190
Fax: (819) 776-8300

The project consists of a helicopter survey of the headwater lakes of four stream systems on the Tuktoyaktuk Peninsula and Richards Island. The initial goal is to locate Inuvialuit sites, but the main objective is to search for Palaeoeskimo components in or near these sites. Walking surveys along parts of the drainage systems are also planned, as is a short, limited excavation.

Intrasite Patterning in Small Thule Culture Winter House Sites **Project:** 37-93

Period: 23 June - 1 August

Area: Grinnell Peninsula and Cape Sparbo, Devon Island

Name: Park, Robert

Department of Anthropology
and Sociology
University of British Columbia
Vancouver, British Columbia
V6T 1Z1

Tel: (604) 822-3579
Fax: (604) 822-6161

This research will involve investigating very small Thule culture winter house sites on Devon Island, NWT, in order to learn about the demographic and social nature of the groups that occupied them. The information from these excavations will be used to develop a predictive model concerning the patterning that can be expected between concurrently occupied houses, and that model will be used in the analysis of larger Thule sites.

NOGAP Archaeology Programme **Project:** 283-91

Period: 1 - 12 July

Area: Horton River

Name: Morrison, David

Canadian Museum of Civilisation
P. O. Box 3100, Station B,
100 Laurier Street
Hull, Quebec
J8X 4H2

Tel: (819) 776-8198
Fax: (819) 776-8300

Further archaeological excavation is planned for the Bison Skull site on the Old Horton River channel near Harrowby Bay. This late pre-contact Inuvialuit site seems to have functioned mainly as a late summer/fall caribou kill and camp site. It acquires a special significance from the discovery there of a bison skull, identified as wood bison and dated to about 420 B.P.

Amadjuak Lake Project **Project:** 244-91

Period: 1 - 31 July

Area: Amadjuak Bay and Tasikutaak Lake

Name: Stenton, Douglas R.

Canadian Circumpolar Institute
Arctic College
Box 600
Iqaluit, Northwest Territories
X0A 0H0

Tel: (819) 979-4051
Fax: (819) 979-4579

This project combines archaeological, oral historical, biological and environmental data. It examines the organization responses to recurring episodes of scarcity of key terrestrial resources (caribou). The aims of the project are to improve our understanding of the functions of site types in Thule settlement systems, and thereby reconstruct more accurate models of prehistoric Arctic Hunting Systems.

Late Prehistoric Interior Mackenzie Inuit Subsistence Strategies on the Tuktoyaktuk Peninsula **Project:** 56-93

Period: 1 July - 15 August

Area: Cape Haven, Kuyait, Sumner Island, Kamaiyuk

Name: Link, David

Department of Anthropology
University of Chicago
c/o 14745 51 Avenue
Edmonton, Alberta
T6H 5E6

Tel: (403) 434-2707

Archaeological site NkTm-3 on the Tuktoyaktuk Peninsula is a late prehistoric inland winter settlement where Inuvialuit appear to have fished in the adjacent river. Since most of our knowledge of prehistoric and early historic hunting and fishing strategies in the western Canadian Arctic has come from excavation of coastal sites, NkTm-3 provides a valuable opportunity to learn about the nature of subsistence and habitation away from salt water.

Hazard Inlet Thule Eskimo Whaling Project **Project:** 132-80

Period: 1 July - 21 August

Area: Hazard Inlet, Creswell Bay, Dundas Harbour Region

Name: Savelle, James M.

Department of Anthropology
McGill University
855 Sherbrooke Street West
Montreal, Quebec
H3A 2T7

Tel: (514) 398-4292
Fax: (514) 398-7476

The project focuses on the investigation of prehistoric Thule Eskimo (ca. A.D. 1000-1600) bowhead whale-based subsistence-settlement systems at Hazard Inlet, southeastern Somerset Island. The 1993 field research will include the excavation of a number of sites representing permanent winter occupations and "seasonal" summer and fall whaling camps, and of whale processing and caching sites. In addition, ancillary investigations, in conjunction with Dr. Tom Smith (Department of Fisheries and Oceans) will involve the examination of several Thule bowhead and beluga whaling sites on southeastern Devon Island, and the observation and recording of modern Inuit whaling practices at Creswell Bay, Somerset Island.

Prehistoric Adaptations to Changing Environments on Western Ellesmere and Axel Heiberg Islands **Project:** 256-91

Period: 8 July - 8 August

Area: Fosheim Peninsula Area

Name: Sutherland, Patricia D.

Canadian Museum of Civilization
P. O. Box 3100, Station B
100 Laurier Street
Hull, Quebec
J8X 4H2

Tel: (819) 776-8188
Fax: (819) 776-8300

This project is a continuation of research into the prehistory of the Eureka Upland. It is planned as the archaeological component of the GSC Global Change Programme on the Fosheim Peninsula. Its goal is to interpret the manner in which various prehistoric occupants of the area adapted to past changes in their local environments, and conversely to provide other disciplines involved in the Global Change Programme with archaeological information contributing to the study of past environments in the area.

King William Island Archaeological Investigations **Project:** 33-93

Period: 15 - 29 July

Area: Cape Felix and Terror Bay

Name: Arnold, Charles

Prince of Wales Northern
Heritage Centre
Government of the NWT
Box 1320
Yellowknife, Northwest Territories
X1A 2L9

Tel: (403) 873-7551
Fax: (403) 873-0205

Archaeological investigations will be carried out at two locations on King William Island where recent finds of evidence of the Franklin Expedition of 1845 have been reported. The sites will be thoroughly documented and further reconnaissance will be carried out.

Replacement of grave markers on Beechey Island **Project:** 183-92

Period: Early August

Area: Beechey Island

Name: Bertulli, Margaret

Prince of Wales Nothern
Heritage Centre
Government of the NWT
P.O. Box 1320
Yellowknife, Northwest Territories
X1A 2L9

Tel: (403) 873-7551
Fax: (403) 873-0205

The damaged replicas of two grave markers at the Franklin camp on Beechey Island were removed last summer by staff of the Canadian Conservation Institute. Replacements will be made over the winter of 1992-93 and installed on site in the summer of 1993. Beechey Island was declared a site of territorial historic significance under the Historical Resources Act in 1980.

BATHYMETRY

Hydrographic Survey **Project:** 51-73

Period: 27 February - 5 May

Area: Coppermine

Name: Koudys, Al

Science
Department of Fisheries and Oceans
P.O. Box 5050
867 Lakeshore Road
Burlington, Ontario
L7R 4A6

Tel: (416) 336-4833
Fax: (416) 336-8916

Collect water depth measurements through the ice using helicopters to find a safe shipping route for shipping through Coronation Gulf. The TIBS (Through Ice Bathymetry System) will also be used for the same purpose. A gravity project will also be combined with this survey. GPS will be used to position sounding depths. The end result will be accurate dependable navigation charts produced for this area.

Western Arctic Tidal Program 1993 **Project:** 28-82

Period: 19 July - 7 August

Area: Tuktoyaktuk and Cape Parry

Name: Sargent, E. D.

Canadian Hydrographic Service
Department of Fisheries and Oceans
Institute of Ocean Sciences
P.O. Box 6000
9860 West Saanich Road
Sidney, British Columbia
V8L 4B2

Tel: (604) 363-6343
Fax: (604) 363-6323

To maintain and service tide gauges at Tuktoyaktuk and Cape Parry for the ongoing monitoring of water levels in the Beaufort Sea area.

Western Arctic Hydrographic Surveys **Project:** 172-93

Period: 1 August - 10 September

Area: Lady Franklin Point

Name: Mortimer, A.

Canadian Hydrographic Service
Department of Fisheries and Oceans
P.O. Box 6000
9860 West Saanich Road
Sidney, British Columbia
V8L 4B2

Tel: (604) 363-6349
Fax: (604) 363-6323

In 1990, a hydrographic survey of Dolphin and Union Strait was done using lidar instruments from an aircraft. As this instrumentation is still under development, it is proposed to use C.S.S. John P. Tully to ground truth the hydrographic data, and to extend the survey in Coronation Gulf.

BIOLOGY

Environmental Physiology of Marine Invertebrates **Project:** 95-91

Period: 5 February - 21 July

Area: Resolute Bay

Name: Graham, Mark Stephen

Vancouver Public Aquarium
P.O. Box 3232, Stanley Park
Vancouver, British Columbia
V6B 3X8

Tel: (604) 631-2521
Fax: (604) 631-2529

Planktonic and benthic invertebrates from Lancaster Sound region will be used to evaluate the metabolic cost of living in Arctic conditions. Oxygen consumption will be used as a metabolic indicy. In addition, underwater surveys using scuba will be done on the south coast of Cornwallis Island.

Inter-Island Movements of Victoria Island Caribou **Project:** 137-93

Period: 15 - 31 April

Area: Victoria Island

Name: Gunn, Ann

Department of Renewable Resources
Government of the NWT
Box 21, Scotia Centre (5th Floor)
600, 5102 - 50 th Avenue
Yellowknife, Northwest Territories
X1A 3S8

Tel: (403) 920-6104
Fax: (403) 873-6230

The number of caribou wintering along the south coast of Victoria Island has increased since the 1970s. Observations by hunters and data from satellite-tracked caribou attest to a resumption of the inter-island movement of caribou to the mainland coast in November and a return to Victoria in April and May. Our need to understand the extent and reasons for those movements is to plan for the proposed port at Coppermine and the passage of ore-carriers along Dolphin-Union Strait and Coronation Gulf.

Sea Ice Bio-Optics, Ozone Depletion and Organohalide Fluxes

Project: 79-90

Period: 20 April - 28 August

Area: Resolute Passage

Name: Cota, Glenn F.

Department of Ecology
University of Tennessee
Knoxville, Tennessee
37996-1191 USA

Tel: (615) 974-3065
Fax: (615) 974-3067

Ice algal photosynthesis and absorption are to be measured spectrally. Incident, reflected and transmitted spectra with and without ice algae are to be collected. Ozone depletion and organohalide fluxes are to be monitored in the lower atmosphere.

Baffin Caribou Satellite Telemetry Project

Project: 166-87

Period: 1 - 10 May

Area: Pond Inlet

Name: Ferguson, Michael A. D.

Department of Renewable Resources
Government of the NWT
Pond Inlet, Northwest Territories
X0A 0S0

Tel: (819) 899-8876
Fax: (819) 899-8711

A seven-year satellite telemetry study of South Baffin Caribou to delineate population boundaries, and to identify significant seasonal habitats and migration routes.

Yukon North Slope Charr Summer Ecology Study **Project:** 68-89

Period: 1 May - 1 September

Area: Babbage River Area

Name: Reist, J.

Department of Fisheries and Oceans
501 University Crescent
Winnipeg, Manitoba
R3T 2N6

Tel: (204) 983-5287
Fax: (204) 984-2403

In the fall of 1992, fourteen adult charr in the Babbage River (Yukon north slope) were radio tagged with long duration (400 days) radio tags in order to determine the extent of inter-river movement of stocks and overwintering habitat utilization. Location of these radio-tagged fish is planned for the spring of 1993 as well as a partial monitoring of the out migration of the Babbage River stock. Collection of landlocked charr stocks for genetic and morphometric analysis from various lakes along the Yukon north slope is planned for the latter half of August.

Mechanisms Mediating Freezing Tolerance in Arctic Invertebrates **Project:** 174-85

Period: 1 - 30 June

Area: Alexandra Fiord

Name: Kukal, Olga

Department of Biology
University of Victoria
P.O. Box 1700
Victoria, British Columbia
V8W 2Y2

Tel: (604) 721-7102
Fax: (604) 721-7120

The main objective of this study is to improve our understanding of how organisms survive freezing. Using species of invertebrates that survive freezing near absolute zero, and sophisticated techniques, such as nuclear magnetic resonance and differential scanning calorimetry, we are in the process of constructing a model for the mechanisms underlying freezing survival. The results relate directly to biomedicine (cryopreservation of tissues) and agriculature (frost resistance in crops).

Arctic Insects, Seasonality and Global Change **Project:** 112-77

Period: 1 June - 15 August

Area: Alexandra Fiord and Tuktoyaktuk

Name: Ring, Richard A.

Department of Biology
University of Victoria
Victoria, British Columbia
V8W 2Y2

Tel: (604) 721-7102
Fax: (604) 721-7120

One principal objective is to characterize the insect fauna of several key sites representative of "low" and "high" Arctic ecosystems, using quantitative indices that may serve as reliable baselines and as indicators of future change. Characterization of these Arctic insect communities will include their range limits, composition indices, marker species, interspecific ratios, and phenological and physiological indicators of change. An important aspect of seasonality in Arctic insects is their ability to survive the long, harsh winters of the Canadian north. Studies on insect cold hardiness will be extended to new species, such as the red turnip beetle (*Entomoscelis americana*) and the western white (*Pieris occidentalis*), but will also pursue known anomalous species such as Arctic aphids and Arctic ladybugs.

Assessment/Monitoring of Eclipse Sound/ Navy Board Inlet Narwhal **Project:** 49-86

Period: 1 June - 31 August

Area: Pond Inlet, Eclipse Sound, Navy Board Inlet, Lancaster Sound

Name: Day, Chris

Department of Fisheries and Oceans
Freshwater Institute
501 University Crescent
Winnipeg, Manitoba
R3T 2N6

Tel: (204) 983-5158
Fax: (204) 984-2402

Narwhal using the Lancaster Sound area are harvested by Inuit subsistence hunters from northern Baffin Island. In order to properly manage the narwhal stock for longterm sustainable yield, information must be obtained on the harvest to determine population parameters and migration/distribution patterns. In 1993, hunt effort and event data will be collected from the Pond Inlet Narwhal Hunt, as well biological information (morphological measurements and tissue samples) of the harvested segment of the population.

Mackenzie Delta Shorebirds: distribution and potential effects of climate changes

Project: 50-91

Period: 10 June - 20 July

Area: Outer Mackenzie Delta, Fish Island

Name: Gratto-Trevor, Cheri L.

Canadian Wildlife Service
Environment Canada
Prairie and Northern Wildlife
Research Center
115 Perimeter Road
Saskatoon, Saskatchewan
S7N 0X4

Tel: (306) 975-6128
Fax: (306) 975-4089

The objectives of this project are: 1) to determine whether Landsat imagery can be used to identify important breeding and staging areas for shorebirds; and 2) to examine the potential effects of climate change on breeding shorebirds in the outer Mackenzie Delta. Identification of critical shorebird habitat will enable us to mitigate any detrimental effects of future oil and gas development on shorebird populations.

Population Ecology of White-Fronted Geese and other Waterfowl in the Western Arctic

Project: 104-82

Period: 10 June - 7 August

Area: Tuktoyaktuk, Anderson River, Sik Sik Lake

Name: Hines, James E.

Canadian Wildlife Service
Environment Canada
P.O. Box 637
Yellowknife, Northwest Territories
X1A 2N5

Tel: (403) 920-8533
Fax: (403) 873-8185

Basic information on population size, distribution, abundance, mortality, and productivity are required to understand the population dynamics of the white-fronted goose, a species of importance to subsistence hunters in the Western Arctic as well as to recreational hunters and naturalists further south. Specific objectives of this project are to: 1) provide estimates of population size and productivity; 2) delineate habitats of importance for breeding and moulting geese; 3) determine survival/mortality rates; and, 4) determine migration routes and wintering grounds.

Devon Island Research Station **Project: 98-87**

Period: 12 June - 15 August

Area: Truelove Lowland Region

Name: Robinson, Mike

Arctic Institute of North America
University of Calgary
2500 University Drive N.W.
Calgary, Alberta
T2N 1N4

Tel: (403) 220-7515
Fax: (403) 282-4609

The Devon Island Research Station (DIRS) was established in 1960 to provide scientists with a permanent base from which to conduct "long-term, detailed, integrated observations in several scientific fields". Devon Island was selected as the location for such a facility because "it provided both an ice cap which is significantly affected by a marine environment, and ready access by air and sea". In 1970, Devon Island was chosen by the Canadian International Biological Project (IBP) Tundra Steering Committee to be the site of a Tundra Biome Project.

Grazing Ecology and Life History Strategy of the Muskox **Project: 48-88**

Period: 15 June - 20 August

Area: Muskox and Thomsen Rivers

Name: Harousea, Rudolf

Department of Biology
Queen's University
Kingston, Ontario
K7L 3N6

Tel: (613) 545-6136
Fax: (613) 545-6617

The muskox population on Banks Island has increased dramatically over the past decade, and an annual harvest of some 2000 animals has started. This project studies both the grazing ecology of the muskox and the vegetation dynamics of northern Banks. The data will be considered in light of the population dynamics and structure of the muskox in relation to future harvest planning.

Muskoxen/Sedge Meadow Interactions, Banks Island **Project:** 282-92

Period: 15 June - 22 August

Area: Muskox River

Name: Romo, J. T.

Department of Crop Science
and Plant Ecology
University of Saskatchewan
Saskatoon, Saskatchewan
S7N 0W0

Tel: (306) 966-4966
Fax: (306) 966-5015

The population of muskoxen on Banks Island has been increasing exponentially since the 1950s. This study will address the interactive relationship between a high density muskox population and their preferred habitat (sedge meadows). The effects of herbivory on populations of cotton grass (Eriophorum triste) within the sedge meadows will also be determined.

Population Dynamics of Banks Island Muskox **Project:** 153-84

Period: 15 June - 26 August

Area: Muskox River

Name: Nagy, John

Department of Renewable Resources
Government of the NWT
Bag Service # 1
Inuvik, Northwest Territories
X0E 0T0

Tel: (403) 979-7305
Fax: (403) 979-2418

The muskox population on Banks Island currently stands at approximately 49,000 animals. Data on the age and sex structure and survivorship of the young age classes will continue to be monitored. Previous work suggests that annual growth rates may be quite variable. The sampling methods and analysis of age and sex classification surveys will be reviewed and summarized.

Inventory of Snow Geese
Baffin and Southampton Islands

Project: 18-93

Period: 17 June - 14 July

Area: Coral Harbour and Iqaluit

Name: Kerbes, Richard H.

Canadian Wildlife Service
Environment Canada
115 Perimeter Road
Saskatoon, Sascatchewan
S7N 0X4

Tel: (306) 975-4087
Fax: (306) 975-4089

To conduct an inventory of nesting snow geese on the Great Plain of the Koukdjuak, Boas River and other colonies. This is a part of a long-term project in which the major nesting colonies of snow geese and Ross geese in Arctic Canada are censused by large format air photography. The objective is to cover each major region every 5 years to obtain accurate baseline population data for management and conservation.

A) Aquatic Impacts of Increased UV-B and
B) Organic Contaminant Distribution in
High Arctic Ecosystems

Project: 272-93

Period: 20 June - 30 September

Area: Resolute, Hot Weather Creek, Chesterfield Inlet and Baffin Island

Name: Lean, David

National Water Research Institute
Environment Canada
P. O. Box 5050
Burlington, Ontario
K7R 4A6

Tel: (705) 656-3621
Fax: (705) 656-1579

A) Aquatic impacts of increased UV-B resulting from stratospheric ozone depletion will be investigated at sites near AES monitor locations. Factors which influence light penetration will be studied together with measurements of photochemical production of reactive oxygen species. Damage to organisms at the base of the food chain will also be investigated.
B) The pattern and distribution of organochlorine contaminants depends on many factors, but through studies of concentration in zooplankton predictive models will be developed to provide spatial patterns in the High Arctic.

Wildlife Key Habitat Mapping **Project:** 276-92

Period: 25 June - 30 July

Area: Bonnet Lake, Yukon, Canoe Lake, NWT

Name: Loewen, Valerie

Department of Renewable Resources
Government of the Yukon
Box 2703 - R5A
Whitehorse, Yukon
Y1A 2C6

Tel: (403) 667-5281
Fax: (403) 668-4363

Vegetation/land cover maps in the northern Richardson Mountains area are being prepared using digital image analysis (remote sensing). Wildlife habitat maps will be developed by overlaying wildlife location/distribution information onto vegetation/land cover types using a GIS. Analysis of relationships between wildlife locations and habitat parameters will improve our ability to manage and protect wildlife and their habitats.

Population Dynamics of Broad Whitefish in the Mackenzie River Delta **Project:** 198-92

Period: 25 June - 10 November

Area: Wolf Lake, Arctic Red River, Travaillant Lake, Mackenzie Delta Areas

Name: Tallman, Ross

Department of Fisheries and Oceans
Freshwater Institute
501 University Crescent
Winnipeg, Manitoba
R3T 2N6

Tel: (204) 983-3362
Fax: (204) 984-2403

A study of the broad whitefish in the Mackenzie River Delta will apply diverse technologies to solve the problem of estimating stock size while accounting for stock genetic uniqueness. Biochemical genetic, stable isotope and quantitative characteristics of broad whitefish stocks will be examined to determine stock uniqueness. Population numbers will be estimated using a mixed-stock fishery model.

Systematic Reconnaissance of White-fronted and Canada Geese in Central Arctic Canada

Project: 94-93

Period: 26 June - 3 July

Area: Gjoa Haven and Shepherd Bay

Name: Alisauskas, Ray T.

Canadian Wildlife Service
Environment Canada
Prairie and Northern Wildlife
Research Center
115 Perimeter Road
Saskatoon, Saskatchewan
S7N 0X4

Tel: (306) 975-4556
Fax: (306) 975-4089

Systematic aerial surveys will be conducted in areas of surficial geology selected by geese. These are all within areas of marine transgression. Each year of the study, a different location will be surveyed: King William Island/Rasmussen Lowlands, Coppermine, Pelly Bay, Baker Lake. Such information is necessary to produce distribution maps of Arctic wildlife, and particularly of Arctic geese.

Canada Goose Banding and Surveys on West Hudson Bay

Project: 105-91

Period: 10 July - 20 August

Area: Eskimo Point Area

Name: Caswell, Dale F.

Canadian Wildlife Service
Environment Canada
513 - 269 Main Street
Winnipeg, Manitoba
R3C 1B2

Tel: (204) 983-5260
Fax: (204) 983-4506

Canada geese will be captured and marked with coded neck bands and leg bands. Subsequent observations of the birds in the migration and wintering areas will provide information on distribution, survival and other population parameters for effective management of this breeding population. This project is part of an international program involving wildlife agencies and non-government groups in Canada and the USA.

Canada Goose Banding and Surveys on Southampton Island

Project: 262-90

Period: 10 July - 20 August

Area: Cape Kendall, Coral Harbour

Name: Caswell, Dale F.

Canadian Wildlife Service
Environment Canada
513-269 Main Street
Winnipeg, Manitoba
R3C 1B2

Tel: (204) 983-5260
Fax: (204) 983-4506

Canada geese will be surveyed, captured and marked with coded neck bands. Subsequent observations of the birds in the migration and wintering areas will provide information on distribution, survival and other population parameters for effective management of this breeding population. The project is part of an international program involving wildlife agencies and non-government groups in Canada and the USA.

Canada Goose Banding and Surveys on Baffin Island

Project: 265-90

Period: 10 July - 20 August

Area: Niko Island, Cape Dominion

Name: Caswell, Dale F.

Canadian Wildlife Service
Environment Canada
513 - 269 Main Street
Winnipeg, Manitoba
R3C 1B2

Tel: (204) 983-5260
Fax: (204) 983-4506

Canada geese will be surveyed and captured and marked with coded neck bands and leg bands. Subsequent observation of these birds in the migration and wintering areas will provide information on distribution, survival and other population parameters for effective management of these breeding populations. The project is part of an international program involving wildlife agencies and non-government groups in Canada and the USA.

Effect of Neck Collars on Survival of Geese **Project:** 106-91

Period: 15 - 25 July

Area: Perry River

Name: Alisauskas, Ray T.

Canadian Wildlife Service
Environment Canada
Prairie and Northern Wildlife
Research Center
115 Perimeter Road
Saskatoon, Saskatchewan
S7N 0X4

Tel: (306) 975-4556
Fax: (306) 975-4089

This project will examine the effect of neck collars on survival rates of geese. Neck collars are being used increasingly to update distribution of geese. This study will also enhance knowledge of the migration and winter distribution of white-fronted and Canada geese.

Foraging Dynamics of Muskoxen **Project:** 127-86

Period: 15 July - 15 August

Area: Walker Bay

Name: Gunn, Anne

Department of Renewable Resources
Government of the NWT
Box 21, Scotia Centre (5th Floor)
600, 5102 - 50 th Avenue
Yellowknife, Northwest Territories
X1A 3S8

Tel: (403) 920-6104
Fax: (403) 873-6230

Muskoxen live in an environment with unpredictable swings in weather, but the effect of this on the relationship between muskoxen and their forage is unknown. The relationships can be summarised by the functional and numerical responses of the muskoxen to available forage, coupled with the growth response of the plants. Such a model will then allow the determination of sustainable harvests as required under the terms of agreements for the settlement of land claims.

Inglis River Whitefront and Canada Goose Banding **Project:** 146-81

Period: 15 July - 15 August

Area: Gjoa Haven, Shepherd Bay, Inglis River

Name: Kerbes, Richard H.

Canadian Wildlife Service
Environment Canada
115 Perimeter Road
Saskatoon, Sascatchewan
S7N 0X4

Tel: (306) 975-4087
Fax: (306) 975-4089

White-fronted geese and Canada geese are to be captured and marked with coded neck bands. This is part of a large international project which, through monitoring of marked birds throughout North America, is updating critical information on distribution, survival, and population dynamics of these birds.

Ecological Studies of Peary Caribou Conservation **Project:** 84-76

Period: 23 July - 30 August

Area: Northeastern Bathurst Island

Name: Miller, Frank L.

Canadian Wildlife Service
Environment Canada
Room 210, 4999 - 98 Avenue
Edmonton, Alberta
T6B 2X3

Tel: (403) 468-8927
Fax: (403) 495-2615

To conduct ecological studies of Peary caribou within the Bathurst Island complex, with a longterm goal of providing biologically sound advice on their conservation, especially in relation to man-induced changes in their environment. This phase of the project includes investigations of: 1) seasonal range-use on an annual basis, using satellite telemetry; 2) satellite radar imagery to determine snow cover throughout the winter; and 3) aerial surveys and ground studies on related population and range parameters.

Tundra Peregrine Falcon Survey
Yukon North Slope

Project: 275-93

Period: 24 - 28 July

Area: Yukon North Slope

Name: Mossop, D. H.

Department of Renewable Resources
Government of the Yukon
Box 2703
Whitehorse, Yukon
Y1A 2C6

Tel: (403) 667-5766
Fax: (403) 668-4363

A survey will be conducted of potential nesting habitat for Peregrine Falcon on the Yukon North Slope. The species has been reported as locally extinct in the area in 1981. Recently (1992) a successful breeding pair and two other recently established pairs have been recorded. A comprehensive survey is proposed which will make a valuable contribution to understanding the apparent recovery of the species. Prey utilization will be investigated, and samples of eggs and shells will be taken for analysis.

Assessment of Arctic Charr Populations in the Pond Inlet Area, North Baffin Island

Project: 173-86

Period: 1 - 30 August

Area: Tugaat River Area

Name: Day, Chris

Department of Fisheries and Oceans
Freshwater Institute
501 University Crescent
Winnipeg, Manitoba
R3T 2N6

Tel: (204) 983-5158
Fax: (204) 984-2402

In order to manage Arctic charr stocks in the Pond Inlet area, information must be collected on exploitation rates, population parameters and distribution/migration patterns. In 1989, a fish weir was constructed on the Iqaluit River (Tay Sound) to monitor the upstream migration of Arctic charr. In 1992, the same kind of assessment using a fish weir will be done on the Tugaat River (Milne Inlet). In 1993, aerial surveys are needed to pick an appropriate site for a proposed 1995 assessment.

Narwhal Behaviour **Project:** 159-83

Period: 6 - 24 August

Area: Alpha River

Name: Kingsley, Michael

Maurice Lamontagne Institute
Department of Fisheries and Oceans
850 Route de la Mer
Mont-Joli, Quebec
G5H 3Z4

Tel: (418) 775-0825
Fax: (418) 775-0542

To study the movements and behaviour of narwhal in the summering areas to identify disjunct ranges of sub-groups, estimate feeding times and feeding areas, and obtain information on migration.

Assessment of Arctic Charr on Banks Island **Project:** 227-93

Period: 25 August - 4 September

Area: Sachs Harbour

Name: Reist, J.

Department of Fisheries and Oceans
Freshwater Institute
501 University Crescent
Winnipeg, Manitoba
R3T 2N6

Tel: (204) 983-5032
Fax: (204) 984-2403

To study genetic and morphological variation in Arctic charr in the Holarctic region; to study differentiation of genetic and basic population structure of Arctic charr on Banks Island; and to determine the distribution of the closely related congener, Dolly Varden charr, in this area.

BOTANY

Palynology **Project:** 23-93

Period: 22 March - 6 April

Area: Fort Simpson, Norman Wells and Tuktoyaktuk

Name: Jetté, H.

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 992-0581
Fax: (613) 992-0190

Various pollen sequences along the Mackenzie River are studied to reconstruct the vegetational history of the area through time. Paleoenvironments can be deduced from the vegetation of the past and application of the pollen-climate transfer functions will be used to reconstruct holocene paleoclimate.

Longterm Vegetation Stability of Arctic Island "Oases" **Project:** 71-92

Period: 7 May - 16 July

Area: Hot Weather Creek

Name: Gajewski, Konrad

Department of Geography
University of Ottawa
165 Waller Street
Ottawa, Ontario
K1N 6N5

Tel: (613) 564-5517
Fax: (613) 564-3304

To core a series of lakes on Prince of Wales Island and Bathurst Island. The pollen will be extracted from the sediment and the vegetational and climatic history interpreted.

Effects of Predicted Climate Change on High Arctic Plants

Project: 150-88

Period: 30 May - 20 August

Area: Alexandra Fiord, Princess Marie Bay, Eastwind Lake, Sverdrup Pass

Name: Henry, Gregory H.R.

Department of Geography
University of British Columbia
Vancouver, British Columbia
V6T 1Z2

Tel: (604) 822-2985
Fax: (604) 822-6150

Long-term field experiments are established at Alexandra Fiord to investigate the responses of Arctic plants to simulations of predicted climate change. A number of phenological, growth, reproductive and ecophysiological traits are measured on circumpolar plant species. These studies are part of a Canadian component of the International Tundra Experiment (ITEX).

Devon Island Research Station

Project: 98-87

Period: 12 June - 15 August

Area: Truelove Lowland Region

Name: Robinson, Mike

Arctic Institute of North America
University of Calgary
2500 University Drive N.W.
Calgary, Alberta
T2N 1N4

Tel: (403) 220-7515
Fax: (403) 282-4609

The Devon Island Research Station (DIRS) was established in 1960 to provide scientists with a permanent base from which to conduct "longterm, detailed, integrated observations in several scientific fields". Devon Island was selected as the location for such a facility because "it provided both an ice cap which is significantly affected by a marine environment, and ready access by air and sea". In 1970, Devon Island was chosen by the Canadian International Biological Project (IBP) Tundra Steering Committee to be the site of a Tundra Biome Project.

Plant Colonization and Early Development of Deglaciated Arctic Landscapes

Project: 135-78

Period: 18 June - 20 August

Area: Sverdrup Pass, Ellesmere Island

Name: Svoboda, Josef

Department of Botany
University of Toronto
Erindale College
Mississauga, Ontario
L5L 1C6

Tel: (416) 828-5368
Fax: (416) 828-3792

1) Plant colonization of polar desert landscapes on central Ellesmere Island following the deglaciation or impact of the Little Ice Age will be studied as a PhD project.
2) Initial phase of primary succession represented by algal and bryophyte invasion will be studied along glacial margins and experimental set up will be constructed for continuous algal production in Sverdrup Pass.

Fossil Plants of Arctic Canada

Project: 169-85

Period: 20 June - 31 July

Area: Polar Bear Pass, Geodetic Hills and Fosheim Peninsula

Name: Basinger, James F.

Department of Geological Sciences
University of Saskatchewan
Saskatoon, Saskatchewan
S7N 0W0

Tel: (306) 966-5687
Fax: (306) 966-8593

Exquisitely preserved fossil plants are found in early Tertiary (approximately 40 - 50 million years old) sediments on Axel Heiberg and Ellesmere islands. Fossil forests, the in-place remains of tree stumps and forest floor litter, provide evidence for a once lush Arctic. From these remains, researchers are able to interpret past climatic conditions and the origins of some of the plants that make up our modern deciduous and northern forests. New Silurian/Devonian fossils on Bathurst Island will also be examined.

Paleoclimate and Paleohydrology in the Mackenzie Delta

Project: 119-93

Period: 21 June - 1 July

Area: Mackenzie Delta

Name: Gajewski, Konrad

Department of Geography
University of Ottawa
165 Waller Street
Ottawa, Ontario
K1N 6N5

Tel: (613) 564-5517
Fax: (613) 564-3304

This research will attempt to determine the long-term climate, hydrology and vegetation changes in the Mackenzie Delta. Lakes sediments will be sampled and used for pollen and macrofossil analysis.

Development of Polar Desert Ecosystems

Project: 260-91

Period: 26 June - 15 August

Area: Truelove Lowland

Name: Bliss, Lawrence C.

Department of Botany
University of Washington
KB-15
Seattle, Washington
98195 USA

Tel: (206) 543-8917
Fax: (206) 685-1728

This research focuses upon the interactive roles of soil development, cryptogamic crust, and establishment of vascular plants and their function within the polar desert, Devon Island. This study concentrates on the mesoscale features of stone nets and stripes and the role these features play in soil weathering processes, establishment of cyanobacteria and their fixation and transfer of nitrogen from crusts to soil and vascular plants.

Paleoecology of the Treeline **Project:** 257-93

Period: 5 - 31 July

Region: Boniface

Name: Payette, Serge

Centre d'études nordiques
Laval University
Ste-Foy, Quebec
G1K 7P4

Tel: (418) 656-3340
Fax: (418) 656-2978

This research project concerns the paleoecology of the treeline along the eastern slope of Hudson Bay. The main objective is the reconstruction of the Holocene shifts in the treeline and, on the basis of that, an evaluation of the climatic changes which took place during this period. An exhaustive analysis will be done of sites on each side of the treeline, in sub-Arctic and Arctic environments, to detect the former presence of trees and forests and to measure their shifts in space and time. The analysis of macroremains will be the primary approach.

Grass Research in the Canadian Arctic **Project:** 233-90

Period: 14 - 21 July

Area: Resolute, Sverdrup Pass and Vendom Fiord

Name: Aiken, S.

Research Branch
Canadian Museum of Nature
P.O. Box 3443, Station D
Ottawa, Ontario
K1P 6P4

Tel: (613) 990-6438
Fax: (613) 990-6451

Arctic grasses and fescue species in particular, have been observed to have microhabitat distribution patterns that appear to be closely related to substrate moisture content. TDR (Time Domain Reflectometry, a sensitive method of reading percentage soil moisture in the field) is to be used to test contrasting sites near Resolute where three species of fescues occur, and to contrast the findings there with measurements made at other sites. Other microhabitat factors will also be measured.

Climate Change and the Latitudinal Treeline **Project:** 248-91

Period: 15 July - 15 August

Area: Cape Bathurst, Tuktoyaktuk Area, Anderson River Area

Name: Freedman, Bill

Department of Biology
Dalhousie University
Halifax, Nova Scotia
B3H 4J1

Tel: (902) 494-3737
Fax: (902) 494-3736

The dynamics and character of the subarctic treeline will be examined as a barometer of ecological response to climate change induced by the greenhouse effect. Research in the western Arctic will describe the phytosociological and physical character of ecosystems at, just below, and above the latitudinal treeline, as well as examine factors that appear to allow trees to establish in such apparently marginal environments.

A Re-evaluation of Industrial and Natural Disturbance Research in the Inuvik-Tuktoyaktuk Region **Project:** 231-89

Period: 25 July - 14 August

Area: Caribou Hills, Parsons Lake, Mackenzie Delta and Tuktoyaktuk

Name: Wein, Ross W.

Canadian Circumpolar Institute
Department of Forest Science
University of Alberta
855 General Services Building
Edmonton, Alberta
T6G 2H1

Tel: (403) 492-2038
Fax: (403) 492-4323

In the 1970s, disturbance surveys and experiments on a wide range of topics provided short-term results and predictions of recovery rates after oil industry disturbances. We are collecting comparable long-term data to evaluate the earlier short-term predictions and just as importantly, some disturbances provide partial analogues related to climate change predictions. To date, we have documented recovery on oil spill plots, summer seismic lines and experimental off-road vehicle trails. In 1993, we want to emphasize recovery after forest-tundra fires and revegetation (including reseeding) experiments.

CLIMATOLOGY

The Shelter Characteristics of Traditional Inuit Igloo Dwellings

Project: 273-93

Period: 18 - 27 February

Area: Resolute Bay

Name: Kershaw, Peter G.

Department of Geography
University of Alberta
Edmonton, Alberta
T6G 2H4

Tel: (403) 492-0346
Fax: (403) 492-7598

Traditional Inuit igloos have been used for winter dwellings because they can be made of readily available building materials. These shelters offer protection from the elements and have presumably been employed by Arctic peoples since their movement into the region thousands of years ago. The purpose of the study is to quantify the microclimatic characteristics of these shelters under traditional practices.

Palynology

Project: 23-93

Period: 22 March - 6 April

Area: Fort Simpson, Norman Wells and Tuktoyaktuk

Name: Jetté, H.

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 992-0581
Fax: (613) 992-0190

Various pollen sequences along the Mackenzie River are studied to reconstruct the vegetational history of the area through time. Paleoenvironments can be deduced from the vegetation of the past and application of the pollen-climate transfer functions will be used to reconstruct holocene paleoclimate.

Glacier Research in the Queen Elizabeth Islands **Project:** 10-73

Period: 16 March - 20 May

Area: Meighen, Melville and Devon Islands, and Agassiz Ice Cap

Name: Koerner, Roy

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 996-7623
Fax: (613) 996-5440

To measure glacier balance on Meighen, Melville, Devon and northern Ellesmere ice caps; to test electro-mechanical drill after modifications made as a result of 1992 field test; to collect snow/ice samples for Arctic haze studies; and, to download and reset two data loggers on Agassiz and one on Devon.

A Seasonal Sea Ice Monitoring and Modelling Site (SIMMS '93) **Project:** 128-90

Period: 10 April - 15 November

Area: Resolute Passage

Name: Barber, David G.

Earth-Observations Laboratory
Department of Geography
University of Waterloo
Waterloo, Ontario
N2L 3G1

Tel: (519) 885-1211 Ext. 5386
Fax: (519) 888-6768

SIMMS is a six-year multidisciplinary research program designed to develop analysis methodologies by which visible and micro-wavelength remote sensing data may be used to monitor changes in ocean-ice-atmosphere processes. Observational and modelling programs are conducted coincidentally during the spring and fall seasonal transition periods.

Past and Present Climate of Queen Elizabeth Islands **Project:** 61-73

Period: 25 April - 30 June

Area: Hot Weather Creek, Agassiz Ice Cap

Name: Alt, Bea

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 996-0377
Fax: (613) 996-5448

1) To examine present synoptic climate in the Queen Elizabeth Islands (QEI) for application to paleoenvironmental studies and modern global environmental change.
2) To collect field station weather data in data sparse areas.
3) To install, standardize and service automatic weather stations in GSC High Arctic Integrated Research and Monitoring Area and on QEI ice caps.

Arctic Aerosol Chemistry Climatology on Northern Glaciers **Project:** 101-93

Period: 30 April - 20 August

Area: Agassiz Ice Cap

Name: Barrie, Len

Atmospheric Environment Service
Environment Canada
4905 Dufferin Street
Downsview, Ontario
M3H 5T4

Tel: (416) 739-4868
Fax: (416) 739-4224

To install a continuous sampling air (aerosol) unit on Agassiz Ice Cap to collect two-day aerosol samples to monitor air pollution and provide comparisons with snow chemistry of snow from 1992/93 Agassiz snow accumulation season.

Baffin Island Mesoclimate Study **Project:** 115-79

Period: 27 April - 15 July

Area: Penny & Barnes Ice Caps, Amadjuak & Nettilling Lakes, Isortoq River

Name: Jacobs, John D.

Department of Geography
Memorial University
St. John's, Newfoundland
A1B 3X9

Tel: (709) 737-7417
Fax: (709) 737-4000

This field program involves the operation of climate autostations at remote sites on Baffin Island, including a large interior lowlands region and plateau ice caps. The data from the stations and from concurrent field studies are used in modelling of the mesoscale climate, calibration of proxy records from past climates, and in monitoring for regional effects of global change.

Longterm Vegetation Stability of Arctic Island "Oases" **Project:** 71-92

Period: 7 May - 16 July

Area: Hot Weather Creek

Name: Gajewski, Konrad

Department of Geography
University of Ottawa
165 Waller Street
Ottawa, Ontario
K1N 6N5

Tel: (613) 564-5517
Fax: (613) 564-3304

To core a series of lakes on Prince of Wales Island and Bathurst Island. The pollen will be extracted from the sediment and the vegetational and climatic history interpreted.

Integrated Circumpolar Environment (ICE) **Project:** 4-93

Period: 20 - 30 May

Area: Russian Arctic Islands

Name: Koerner, Roy

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 996-7623
Fax: (613) 996-5448

To sample snow and ice on Russian Arctic Islands and Ice Caps; to determine nature and source of pollutant aerosols that invade the Arctic atmosphere in winter. To determine (from shallow ice cores) when pollution began. To use gravity to measure several year ice thickness changes. To measure gravity between and beyond Russian Arctic Islands as a control for Russian measurements expected to be published shortly.

Paleoclimatic Records from Arctic Lake Sediments **Project:** 136-88

Period: 25 May - 16 June

Area: Ellesmere and Cornwallis Islands

Name: Bradley, Raymond S.

Department of Geology
and Geography
Morrill Science Center
University of Massachusetts
Amherst, Massachusetts
01003 USA

Tel: (413) 545-2794
Fax: (413) 545-1200

Laminated sediments from Arctic lakes may provide a high resolution record of past climatic conditions. Sediments from several lakes on northern Ellesmere Island, and from Cornwallis Island, are being studied in an attempt to reconstruct summer climate in the Queen Elizabeth Islands over the past 2000 years.

Thaw Depth Monitoring, Mackenzie Valley **Project:** 181-91

Period: 15 - 30 June

Area: Illisarvik

Name: Nixon, Mark F.

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 992-2469
Fax: (613) 992-2468

A network of thaw depth monitoring sites has being established from Fort Simpson to the Arctic coast. The goals are to collect baseline information about this climatically controlled parameter and to monitor change over time. This year's work will include survey and maintenance of all sites.

Plant Colonization and Early Development of Deglaciated Arctic Landscapes **Project:** 135-78

Period: 18 June - 20 August

Area: Sverdrup Pass, Ellesmere Island

Name: Svoboda, Josef

Department of Botany
University of Toronto
Erindale College
Mississauga, Ontario
L5L 1C6

Tel: (416) 828-5368
Fax: (416) 828-3792

1) Plant colonization of polar desert landscapes on central Ellesmere Island following the deglaciation or impact of the Little Ice Age will be studied as a PhD project.
2) Initial phase of primary succession represented by algal and bryophyte invasion will be studied along glacial margins and experimental set up will be constructed for continuous algal production in Sverdrup Pass.

Paleoclimate and Paleohydrology in the Mackenzie Delta

Project: 119-93

Period: 21 June - 1 July

Area: Mackenzie Delta

Name: Gajewski, K.

Department of Geography
University of Ottawa
165 Waller Street
Ottawa, Ontario
K1N 6N5

Tel: (613) 564-5517
Fax: (613) 564-3304

This research will attempt to determine the long-term climate, hydrology and vegetation changes in the Mackenzie Delta. Lakes sediments will be sampled and used for pollen and macrofossil analysis.

Climatology and Meteorology of High Arctic Oases

Project: 57-78

Period: 8 - 12 July

Area: Alexandra Fiord, Truelove Lowland, Polar Bear Pass

Name: Labine, Claude

Department of Geography
University of Alberta
10429 - 87th Avenue
Edmonton, Alberta
T6E 2P4

Tel: (403) 461-5158
Fax: (403) 450-2531

To investigate the climate of some of the High Arctic oases. The longterm climate of these areas is being monitored and surface energy budget determinations are being re-initiated with the availability of new technology.

DREP Arctic Acoustics **Project:** 93-80

Period: 28 March - 15 May/1 August - 3 September

Area: Lincoln Sea, Gascoyne Inlet

Name: Thorleifson, J.M.

Department of National Defence
Chief Research and Development
Defence Research Est. Pacific
FMO
Victoria, British Columbia
V0S 1B0

Tel: (604) 363-2874
Fax: (604) 363-2856

Environmental underwater acoustics.

OP Hurricane **Project:** 13-93

Period: 1 May - June 30

Area: Eureka

Name: Partridge, Boyce

Department of National Defence
Tunney's Pasture
Ottawa, Ontario
K1A 0K2

Tel: (613) 943-6004
Fax: (613) 995-8065

To support High Arctic communications.

Whitefish Program **Project:** 226-93

Period: 1 July - 31 August

Area: Tuktoyaktuk

Name: Dahlke, Lothar

Fish and Habitat Management
Department of Fisheries and Oceans
Box 1871
Inuvik, Northwest Territories
X0E 0T0

Tel: (403) 979-3314
Fax: (403) 979-4330

The program involves the monitoring, assessment and biological sampling of the broad whitefish of the Mackenzie Delta. This involves collecting harvesting data from communities in the Delta as well.

North Baffin Polar Bear Inventory Program **Project:** 296-93

Period: 1 April - 15 May

Area: Resolute Bay

Name: Taylor, Mitchell

Department of Renewable Resources
Government of the NWT
Box 21, Scotia Centre (5th Floor)
600, 5102 - 50th Avenue
Yellowknife, Northwest Territories
X1A 3S8

Tel: (403) 873-7764
Fax: (403) 873-0293

To ensure proper management of Canada's polar bear populations, these populations are periodically inventoried. The population boundaries are identified using satellite telemetry and the population number is estimated using mark-recapture methods. Ecological, physiological behavioral, and biochemical research also occurs opportunistically to augment management and to increase our knowledge of polar bears.

Permafrost Conditions Beneath Tundra Lakes **Project:** 162-91

Period: 15 April - 15 August

Area: Richards and Pelly Islands

Name: Burn, C. R.

Department of Geography
University of Ottawa
Ottawa, Ontario
K1S 5B6

Tel: (613) 788-2600 Ext. 3784
Fax: (613) 788-4301

To determine the thermal regime at the bottom of tundra lakes in the Tuktoyaktuk Peninsula - Richards Island region. Knowledge of the rate of permafrost degradation, and of the thickness of the seasonally-thawed layer, and of how these vary with distance from the lakeshore, or with depth of water, are necessary if structures, such as a pipeline, are to cross lakes rather than wind between them.

Distribution and Movement of Spawning and Non-Spawning Arctic Charr in Four Rivers Along the Yukon North Slope and in the NWT **Project:** 60-89

Period: 1 May - 15 October

Area: Big Fish River

Name: Harwood, Lois

Fish and Habitat Management
Department of Fisheries and Oceans
Box 1871
Inuvik, Northwest Territories
X0E 0T0

Tel: (403) 979-3314
Fax: (403) 979-4330

Floy and radio tags will be applied to Arctic charr at four spawning and overwintering locations along the Yukon North Slope, and northwestern NWT. Tagged fish will be tracked during late spring, summer and fall 1993. During the first year of the three-year study, tagging efforts will focus at Big Fish River. Reconnaissance work and tagging trials will be undertaken at three other (Rat, Babbage, Firth) systems.

Geocryologic Processes, Western Arctic Coast **Project:** 39-73

Period: 1 June - 20 August

Area: Garry Island, Tuktoyaktuk Area, Horton River Mouth and Inuvik

Name: Mackay, J. Ross

Department of Geography
University of British Columbia
Vancouver, British Columbia
V6T 1Z2

Tel: (604) 822-2257
Fax: (604) 822-6150

The major objectives are to complete longterm observations on the growth of ice wedges, permafrost at Illisarvik (artificially drained lake) and recovery from the 1968 fire at Inuvik. A secondary objective is to try to assess the effects of potential climate change on the stability of near surface ice-rich permafrost.

Western Arctic Area Stream Inventory and Assessment **Project:** 225-93

Period: 1 July - 1 September

Area: Tuk Peninsula and Yukon North Slope

Name: Ferguson, Brian

Fish and Habitat Management
Department of Fisheries and Oceans
Box 1871
Inuvik, Northwest Territories
X0E 0T0

Tel: (403) 979-3314
Fax: (403) 979-4330

During this project period (August 1993), the fishery and fish habitat potential of streams on the Tuk Peninsula and Yukon North Slope will be assessed. This will be performed by traditional stream inventory and assessment methology, in order to develop a baseline dataset. The resulting report will be an excellent tool in predicting possible impacts of oil and gas exploration on fisheries resources in the Western Arctic.

Holocene Paleoecology of the Fosheim Peninsula, Ellesmere Island

Project: 22-93

Period: 2 - 16 July

Region: Hot Weather Creek

Name: Garneau, Michelle

Quebec Geoscience Centre
Geological Survey of Canada
Energy, Mines and Resources
P.O. Box 7500, Science Complex
2700 Einstein Street
Ste-Foy, Quebec
G1V 4C7

Tel: (418) 654-2674
Fax: (418) 654-2615

The macrofossil analysis of peaty deposits will enable us to reconstruct some of the paleoecological conditions which held sway over the Fosheim Peninsula during the Holocene. By associating the identification and dating of certain morphosedimentological processes with these ecological processes, we will be able to establish a chronostratigraphy on the basis of which we can integrate the climatic factors and interpret the processes inherent in their dynamics. Results will be used to interpret the possible impact which Global Change could have on landscape evolution in the High Arctic.

Biostratigraphy of a Tertiary Vertebrate Locality on Strathcona Fiord

Project: 108-92

Period: 8 - 29 July

Area: Strathcona Fiord

Name: Harington, C. R.

Paleobiology Division
Canadian Museum of Nature
P. O. Box 3443, Station D
Ottawa, Ontario
K1P 6P4

Tel: (613) 954-0351
Fax: (613) 954-4724

The object of this study is to add to our knowledge of the vertebrate fauna from this beavers' pond site near Strathcona Fiord by collecting bones and other fossils so as to better understand: 1) evolutionary relationships of previously unknown Pliocene vertebrates in the Arctic; 2) a unique "boreal forest" environment that existed in Pliocene time; and 3) the geological age of the deposit.

Southampton Island National Park Proposal **Project:** 245-91

Period: 15 - 30 July

Area: Southampton Island Area

Name: Harvey, Douglas

Canadian Parks Service
Environment Canada
Les Terrasses de la Chaudière
Room 401, Leger North
10 Wellington Street
Hull, Quebec
K1A 0H3

Tel: (819) 997-4212
Fax: (819) 994-5140

CPS is working to establish a National Park on Southampton Island. Work this year will include selection of an area of interest and identification of preliminary boundaries.

Polar Psychology Project (PPP) **Project:** 164-89

Period: 15 July - 15 August

Area: Eureka, Resolute and Tuktoyaktuk

Name: Suedfeld, Peter

Department of Psychology
University of British Columbia
2136 West Mall
Vancouver, British Columbia
V6T 1Z4

Tel: (604) 822-5713
Fax: (604) 822-6923

The PPP examines psychological, social, and psychophysiological correlates of living and working in the circumpolar regions. The proposed component will concentrate on obtaining interview and questionnaire data from scientific personnel near or at the completion of an Arctic field season. The goals are to gather information on the interrelationships among environmental factors, personality, small group dynamics, and work performance/satisfaction, and to develop a standardized debriefing format that may be used in both polar regions (Arctic and Antarctic) for basic scientific, as well as for applied (personnel selection and preparation, station design) purposes.

North Baffin Island National Park Proposal **Project:** 75-90

Period: 1 - 8 August

Area: Pond Inlet Area

Name: Harvey, Douglas

Canadian Parks Service
Environment Canada
Les Terrasses de la Chaudière
Room 401, Leger North
10 Wellington Street
Hull, Quebec
K1A 0H3

Tel: (819) 997-4212
Fax: (819) 994-5140

The Canadian Parks Service has been working to establish a national park at northern Baffin Island for several years. The work will finalise boundaries; contribute to the park operations plan and park agreement; and assist local residents to visit some key sites. An archaeology survey may be done as well.

Bathurst Island National Park Proposal **Project:** 80-90

Period: 1 - 15 August

Area: Walker River

Name: Harvey, Douglas

Canadian Parks Service
Environment Canada
Les Terrasses de la Chaudière
Room 401, Leger North
10 Wellington Street
Hull, Quebec
K1A 0H3

Tel: (819) 997-4212
Fax: (819) 994-5140

The Canadian Parks Service is interested in establishing a new national park on northern Bathurst Island. The work will include preliminary boundaries; investigations of geology and biophysical resources; and assessment of visitor opportunities and recreation.

Management of the Thick-billed Murre in the Northwest Atlantic: Coburg Island, NWT

Project: 40-93

Period: 1 - 25 August

Area: Cambridge Point, Coburg Island

Name: Nettleship, David N.

Canadian Wildlife Service
Environment Canada
Bedford Institute of Oceanography
P. O. Box 1006
Dartmouth, Nova Scotia
B2Y 4A2

Tel: (902) 426-3274
Fax: (902) 426-7209

A joint venture to determine distributions, movements and survival rates of thick-billed murres Uria lomvia in the northwest Atlantic. Monitoring plots established at Cambridge Point, Coburg Island, in 1978-79 will be counted and photographed to assess population status, and 3000 to 5000 chicks and adults will be banded. Recovery rates will be used to evaluate winter distributions, rates of movements, and mortality of High Arctic murres associated with hunting outside the breeding season in Greenland, Labrador and Newfoundland, and to make direct comparisons with those resulting from similar banding exercises to be performed in 1993 at Low Arctic Hudson Strait colonies (Coats Digges and Akpatok islands) and elsewhere in the northwest Atlantic (Spitsbergen, Bjørnøya, and Iceland).

Marine Geology of Cañon Fiord, Ellesmere Island

Project: 31-90

Period: 4 - 28 August

Area: Cañon Fiord, Ellesmere Island

Name: Gilbert, Robert

Department of Geography
Queen's University
Kingston, Ontario
K7L 3N6

Tel: (613) 545-6030
Fax: (613) 545-6122

The sediments of Cañon Fiord, Ellesmere Island, are being studied by acoustical subbottom profiling and by coring to assess modern sedimentary processes in a High Arctic fiord with a calving glacier, to evaluate changes in the Quaternary glacial geology of the region, and to seek evidence of modern environmental change in the region.

Survey and Mapping of Arctic Charr Spawning and Overwintering Habitats in the Hornaday River, NWT

Project: 224-93

Period: 7 - 15 August

Area: Hornaday River

Name: Harwood, Lois

Fish and Habitat Management
Department of Fisheries and Oceans
P. O. Box 1871
Inuvik, Northwest Territories
X0E 0T0

Tel: (403) 979-3314
Fax: (403) 979-4330

A reconnaissance of the Hornaday River will be flown, from the mouth to the falls approximately 42 km upstream. Frequent stops and aerial survey will allow identification and mapping of potential Arctic charr overwintering and spawning sites. Community fishermen will participate in the survey to identify these habitats and community fishing areas upstream.

BIOS Baffin Island Oilspill Project

Project: 188-93

Period: 10 - 15 August

Area: Cape Hatt, Baffin Island

Name: Sergy, Gary

Emergency Science
Environment Canada
4999 - 98 Avenue, Room 210
Edmonton, Alberta
T6B 2X3

Tel: (403) 468-8039
Fax: (403) 295-2615

An experimental oilspill study was conducted 1980-83 at Cape Hatt (near Pond Inlet). As a part of that study, oil was left on various plots on the beach to allow longterm monitoring of fate and persistence and natural removal rates. Resurvey of the site is planned for 1993.

Installation of Gravemarkers on Beechey and Dealy Islands

Project: 83-92

Period: 18 - 21 August

Area: Beechey and Dealy Islands

Name: Gruchy, Charles

Canadian Conservation Institute
Department of Communications
1030 Innes Road
Ottawa, Ontario
K1A 0C8

Tel: (613) 998-3721
Fax: (613) 998-4721

In collaboration with the Prince of Wales Northern Heritage Centre, to install new wooden gravemarkers on the Franklin Site on Beechey Island to replace weathered and damaged epoxy-resin replicas, and to install gravemarkers at Kellett's cache site on Dealy Island.

Trace Organic Contaminants in the Arctic Aquatic System

Project: 6-86

Period: 13 April - 4 May

Area: Agassiz Ice Cap

Name: Gregor, D. J.

National Water Research Institute
Environment Canada
P. O. Box 550
867 Lakeshore Road
Burlington, Ontario
L7R 4A6

Tel: (416) 336-4611
Fax: (416) 336-6430

Annual deposition rates of contaminants relative to the longterm trends of contaminant accumulation in the Arctic are important to understanding the risk of anthropogenic contaminants to the aquatic ecosystem and the need for remedial action. Snow is a major scavenging mechanism of contaminants from the atmosphere. Annual deposition is evaluated through a network of over 30 stations in the NWT and Yukon. This information is supplemented with weekly snow samples from special collectors located at Alert, Mould Bay, Yellowknife and three sites in the Yukon. This year there will be an intensive investigation of the contaminant record stored in the snow and ice of Agassiz Ice Cap, Ellesmere Island.

Prelittoral Morphosedimentary Dynamics, Canadian Beaufort Sea

Project: 297-91

Period: 15 April - 15 October

Region: Atkinson Point, Tuktoyaktuk Peninsula

Name: Héquette, Arnaud

Department of Geography
Laval University
Ste-Foy, Quebec
G1K 7P4

Tel: (418) 656-2363
Fax: (418) 656-2019

The objective of this project is to determine how a sandy prelittoral zone evolves in an Arctic environment (south coast of the Canadian Beaufort Sea). We will attempt to discern the respective importance of summer and winter processes on the sedimentary dynamics of the shoreface. Fieldwork will be carried out during summer, freeze-up and winter. It will include sidescan sonar surveys, the use of current meters, sampling of the surficial deposits with a vibro-corer, the use of ground-probing radar to determine ice thickness, and the use of a video camera to study the movement of ice and ice processes during freeze-up.

Effect of Climate Change on Permafrost Geomorphology

Project: 36-83

Period: 25 May - 14 August

Area: Hot Weather Creek and Sawtooth Mountains

Name: Lewkowicz, A. G.

Department of Geography
University of Toronto
Erindale College
Mississauga, Ontario
L5L 1C6

Tel: (416) 828-3930
Fax: (416) 828-5448

To establish links between climate and geomorphological processes so that predictions can be made about the effects of climate change. Processes under investigation include solifluction, active-layer detachment, retrogressive thaw slumping, fluvial sediment transport and debris flow.

Paleoenvironmental Change in the Canadian High Arctic

Project: 38-75

Period: 26 May - 4 August

Area: Hazen Plateau, Western Kane Basin, Cañon Fiord

Name: England, J.

Department of Geography
University of Alberta
3-32 HM Tory Building
Edmonton, Alberta
T6G 2H4

Tel: (403) 492-5673
Fax: (403) 492-7598

To investigate the nature of past glaciations, sea level changes, and the evolution of the High Arctic landscape since the late Tertiary, and to continue research concerning paleoenvironmental change of the Lake Hazen Basin.

Pleistocene Sand Wedges and Thermal-Contraction Cracks, Richards Island Area, Mackenzie Delta

Project: 102-93

Period: 30 May - 10 Septembre

Area: Crumbling Point, Mason Bay, Hadwen Island and North Head

Name: French, Hugh M.

Department of Geology
University of Ottawa
161 Louis Pasteur
Ottawa, Ontario
K1N 6N5

Tel: (613) 564-2407
Fax: (613) 564-5014

This project concerns the sedimentology and palaeoenvironmental significance of sand-filled thermal-contraction cracks in the northern part of Richards Island, Mackenzie Delta. These cracks are of three types: 1) sand veins, 2) sand wedges, and 3) composite ice-sand wedges. Most are probably of Pleistocene age and formed in a truly periglacial environment near the NW margin of the Wisconsinan (Laurentide) Ice-sheet.

Study of the Caves of Northern Yukon

Project: 268-90

Period: 1 - 14 June

Region: Bear Cave, Yukon

Name: Lauriol, Bernard

Department of Geography
University of Ottawa
165 Waller Street
Ottawa, Ontario
K1N 6N5

Tel: (613) 564-6591
Fax: (613) 564-3304

The objective of this project is to contribute to the paleogeographic knowledge of the Porcupine River basin by studying the limestone bodies, particularly the caves and semikarstic forms in them: aufeis, cryoplanation terraces, tors and cryopediments.

Geological Mapping of the Anialik River Area **Project:** 45-92

Period: 1 June - 31 August

Area: Mistake Lake

Name: Relf, Carolyn

Energy, Mines and Petroleum
Government of the NWT
Box 1320
Yellowknife, Northwest Territories
X1A 2L9

Tel: (403) 920-3347
Fax: (403) 873-0254

To assist and encourage mineral exploration by providing detailed bedrock mapping at 1:50,000 to 1:20,000 of the Anialik River area (NTS 76 M/4, 5, 6 and 11).

Geological Investigations in the Napaktulik Lake - Kikork Lakes Area **Project:** 178-90

Period: 1 June - 31 August

Area: Tree River and Eokuk Uplift

Name: Jackson, Valerie

Northern Affairs Program
Department of Indian Affairs
and Northern Development
P.O. Box 1500
Yellowknife, Northwest Territories
X1A 2R3

Tel: (403) 920-8552
Fax: (403) 873-5763

The project's aim is to produce 1:50,000 and 1:250,00 scale geological maps and accompanying reports of part of the western margin of the Slave Structural Province (NTS 86 I and 86 P). A variety of geological aspects are being examined including metamorphic, tectonic, stratigraphic and economic, as well as the surficial geology. Field work is approximately two-thirds complete; the majority of this work will be completed by the end of the 1993 field season, with about one month allotted in the 1994 season for completion (if required).

Geological Mapping of the Point Lake Area **Project:** 197-93

Period: 1 June - 31 August

Area: Point Lake

Name: Gebert, James

Energy, Mines and Petroleum
Government of the NWT
Box 1320
Yellowknife, Northwest Territories
X1A 2L9

Tel: (403) 920-3346
Fax: (403) 873-0254

To assist and encourage mineral exploration by providing detailed bedrock mapping (1:20,000 to 1:50,000 as appropriate) in the Point Lake - Itchen Lake area.

Geology of High Lake Greenstone Belt **Project:** 230-92

Period: 5 June - 20 August

Area: High Lake

Name: Henderson, J.R.

Geological Survey of Canada
Energy, Mines and Resources
Room 379, 601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 992-5446
Fax: (613) 995-7997

To map belt in 76 M (Hepburn Island) with emphasis in structure, stratigraphy and metallogeny.

Metallogeny of Churchill Province **Project:** 295-91

Period: 10 June - 20 August

Area: Rankin Inlet

Name: Miller, A. R.

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 995-4106
Fax: (613) 996-9820

The emphasis of the project will be placed on the Sandhill massive sulphide prospect, with lesser emphasis placed on the Au-sulphide showing hosted by iron formation. Specific project objectives include:

1) using a 1:50 000 scale base map sheet, mapping, at various scales, and documenting the lithological, structural and mineralogical features of the granite-greenstone belt and possible structural and/or stratigraphic relationships of mineral showings in the greenstone belt;
2) documentation of alteration patterns in, and around the Sandhill sulphide showing, by the use of whole rock and mineral chemistry;
3) examination of the conditions and effects of metamorphism on the Sandhill sulphide showing;
4) discussion of the origin of the Sandhill showing and comparison with other well known base metal massive sulphide deposits; and,
5) geochronological investigation of the felsic volcanic rocks and plutonic rocks to constrain the timing of deformation and mineralization.

Bedrock Geology of the Hepburn Island Map Sheet **Project:** 52-93

Period: 13 June - 22 August

Area: Domino, Mistake and Spoozer Lakes

Name: Tucker Barrie, C.

Minerals and Continental Geoscience
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 947-0799
Fax: (613) 995-9273

The Hepburn Island bedrock geology project is part of the National Mapping Program's Slave Province Project. It is designed to reassess important stratigraphic and structural relationships through bedrock mapping and associated geochemical and isotopic studies. Results of this study should assist and encourage mineral exploration.

Clastic-Carbonate Transitions in Lower Cambrian Strata of Ellesmere Island, Arctic Archipelago

Project: 201-92

Period: 14 June - 10 August

Area: Central and Southern Ellesmere Island

Name: Long, Darrel G.F.

Department of Geology
Laurentian University
Sudbury, Ontario
P3E 2C6

Tel: (705) 675-1151 Ext. 2268
Fax: (705) 673-6508

Detailed lithological and sedimentological investigation of Lower Cambrian strata in central and southern Ellesmere Island will be used to determine if coastal boundary currents, storm systems, or transverse bypass systems played a significant role in segregation of facies, and to provide a sequence stratigraphic framework for the early, syn-drift phase of evolution of the Franklinian basin.

Phanerozoic Geology of Central Ellesmere Island

Project: 35-76

Period: 14 June - 15 August

Area: Vendom Fiord and Strathcona Fiord Areas

Name: Harrison, J.C.

Geological Survey of Canada
Energy, Mines and Resources
3303 - 33rd Street N.W.
Calgary, Alberta
T2L 2A7

Tel: (403) 292-7137
Fax: (403) 292-5377

The research involves the completion of 1:250,000 scale bedrock geological maps within the Vendom Fiord (NTS 49D) and Strathcona Fiord (NTS 49E) map areas, Ellesmere Island. Supported research will include lower Paleozoic stratigraphy and sedimentology and Phanerozoic structure.

Mechanism of Landslides in the Mackenzie Valley **Project:** 109-93

Period: 15 - 25 June

Area: Tenlon Lake

Name: Dyke, Larry

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 996-1967
Fax: (613) 992-2468

Landslides in Quaternary sediments and bedrock between Fort Simpson and Inuvik are being examined to determine triggering mechanisms. The importance of factors such as saline pore waters, excess pore water pressures, river bank erosion and taliks in permafrost are being evaluated.

A) Monitoring Mineral Exploration - Arctic Islands **Project:** 215-93
B) Decorative Dimension Stone/Carving Stone
C) Crustal Xenoliths in Kimberlite, Central Arctic: A Window to the Crystalline Basement

Period: 15 June - 15 August

Area: Arctic Islands, Somerset Island, Brodeur Peninsula and Ellesmere Island

Name: Pell, Jennifer

Northern Affairs Program
Department of Indian Affairs
and Northern Development
P. O. Box 1500
Yellowknife, Northwest Territories
X1A 2R3

Tel: (403) 920-8216
Fax: (403) 873-5763

A) Ongoing project that comprises a necessary portion of the district geologists' duties.
B) This project will involve the evaluation of a number of these sites for potential use as a source of material for the production of cut and polished tile, or dimension stone.
C) This project will involve examining diatremes on Somerset Island, Brodeur Peninsula and possibly southern Ellesmere Island and sampling the suite of crustal xenoliths which they include. The petrology and chemistry of these xenoliths will be studied and, whenever possible, their age determined in order to shed some light on the nature of the lower crust in this region.

Keewatin Mineral Showing **Project:** 237-90

Period: 15 June - 15 August

Area: Keewatin District

Name: Goff, S. P.

Northern Affairs Program
Department of Indian Affairs
and Northern Development
P. O. Box 1500
Yellowknife, Northwest Territories
X1A 2R3

Tel: (403) 920-8213
Fax: (403) 873-5763

To catalogue, sample and describe as many mineral showings as possible in the Keewatin District in order to build a reference base for comparative studies of Keewatin metallogeny.

Structural Investigation of High-Grade Rocks near Baker Lake, NWT **Project:** 5-93

Period: 15 June - 28 August

Area: Baker Lake

Name: Sanburn-Barrie, Mary

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 992-4704
Fax: (613) 995-9273

A detailed study of high-grade rocks of the Kramanituar complex, Baker Lake, NWT, commenced in 1992 to clarify the structural and metamorphic history of a segment of a tectonic zone which may extend from northern Saskatchewan to the northwest shore of Hudson Bay. This will elucidate the timing and mechanisms of major deformation and metamorphic events in this part of the Canadian Shield and will allow relevant comparisons to be made between these rocks and other segments of the proposed tectonic zone.

Surficial Geology, Lac de Gras **Project:** 64-93

Period: 15 June - 30 August

Area: Lac de Gras

Name: Dredge, L.

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 992-5770
Fax: (613) 992-2468

This project will map, describe and explain the Quaternary geology and geomorphology of the area, with special emphasis on description and distribution of earth materials, glacial history, environmental issues and till geochemistry. It is a cooperative project with other agencies.

Sedimentology, Diagenesis and Economic Potential of Devonian Sediments, Franklinian Miogeosyncline, Bathurst Island **Project:** 74-92

Period: 18 June - 25 August

Area: Byam Martin and Cameron Islands, Stuart and Moses Robinson Rivers, Young Inlet

Name: Brand, Uwe

Department of Geological Sciences
Brock University
St. Catharines, Ontario
L2S 3A1

Tel: (416) 688-5550
Fax: (416) 682-9020

The project aims to define the complex facies and depostitional environments of the Devonian rocks on Bathurst Island. This involves detailed sedimentological, diagenetic and paleoclimatologic studies of sections. Overall, an assessment will be made of the solid-liquid mineral potential of the Devonian strata of the Bathurst Island group.

Fossil Plants of Arctic Canada **Project:** 169-85

Period: 20 June - 31 July

Area: Polar Bear Pass, Geodetic Hills and Fosheim Peninsula

Name: Basinger, James F.

Department of Geological Sciences
University of Saskatchewan
Saskatoon, Saskatchewan
S7N 0W0

Tel: (306) 966-5687
Fax: (306) 966-8593

Exquisitely preserved fossil plants are found in early Tertiary (approximately 40 - 50 million years old) sediments on Axel Heiberg and Ellesmere islands. Fossil forests, the in-place remains of tree stumps and forest floor litter, provide evidence for a once lush Arctic. From these remains, researchers are able to interpret past climatic conditions and the origins of some of the plants that make up our modern deciduous and northern forests. New Silurian/Devonian fossils on Bathurst Island will also be examined.

Structural Geology; Tectonic Analyses, Northern Mainland and Continental Margin **Project:** 158-93

Period: 20 June - 1 August

Area: Rapid, Canyon and Glacier Creeks, and Melcolm River

Name: Lane, Larry, S.

Geological Survey of Canada
Energy, Mines and Resources
3303 - 33rd Street N.W.
Calgary, Alberta
T2L 2A7

Tel: (403) 292-7131
Fax: (403) 292-4961

This project is a continuation of ongoing regional structural mapping in the Blow River and international boundary areas of the northern Yukon. It is part of a multidisciplinary program to document the geological and tectonic evolution of the Beaufort-Mackenzie region. This component documents the complex structural geometry and attempts to refine our understanding of the regional stratigraphy.

Minto Inlier, Victoria Island **Project:** 25-89

Period: 20 June - 5 August

Area: Glenelg and Johansen Bays

Name: Rainbird, Robert H.

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 943-2212
Fax: (613) 975-7997

To develop 1:50,000 scale geological mapping of Neoproterozoic sedimentary and volcanic rocks in Minto Inlier, Victoria Island. Assessment of potential for base and precious metal accumulations in these strata and in correlative strata in the Brock Inlier and Coppermine Homocline.

Biostratigraphy of Lower Cambrian Strata, Ellesmere Island **Project:** 205-92

Period: 20 June - 15 August

Area: Bay, Vendom and Archer Fiords, Bache Peninsula and Makinson Inlet

Name: Pratt, Brian R.

Department of Geological Sciences
University of Saskatchewan
Saskatoon, Saskatchewan
S7N 0W0

Tel: (306) 966-5725
Fax: (306) 966-8593

The principal aims of the project are to establish biostratigraphic and lithostratigraphic characteristics of the Lower Cambrian shelf succession on Bache Peninsula and in the Strathcona Fiord, Vendom Fiord and Makinson Inlet areas of east-central Ellesmere Island, and to relate these to thicker, more complete successions at Ritter Bay, Judge Daly Promontory.

Geology Survey EQE Bay Field Project **Project:** 302-92

Period: 20 June - 30 August

Area: Isortoq Fiord Area

Name: Jackson, Garth

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 995-4731
Fax: (613) 995-9273

1:50,000 scale mapping of the Precambrian geology in the vicinity of Grant-Suttie and Age Bay, north-central Baffin Island, NWT.

Permian-Triassic Stratigraphy and Sedimentology **Project:** 3-92

Period: 25 - 30 June

Area: British Mountains, Northern Yukon

Name: Dixon, James

Geological Survey of Canada
Energy, Mines and Resources
3303 - 33rd Street N.W.
Calgary, Alberta
T2L 2A7

Tel: (403) 292-7136
Fax: (403) 292-5377

Only reconnaissance level studies have been undertaken on Permian-Triassic strata of the northern Yukon and Northwest Territories. The present project is designed to apply more modern stratigraphic and sedimentological concepts to the study of these strata, to develop a regional framework, and to use the data for an economic assessment of the strata.

The Nature and Origin of Massive Ground Ice in the Fosheim Peninsula Area, Canadian High Arctic **Project:** 165-87

Period: 25 June - 29 July

Area: Slidre River, Expedition Fiord, Eureka and May Point

Name: Pollard, Wayne

Department of Geography
McGill University
805 Sherbrooke Street West
Montreal, Quebec
H3A 2K6

Tel: (514) 398-4454
Fax: (514) 398-7437

This project is concerned with the investigation of massive ground ice in the Canadian High Arctic. Current research has two foci: the first is the detailed study of ground ice distribution, stratigraphic setting, content, morphology, and chemistry in the Fosheim Peninsula and Mokka Fiord areas to determine ground ice age and origin. The second is the analysis of gas inclusion chemistry to assess the potential contribution of greenhouse gases from massive ground ice. This study includes analysis of glacier ice in moraines at Expedition Fiord to differentiate between glacial and non-glacial origins.

Paleoclimatic Significance of Early Holocene Glaciomarine Sediments, Eureka Sound Lowlands **Project:** 263-93

Period: 25 June - 5 August

Area: Slidre River Valley, Expedition Fiord, May Point/Mokka Fiord and Fosheim Peninsula

Name: Bell, Trevor

Department of Geography
McGill University
805 Sherbrooke Street West
Montreal, Quebec
H3A 2K6

Tel: (514) 398-4367
Fax: (514) 398-7437

This project is concerned with the depositional setting and paleoclimatic significance of extensive glaciomarine deposits in central Eureka Sound, Canadian High Arctic. Preliminary analysis has shown that these sediments span a wide range of Holocene climate regimes; consequently, they are particularly appropriate for testing the paleoclimatic significance of glaciomarine sedimentation. Such proxy data is critical to our understanding of the likely consequences of future climate change in high latitudes.

Tertiary Forests of Axel Heiberg and Ellesmere Islands

Project: 21-90

Period: 26 June - 31 July

Area: Northeast Axel Heiberg Island, Strathcona and Stenkul Fiords

Name: Basinger, James F.

Department of Geological Sciences
University of Saskatchewan
Saskatoon, Saskatchewan
S7N 0W0

Tel: (306) 966-5687
Fax: (306) 966-8593

Fossil trees, preserved in growth position, occur in sediments of early Tertiary age (40 - 60 million years old) on Axel Heiberg and Ellesmere islands. Reconstruction of these ancient forests will improve our understanding of past environmental conditions in the very high latitudes. Accompanying fossilized leaf litter from the forest floors will augment this study by revealing the composition of the forests, permitting more direct comparison with modern vegetation.

Petrographic Analysis & Coal Resource Potential, Eureka Sound Group

Project: 2-90

Period: 30 June - 29 July

Area: Vendom, Strand and Bay Fiords, and Eureka

Name: Richardson, R.

Alberta Geological Survey
Alberta Research Council
P.O. Box 8330, Station F
Edmonton, Alberta
T6H 5X2

Tel: (403) 438-7623
Fax: (403) 438-3364

Petrographic analyses (vitrinite reflectance measurement and maceral analyses) will be used to establish coal rank and petrographic composition. Depositional environments and coal facies (peat-forming environments) will be assessed based on geologic and petrographic data. Geological and petrographic data will also be used to evaluate the utilization and development potential of the Arctic coals.

Surficial Geology, Kathawachaga Lake **Project:** 54-93

Period: 1 - 31 July

Area: Kathawachaga Lake

Name: Dredge, L.

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 992-5770
Fax: (613) 992-2468

The project will map, describe and explain the Quaternary geology and geomorphology of the area with special emphasis on description and distribution of earth materials, glacial history, terrain-environmental issues and till geochemistry. It is a cooperative project with other agencies.

Mineral and Energy Resource Assessment **Project:** 58-91

Period: 1 - 31 July

Area: Bathurst Island

Name: Jefferson, Charles W.

Geological Survey of Canada
Energy, Mines and Resources
Room 520, 601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 992-9862
Fax: (613) 996-9820

Reconnaissance phase of a three-year program of mapping, prospecting and exploration geochemistry. Work will determine resource potential of area being considered for a new national park.

Cretaceous Stratigraphy, Palynology, Sedimentology Hassel to Kanguk Formation

Project: 238-90

Period: 1 - 25 July

Area: Amund Ringnes, Axel Heiberg Areas

Name: Hills, L.V.

Department of Geology
and Geophysics
University of Calgary
2500 University Drive N.W.
Calgary, Alberta
T2N 1N4

Tel: (403) 220-5848
Fax: (403) 284-0074

Regional studies have defined the general stratigraphic framework of Cretaceous strata in the Sverdrup Basin. However, many problems, including age, depositional environments, presence of unconformities and their significance and petroleum generating potential of the Kanguk Formation still exist. The purpose of this study is to analyze the Hassel, Bastion Ridge, Strand Fiord, and Kanguk Formation in terms of stratigraphy, palynology, and sedimentology. These will aid in paleogeographic reconstruction of the Sverdrup Basin during the Cretaceous.

Mesoproterozoic Carbonate Sedimentation in the Bylot Supergroup and its Effects on Microbialite Microstructure

Project: 220-93

Period: 1 July - 10 August

Area: Milne Inlet, Tremblay Sound Areas

Name: Kah, Linda, C.

Department of Earth and
Planetary Sciences
Harvard University
26 Oxford Street
Cambridge, Massachusetts
02138 USA

Tel: (617) 497-7602
Fac: (617) 495-5667

To examine the sedimentological aspects of microbialite (stromatolite & thrombolite) microstructure in the Mesoproterozoic Bylot Supergroup. By taking a sedimentological approach to microbial fabrics we hope to appreciate the roles of the sedimentary environment such as the origin of carbonate and subsequent diagenesis, in the formation of fabrics which are largely considered biological in origin. Additionally, by comparing data with that from Paleo- and Neoproterozoic successions we hope to examine possible longterm variances in microbialite formation and carbonate sedimentation.

High Arctic Periglacial Processes and Related Quaternary History

Project: 129-79

Period: 1 July - 30 September

Area: Resolute Bay Area

Name: Washburn, A. L.

Quaternary Research Center
University of Washington
AK-60
Seattle, Washington
98195 USA

Tel: (206) 543-8140

The project is a multi-year study of High Arctic periglacial processes, especially frost creep, gelifluction, and patterned-ground research. Project emphasis is on checking site characteristics where instrumental observations have been terminated, and on reviewing other field relationships. Present overall priority is on preparation of two comprehensive manuscripts for publication - the first, on patterned ground, is nearing completion; the second, on gelifluction and frost creep, based on theodolite measurements over a nine-year period, is still in the data reduction stage.

Upper Paleozoic Stratigraphy of Sverdrup Basin

Project: 16-89

Period: 6 - 27 July

Area: Otto Fiord Area

Name: Beauchamp, Benoit

Geological Survey of Canada
Energy, Mines and Resources
3303 - 33rd Street N.W.
Calgary, Alberta
T2L 2A7

Tel: (403) 292-7190
Fax: (403) 292-4961

To understand the upper Paleozoic Carboniferous-Permian stratigraphy of the Sverdrup Basin, Canadian Arctic, in order to assess the resource potential of the area, as well as providing basic information, regional in scale, to both the industry and academia.

Silurian and Lower Devonian Graptolite Taxonomy Biostratigraphy, Evolution

Project: 141-81

Period: 10 - 27 July

Area: Baumann and Vendom Fiords

Name: Lenz, Alfred C.

Department of Geology
University of Western Ontario
London, Ontario
N6A 5B7

Tel: (519) 661-3195
Fax: (519) 661-3198

1. Taxonomy and biostratigraphy of Wenlock to Lower Devonian graptolites.
2. Detailed study of the Wenlock to Ludlow (Middle to Upper Silurian) transition including study of graptolites, brachiopods and geochemistry from the viewpoint of "bioevent".
3. A global study of the taxonomy and evolution of Silurian retiolitid graptolites.

Reef Studies in the Silurian, Canadian Arctic Islands

Project: 14-73

Period: 10 - 28 July

Area: Dragley Beck Inlet and Baring Bay

Name: Dixon, O.A.

Department of Geology
University of Ottawa
Ottawa, Ontario
K1N 6N5

Tel: (613) 564-5751
Fax: (613) 564-9916

Reefs of diverse types occur in the Canadian Arctic in Silurian sedimentary sequences representing shelf-to-slope depositional environments. The nature and occurrence of these structures and closely associated rocks provide information that helps to interpret the sedimentary, tectonic and paleogeographic history of the region.

Ordovician and Silurian Trilobite Faunas of the Canadian Arctic

Project: 138-90

Period: 15 July - 3 August

Area: Baumann Fiord, Hoved and Dundas Islands, Twilight and Snowblind Creeks

Name: Chatterton, Brian D.

Department of Geology
University of Alberta
Edmonton, Alberta
T6G 2E3

Tel: (403) 492-3265
Fax: (403) 492-2030

Diverse silicified Silurian trilobite faunas have been recovered from the Cape Phillips Formation of the central Canadian Arctic. Faunas in the early Wenlock to early Ludlow interval are by far the most numerous and diverse known from rocks of this age anywhere in the world. Over two hundred new species have thus far been identified, and additional new faunas are found as new areas are prospected.

Investigations of Old Rocks in Northern Slave Structural Province

Project: 151-83

Period: 15 July - 15 August

Area: Jackson Camp and Acasta River

Name: Padgham, Wm. A.

Northern Affairs Program
Department of Indian Affairs
and Northern Development
P. O. Box 1500
Yellowknife, Northwest Territories
X1A 2R3

Tel: (403) 920-8211
Fax: (403) 873-5763

An ongoing reconnaissance of potentially old rocks in northern Slave Province to determine the extent and age of these rocks and their relations to the Yellowknife Supergroup. Resulting geochronology has relevance to NWT Geology Division, MIO, GSC and all mapping in the Slave that may be coordinated under the Slave NATMAP projects. Economic implications re: volcanogenic massive sulphide gold, rare element pegmatite and diamond deposits are apparent. Relevance to ongoing studies on the world's oldest rocks and the evolution of continental crust.

Geochronology of the Hepburn Island and Napaktulik Map Areas

Project: 200-93

Period: 15 July - 15 August

Area: Anialik River and Coronation Gulf

Name: Villeneuve, Mike

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street, Room 467
Ottawa, Ontario
K1A 0E8

Tel: (613) 995-3471
Fax: (613) 995-7997

To provide geochronological and trace element isotopic information in support of NATMAP and mineral initiatives projects in the northernmost Slave Province. This information will be used to test mapping models and constrain the models for the tectonic evolution of the Slave Province and its associated mineral deposits.

Geochronology of Supracrustal Rocks in the Slave Structural Province

Project: 217-93

Period: 15 July - 15 August

Area: Jackson Camp and Acasta River

Name: Padgham, Wm. A.

Northern Affairs Program
Department of Indian Affairs
and Northern Development
P. O. Box 1500
Yellowknife, Northwest Territories
X1A 2R3

Tel: (403) 920-8211
Fax: (403) 873-5763

Ongoing detailed mapping and geochronology of the Yellowknife Supergroup leading towards a better understanding of these rocks and their contained mineral deposits. Resulting geochronology has relevance to NWT Geology Division, MIO, GSC and all mapping in the Slave that may be coordinated under the Slave NATMAP projects. Economic implications re: volcanogenic massive sulphide, gold, rare element pegmatite and diamond deposits are apparent. Relevance to ongoing studies on the world's oldest rocks and the evolution of continental crust.

Investigation of Auriferous Iron Formations, Southern Slave Province

Project: 232-93

Period: 15 July - 15 August

Area: Winter Lake and Lac de Gras

Name: Padgham, Wm. A.

Northern Affairs Program
Department of Indian Affairs
and Northern Development
P. O. Box 1500
Yellowknife, Northwest Territories
X1A 2R3

Tel: (403) 920-8211
Fax: (403) 873-5763

Longterm project on turbidite hosted gold deposits in the Yellowknife Supergroup designed to improve understanding of and search techniques for such deposits.

Stratigraphic Studies in Slave Province Supracrustal Rocks

Project: 239-93

Period: 15 July - 15 August

Area: Yellowknife

Name: Padgham, Wm. A.

Northern Affairs Program
Department of Indian Affairs
and Northern Development
P. O. Box 1500
Yellowknife, Northwest Territories
X1A 2R3

Tel: (403) 920-8211
Fax: (403) 873-5763

Recent advances in the understanding of the Yellowknife Supergroup suggest that important revisions of the overall geological map and the models for the development of the Slave Province are required. This work will concentrate on conglomerates and arenites in a northerly trending zone in the Central Slave where shallow marine and fluvial sedimentation may have taken place around 3.0, 2.7 to 2.65 and again around 2.60. The proposed work will clarify the disposition interrelations and relevance of these rocks to Slave Province evolution. The work will be coordinated with and contribute to the Slave NATMAP project and to any Lithoprobe work that takes place in the Slave.

Late Proterozoic Reefs, Northern Baffin Island **Project:** 214-93

Period: 16 - 27 July

Area: Baffin Island

Name: Narbonne, G. M.

Department of Geological Sciences
Queen's University
Kingston, Ontario
K7L 3N6

Tel: (613) 545-2597
Fax: (613) 545-6592

Late Proterozoic (1-2 billion year old) carbonate rocks on northwestern Baffin Island may contain some of the first primitive elements which typify the modern reef ecosystem. Tightly controlled samples will be collected during a 2-week field season. The paleontology and geochemistry will be compared to slightly younger Neoproterozoic reef from other areas of the Canadian Shield.

Early Quaternary and Late Tertiary Geology and Geomorphology - Arctic Islands **Project:** 19-89

Period: 17 - 30 July

Area: Vendom Fiord, Strathcona Fiord, Ellesmere Island

Name: Fyles, John G.

Geological Survey of Canada
Energy, Mines and Resources
401 Lebreton Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 992-5081
Fax: (613) 992-2468

To describe and explain the stratigraphy, geomorphology, tectonic setting and geological history of the Beaufort formation, of stratigraphically equivalent and younger Tertiary deposits, and of associated "old" Quaternary deposits and landforms; and to investigate the landscape evolution subsequent to accumulation of the Beaufort formation.

Quaternary Geology and Terrain Inventory **Project:** 114-93

Period: 20 July - 15 August

Area: Pinguicula Lake

Name: Jackson, Lionel E.

Geological Survey of Canada
Energy, Mines and Resources
100 West Pender Street
Vancouver, British Columbia
V6B 1R8

Tel: (604) 666-3409
Fax: (604) 666-1124

The Quaternary geology and stratigraphy of these two map areas in northeastern Yukon will be mapped and investigated. Geomorphic processes and natural hazards will also be investigated.

Reconnaissance of Eastern Amund Ringnes Island **Project:** 203-93

Period: 22 July - 9 August

Area: Amund Ringnes Island

Name: Osczevski, Randall J.

22 Foothills Drive
Nepean, Ontario
K2H 6K3

Tel: (613) 998-2368
Fax: (613) 990-5002

A four-man party will prospect an area of eastern Amund Ringnes Island where large fossil bones were reportedly seen over eighty years ago. Other areas of the coastline will be examined for traces of the lost German Arctic Expedition 1929-30 and for evidence that Dr. Frederick Cook traversed this coast on his journey south from the Arctic Ocean in 1908.

Geomorphologic and Geochemical Environments and Processes in the Hudson Bay Region

Project: 250-90

Period: 25 July - 31 August

Region: Petite rivière de la Baleine

Name: Parent, Michel

Quebec Geoscience Centre
Geological Survey of Canada
Energy, Mines and Resources
2700 Einstein St., P. O. Box 7500
Sainte-Foy, Quebec
G1V 4C7

Tel: (418) 654-2557
Fax: (418) 654-2615

Multidisciplinary pilot study toward a clearer understanding of the geomorphologic processes (permafrost, mass movements, littoral and fluvial erosion/sedimentation) and geochemical processes (detrital and organic surficial formations, soils, fresh water) in a region contemplated for a hydroelectric megaproject.

Late Quaternary Marine Mollusc Assemblages and Paleoceanography, Queen Elizabeth Islands

Project: 228-92

Period: 4 - 28 August

Area: Cañon Fiord, Ellesmere Island

Name: Aitken, Alec Edison

Department of Geography
University of Saskatchewan
Saskatoon, Saskatchewan
S7N 0W0

Tel: (306) 966-5672
Fax: (306) 966-8709

To produce an integrated picture of Late Quaternary environmental change in the northernmost Queen Elizabeth Islands, NWT, through the combined study of glacial and marine sediments and their associated body fossil assemblages. The molluscan fossils, in combination with isotopic analyses of shell carbonate, have utility in inferring the paleoceanography of the region during Holocene deglaciation.

Kimberlites **Project:** 234-93

Period: 7 - 17 August

Area: Elwin Bay and Bathurst Island

Name: Kjarsgaard, Bruce

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street, Room 375
Ottawa, Ontario
K1A 0E8

Tel: (613) 995-5705
Fax: (613) 995-7997

Detailed 1:5,000 scale geological mapping of kimberlites at Elwin Bay on Somerset Island, Brodeur Peninsula and Bathurst Island and assessment of the diamond-bearing potential of these kimberlites.

Engineering Geology of Permafrost Areas **Project:** 46-86

Period: 11 - 30 August

Area: Eskimo Lakes and Tuktoyaktuk

Name: Dallimore, Scott R.

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 992-1658
Fax: (613) 992-2468

To provide geological and geotechnical information in the terrestrial portion of the Beaufort Sea coastal zone in order to ensure an adequate level of knowledge so that government is in a position to assess development proposals that would impact on this sensitive zone. Research to include mapping the distribution of surface deposits and landforms, identification of geological hazards, investigations of permafrost and ground ice distribution and identification of active geomorphic processes.

Reconnaissance Survey of the Periglacial Geomorphology of Bylot Island

Project: 118-93

Period: 15 - 25 August

Region: Bylot Island

Name: Allard, Michel

Centre d'études nordiques
Room 4392, Pavillon Bonenfant
Laval University
Sainte-Foy, Quebec
G1K 7P4

Tel: (418) 656-5416
Fax: (418) 656-2978

Observations on the permafrost and associated forms on Bylot Island. The objective is to establish an inventory of subjects for future research. The value of the project concerns primarily the dynamics of polygonal ground and ice wedges, as well as the stratigraphy of associated paleosols.

GEOPHYSICS

Coronation Gulf Gravity Survey **Project:** 8-73

Period: 24 February - 28 April

Area: Coppermine

Name: Cooper, Roy

Geological Survey of Canada
Energy, Mines and Resources
1 Observatory Crescent
Building No. 2
Ottawa, Ontario
K1A 0Y3

Tel: (613) 992-6949
Fax: (613) 952-8987

As part of Geological Survey of Canada's program to map and explain the regional geological and tectonic framework of Canada's landmass and offshore, to carry out a regional gravity survey of Coronation Gulf in cooperation with Canadian Hydrographic Service.

Geophysical Investigations of Permafrost **Project:** 9-73

Period: 15 - 31 March

Area: Tuktoyaktuk Area

Name: Hunter, J.A.

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 992-2560
Fax: (613) 992-2468

This program will be testing the application of two new geophysical techniques developed under the joint Canada/Russia Northern Scientific Exchange Program. These are: a) a capacitive-coupled resistivity system for detection of high ice content materials, and b) seismoacoustic shear wave reflection method for mapping subsurface permafrost structure.

Chemical and Geophysical Properties of Ground Ice **Project:** 243-93

Period: 15 March - 9 August

Area: Tuktoyaktuk and Bylot Island

Name: Moorman, Brian

Department of Earth Sciences
Carleton University
Ottawa, Ontario
K1S 5B6

Tel: (613) 788-2600 Ext. 2600
Fax: (613) 788-4490

The geophysical, isotope and chemical properties of buried and segregated ground ice are studied. Environmental reconstruction and ground ice development processes will be inferred from the measured parameters.

Determination of Spatial and Temporal Structure of Compressional and Shear Wave Speeds in Sea Ice by Crosshole Tomography **Project:** 202-92

Period: 1 - 15 April

Area: Sabine Bay and Resolute

Name: Rajan, S. D.

Woods Hole Oceanographic Institution
Bigelow G3, Water Street
Woods Hole, Massachusetts
02543 USA

Tel: (508) 548-1400 Ext. 2317
Fax: (508) 457-2194

The goal of the program is to characterize sea ice on the basis of its acoustic properties, study their spatial and temporal variability and infer the mechanical properties from its acoustic parameters. In addition, estimates of anisotropy in sea ice will be obtained and this will be related to crack density in the material.

PMAP Aeromagnetic Survey **Project:** 266-90

Period: 5 - 24 April

Area: Resolute Bay

Name: Hardwick, C.D.

Institute for Aerospace Research
National Research Council
Building U-61, Montreal Road
Ottawa, Ontario
K1A 0R6

Tel: (613) 998-3525
Fax: (613) 952-1704

To conduct aeromagnetic mapping of the Arctic continental margins for the departments of Energy, Mines and Resources and National Defence using NRC's Convair 580 aircraft. This campaign is part of an ongoing project started in 1989. To date, the Lincoln Sea has been surveyed from Greenland to Ellesmere Island and the continental margin off Axel Heiberg has been covered. The 1993 survey will continue Axel Heiberg in the direction of Ellef Ringnes.

Ice Cap Monitoring **Project:** 120-90

Period: 28 April - 2 May

Area: Iqaluit

Name: Weber, J. R.

Geological Survey of Canada
Energy, Mines and Resources
1 Observatory Crescent
Building No. 2
Ottawa, Ontario
K1A 0Y3

Tel: (613) 995-5515

To measure the absolute elevation changes of a number of ice caps in the Canadian Arctic as longterm indicators of climatic change using gravimeters and GPS receivers. In particular, 1) establish new gravity ties between Iqaluit and Barnes Ice Cap; and, 2) improve measurements of elevation changes of Penny Ice Cap between 1962 and 1993.

Integrated Circumpolar Environment (ICE) **Project:** 4-93

Period: 20 - 30 May

Area: Russian Arctic Islands

Name: Koerner, Roy

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 996-7623
Fax: (613) 996-5448

To sample snow and ice on Russian Arctic Islands and Ice Caps; to determine nature and source of pollutant aerosols that invade the Arctic atmosphere in winter. To determine (from shallow ice cores) when pollution began. To use gravity to measure several year ice thickness changes. To measure gravity between and beyond Russian Arctic Islands as a control for Russian measurements expected to be published shortly.

The Nature and Origin of Massive Ground Ice in the Fosheim Peninsula Area, Canadian High Arctic **Project:** 165-87

Period: 25 June - 29 July

Area: Slidre River, Expedition Fiord, Eureka and May Point

Name: Pollard, Wayne

Department of Geography
McGill University
805 Sherbrooke Street West
Montreal, Quebec
H3A 2K6

Tel: (514) 398-4454
Fax: (514) 398-7437

This project is concerned with the investigation of massive ground ice in the Canadian High Arctic. Current research has two foci: the first is the detailed study of ground ice distribution, stratigraphic setting, content, morphology, and chemistry in the Fosheim Peninsula and Mokka Fiord areas to determine ground ice age and origin. The second is the analysis of gas inclusion chemistry to assess the potential contribution of greenhouse gases from massive ground ice. This study includes analysis of glacier ice in moraines at Expedition Fiord to differentiate between glacial and non-glacial origins.

Western Arctic Hydrographic Surveys **Project:** 172-93

Period: 1 August - 10 September

Area: Lady Franklin Point

Name: Mortimer, A.

Canadian Hydrographic Service
Department of Fisheries and Oceans
P.O. Box 6000
9860 West Saanich Road
Sidney, British Columbia
V8L 4B2

Tel: (604) 363-6349
Fax: (604) 363-6323

In 1990, a hydrographic survey of Dolphin and Union Strait was done using lidar instruments from an aircraft. As this instrumentation is still under development, it is proposed to use C.S.S. John P. Tully to ground truth the hydrographic data, and to extend the survey in Coronation Gulf.

GLACIOLOGY

Glacier Research in the Queen Elizabeth Islands **Project:** 10-73

Period: 16 March - 20 May

Area: Meighen, Melville and Devon Islands, and Agassiz Ice Cap

Name: Koerner, Roy

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 996-7623
Fax: (613) 996-5440

To measure glacier balance on Meighen, Melville, Devon and northern Ellesmere ice caps; to test electro-mechanical drill after modifications made as a result of 1992 field test; to collect snow/ice samples for Arctic haze studies; and, to download and reset two data loggers on Agassiz and one on Devon.

Baffin Island Mesoclimate Study **Project:** 115-79

Period: 27 April - 15 July

Area: Penny & Barnes Ice Caps, Amadjuak & Nettilling Lakes, Isortoq River

Name: Jacobs, John D.

Department of Geography
Memorial University
St. John's, Newfoundland
A1B 3X9

Tel: (709) 737-7417
Fax: (709) 737-4000

This field program involves the operation of climate autostations at remote sites on Baffin Island, including a large interior lowlands region and plateau ice caps. The data from the stations and from concurrent field studies are used in modelling of the mesoscale climate, calibration of proxy records from past climates, and in monitoring for regional effects of global change.

Ice Cap Monitoring **Project:** 120-90

Period: 28 April - 2 May

Area: Iqaluit

Name: Weber, J. R.

Geological Survey of Canada
Energy, Mines and Resources
1 Observatory Crescent
Building No. 2
Ottawa, Ontario
K1A 0Y3

Tel: (613) 995-5515

To measure the absolute elevation changes of a number of ice caps in the Canadian Arctic as longterm indicators of climatic change using gravimeters and GPS receivers. In particular, 1) establish new gravity ties between Iqaluit and Barnes Ice Cap; and, 2) improve measurements of elevation changes of Penny Ice Cap between 1962 and 1993.

Active Layer Hydrology and Chemistry on Axel Heiberg Island and Glacier Hydrology in the Sawtooth Mountains, Ellesmere Island **Project:** 288-90

Period: 3 May - 15 August

Area: Expedition Fiord, Axel Heiberg Island, Sawtooth Range and Ellesmere Island

Name: English, Michael C.

Cold Regions Research Centre
Wilfrid Laurier University
75 University Avenue West
Waterloo, Ontario
N2L 3C5

Tel: (519) 884-1970 Ext. 2159
Fax: (519) 725-1342

This project has a dual scope. The study on Axel Heiberg Island, NWT, examines active layer groundwater hydrology and chemistry. The other proposed study examines glacial hydrology on a small glacier in the Sawtooth Mountain range on the Fosheim Peninsula, Ellesmere Island.

Integrated Circumpolar Environment (ICE) **Project:** 4-93

Period: 20 - 30 May

Area: Russian Arctic Islands

Name: Koerner, Roy

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 996-7623
Fax: (613) 996-5448

To sample snow and ice on Russian Arctic Islands and Ice Caps; to determine nature and source of pollutant aerosols that invade the Arctic atmosphere in winter. To determine (from shallow ice cores) when pollution began. To use gravity to measure several year ice thickness changes. To measure gravity between and beyond Russian Arctic Islands as a control for Russian measurements expected to be published shortly.

The Nature and Origin of Massive Ground Ice in the Fosheim Peninsula Area, Canadian High Arctic **Project:** 165-87

Period: 25 June - 29 July

Area: Slidre River, Expedition Fiord, Eureka and May Point

Name: Pollard, Wayne

Department of Geography
McGill University
805 Sherbrooke Street West
Montreal, Quebec
H3A 2K6

Tel: (514) 398-4454
Fax: (514) 398-7437

This project is concerned with the investigation of massive ground ice in the Canadian High Arctic. Current research has two foci: the first is the detailed study of ground ice distribution, stratigraphic setting, content, morphology, and chemistry in the Fosheim Peninsula and Mokka Fiord areas to determine ground ice age and origin. The second is the analysis of gas inclusion chemistry to assess the potential contribution of greenhouse gases from massive ground ice. This study includes analysis of glacier ice in moraines at Expedition Fiord to differentiate between glacial and non-glacial origins.

Application of ERS-1 Radar Data to the Study of the White-Thompson Glacier Complex, Axel Heiberg Island

Project: 175-92

Period: 23 July - 31 August

Region: Expedition Fiord

Name: Moisan, Yves

Department of Geography
and Remote Sensing
University of Sherbrooke
2500 University Blvd.
Sherbrooke, Quebec
J1K 2R1

Tel: (819) 821-7000
Fax: (819) 821-7944

The basic objective of the project is to evaluate the usefulness of satellite radar data in the study of valley glaciers in the Canadian Arctic. The problems serving as the backdrop to the proposed study include (1) determination of the position of the equilibrium line separating zones of accumulation, upstream, from those of ablation, downstream; (2) characterization of subzones of the accumulation zone (dry snow, wet snow and percolation zones); (3) evaluation of the parameters of surface roughness and of the dielectric properties of zones and subzones; and (4) evaluation of the importance of the volume component in the amount of backscatter signal. The data to be used will come from the radar sensor installed on the European ERS-1 remote sensing satellite.

HYDROLOGY

Hydrological Studies - Mackenzie Delta Area **Project:** 130-84

Period: 15 April - 10 September

Area: Inuvik and Trail Valley Creek

Name: Marsh, Phillip

National Hydrology
Research Institute
Environment Canada
11 Innovation Boulevard
Saskatoon, Saskatchewan
S7N 3H5

Tel: (306) 975-5752
Fax: (306) 975-5143

This study is aimed at improving the understanding of processes controlling snow accumulation, snowmelt, and rainfall runoff in northern environments, and the related hydrogeochemical fluxes. This work has implications for predicting snowmelt flood, global change, and the flux of nutrients and pollutants through northern ecosystems. A major emphasis of this work will be to extend traditional small-scale studies to regional scales for coupling with mesoscale atmospheric and hydrological models.

Calibration of DMSP SSM/I Passive Microware Data to Snow Data of NWT **Project:** 299-93

Period: 25 April - 1 June

Area: Trail Valley Creek and Resolute

Name: Yew Gran, Thian

Northern Affairs Program
Indian and Northern Affairs Canada
P. O. Box 1500
Yellowknife, Northwest Territories
X1A 2R3

Tel: (403) 920-8237
Fax: (403) 873-9318

An algorithm is developed for converting remotely sensed, passive microwave data of the DMSP, SSM/I satellite to the snow data of NWT. Field snow data surveyed across the NWT, from Cornwallis Island (Resolute) and Tuktoyaktuk to Hay River, are used to assess the general accuracy of the algorithm with respect to locations and vegetation of the NWT.

Snow, Wetland and Permafrost Hydrological Processes at Two High Arctic Sites

Project: 53-73

Period: 1 May - 31 August

Area: Ellesmere Island and Cornwallis Island

Name: Woo, Ming-ko

Department of Geography
McMaster University
1280 Main Street West
Hamilton, Ontario
L8S 4K1

Tel: (416) 525-9140 Ext. 3526
Fax: (416) 546-0463

1) Aeolian deposition on the snow cover during winter causes differential melt on a regional scale, and a study at Fosheim Peninsula will relate the resulting spatial distribution of snow cover to the physical processes.
2) The hydrology of a fen in the Hot Weather Creek catchment will be studied to determine its water balance, water storage and the flow patterns within the fen.
3) A wetland and non-wetland site near Resolute will be instrumented to determine the hydrometeorological processes so as to provide input into a climatic change impact model.

Amituk Lake: Trace Organic Contaminants in an Arctic Aquatic System

Project: 42-92

Period: 18 May - 31 August

Area: Amituk Lake, Cornwallis Island

Name: Semkin, R. G.

National Water Research Institute
Environment Canada
P. O. Box 5050
867 Lakeshore Road
Burlington, Ontario
L7R 4A6

Tel: (416) 336-4781
Fax: (416) 336-4972

Amituk Lake, on the east coast of Cornwallis Island, was selected as a site for documenting the occurrence and movement of organic and inorganic contaminants from the snowpack through an Arctic freshwater system. Measuring the flux of these chemicals in a terrestrial basin will provide critical information on the behaviour and fate of airborne contaminants prior to their entry into the marine environment.

Hydrology of Snow-Filled Arctic Stream Valleys **Project:** 163-89

Period: 27 May - 22 July

Area: Resolute Bay Area

Name: Heron, Richard

Department of Geography
University of Windsor
Windsor, Ontario
N9B 3P4

Tel: (519) 253-4232 Ext. 2181
Fax: (519) 973-7050

Winter snowdrifts may block stream channels and cause spring meltwater to accumulate upstream. This project will examine the way in which the streams break through these snow dams as well as the factors that determine the rate at which new channels are established in these snow-filled valleys.

Groundwater Flow and Icing Formation in the Northern Yukon **Project:** 229-93

Period: 16 - 25 June

Area: Firth River

Name: Clark, Ian D.

Department of Geology
University of Ottawa
161 Louis Pasteur
Ottawa, Ontario
K1N 6N5

Tel: (613) 564-3480
Fax: (613) 564-9916

Icings found along river courses in the northern Yukon manifest the circulation of groundwater within the zone of continuous permafrost. Our work will explore these hydrogeological systems to discover how they are recharged, their dimensions, and what they mean to development in the North.

Paleoclimate and Paleohydrology in the Mackenzie Delta

Project: 119-93

Period: 21 June - 1 July

Area: Mackenzie Delta

Name: Gajewski, K.

Department of Geography
University of Ottawa
165 Waller Street
Ottawa, Ontario
K1N 6N5

Tel: (613) 564-5517
Fax: (613) 564-3304

This research will attempt to determine the long-term climate, hydrology and vegetation changes in the Mackenzie Delta. Lakes sediments will be sampled and used for pollen and macrofossil analysis.

Acoustic Sensing of Sea Ice Fracturing **Project:** 111-92

Period: 15 March - 15 April

Area: Resolute Bay

Name: Farmer, David M.

Institute of Ocean Sciences
Department of Fisheries and Oceans
P.O. Box 6000
9860 West Saanich Road
Sidney, British Columbia
V8L 4B2

Tel: (604) 363-6591
Fax: (604) 363-6798

To monitor ice fracturing processes in a highly controlled sea ice site using acoustic sensors (hydrophones), and to correlate observed acoustic radiation from an artificially generated crack with the cracking process. This project is a continuation of previous studies on the mechanical properties of sea ice. We will collaborate with the CANMAR group.

Determination of Spatial and Temporal Structure of Compressional and Shear Wave Speeds in Sea Ice by Crosshole Tomography **Project:** 202-92

Period: 1 - 15 April

Area: Sabine Bay and Resolute

Name: Rajan, S. D.

Woods Hole Oceanographic Institution
Bigelow G3, Water Street
Woods Hole, Massachusetts
02543 USA

Tel: (508) 548-1400 Ext. 2317
Fax: (508) 457-2194

The goal of the program is to characterize sea ice on the basis of its acoustic properties, study their spatial and temporal variability and infer the mechanical properties from its acoustic parameters. In addition, estimates of anesotropy in sea ice will be obtained and this relates to crack density in the material.

Glacier Research in the Queen Elizabeth Islands **Project:** 10-73

Period: 16 March - 20 May

Area: Meighen, Melville and Devon Islands, and Agassiz Ice Cap

Name: Koerner, Roy

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 996-7623
Fax: (613) 996-5440

To measure glacier balance on Meighen, Melville, Devon and northern Ellesmere ice caps; to test electro-mechanical drill after modifications made as a result of 1992 field test; to collect snow/ice samples for Arctic haze studies; and, to download and reset two data loggers on Agassiz and one on Devon.

Palynology **Project:** 23-93

Period: 22 March - 6 April

Area: Fort Simpson, Norman Wells and Tuktoyaktuk

Name: Jetté, H.

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 992-0581
Fax: (613) 992-0190

Various pollen sequences along the Mackenzie River are studied to reconstruct the vegetational history of the area through time. Paleoenvironments can be deduced from the vegetation of the past and application of the pollen-climate transfer functions will be used to reconstruct holocene paleoclimate.

Amituk Lake: Trace Organic Contaminants in an Arctic Aquatic System **Project:** 42-92

Period: 18 May - 31 August

Area: Amituk Lake, Cornwallis Island

Name: Semkin, R. G.

National Water Research Institute
Environment Canada
P. O. Box 5050
867 Lakeshore Road
Burlington, Ontario
L7R 4A6

Tel: (416) 336-4781
Fax: (416) 336-4972

Amituk Lake, on the east coast of Cornwallis Island, was selected as a site for documenting the occurrence and movement of organic and inorganic contaminants from the snowpack through an Arctic freshwater system. Measuring the flux of these chemicals in a terrestrial basin will provide critical information on the behaviour and fate of airborne contaminants prior to their entry into the marine environment.

A) Aquatic Impacts of Increased UV-B and
B) Organic Contaminant Distribution in High Arctic Ecosystems

Project: 272-93

Period: 20 June - 30 September

Area: Resolute, Hot Weather Creek, Chesterfield Inlet and Baffin Island

Name: Lean, David

National Water Research Institute
Environment Canada
P. O. Box 5050
Burlington, Ontario
K7R 4A6

Tel: (705) 656-3621
Fax: (705) 656-1579

A) Aquatic impacts of increased UV-B resulting from stratospheric ozone depletion will be investigated at sites near AES monitor locations. Factors which influence light penetration will be studied together with measurements of photochemical production of reactive oxygen species. Damage to organisms at the base of the food chain will also be investigated.
B) The pattern and distribution of organochlorine contaminants depends on many factors, but through studies of concentration in zooplankton predictive models will be developed to provide spatial patterns in the High Arctic.

Limnology and Paleoecology of Arctic Lakes

Project: 204-92

Period: 15 - 31 July

Area: Resolute

Name: Smol, John P.

Department of Biology
Queen's University
Kingston, Ontario
K7L 3N6

Tel: (613) 545-6147
Fax: (613) 545-6617

Our limnological and paleolimnological studies are focused on describing and correlating with limnological variables the algae and aquatic invertebrates of Arctic lakes. Fossil assemblages of these organisms are used to interpret the paleoenvironmental histories of these lakes, centering on problems related to climatic change.

Microbial Responses to Global Change in Arctic Lakes and Rivers

Project: 249-93

Period: 18 - 24 July

Area: Pond Inlet and Bylot Island

Name: Vincent, Warwick F.

Centre d'Études Nordiques
Département de biologie
Université Laval
Ste-Foy, Quebec
G1K 7P4

Tel: (418) 656-5644
Fax: (418) 656-2043

Microbial communities such as periphytic mats and planktonic consortia play a major role in the flux of carbon, nutrients and energy in south polar lakes and streams, but comparatively little is known about microbial dynamics in Arctic freshwater ecosystems. In this 5-year program, we will apply our Antarctic experience toward understanding microbial community structure and dynamics in the Arctic freshwater environment. The 1993 season will involve preliminary sampling in the Pond Inlet/Bylot Island region.

Genetic Diversity in the Biota of Arctic Lakes

Project: 81-88

Period: 1 - 15 August

Area: Tuktoyaktuk

Name: Hebert, Paul D. N.

Department of Zoology
University of Guelph
Guelph, Ontario
K1G 2W1

Tel: (519) 824-4120 Ext. 3598
Fax: (519) 767-1656

This research program involves the survey of patterns and levels of molecular and biochemical genetic variation in populations of Arctic fish and zooplankton. The work aims to extend understanding of taxon diversity in Arctic aquatic habitats and to reconstruct postglacial routes of dispersal from glacial refugia.

Biogeochemistry of Lakes in the Mackenzie Delta **Project:** 187-92

Period: 15 - 30 August

Area: Tuktoyaktuk

Name: Lesack, Lance F. W.

Department of Geography
Simon Fraser University
Burnaby, British Columbia
V5A 1S6

Tel: (604) 291-3326
Fax: (604) 291-5841

To determine the interacting biogeochemical and hydrologic processes that are controlling the cycling of nutrients through aquatic ecosystems in the Mackenzie Delta. This study is part of a larger effort to develop a general understanding of the cycling of nutrients and control of primary production in aquatic ecosystems associated with the floodplains and deltas of major world rivers.

MARINE BIOLOGY

Productivity of Arctic Marine Food Chains **Project:** 62-87

Period: 5 January - 20 December

Area: Resolute Area

Name: Welch, H.E.

Department of Fisheries and Oceans
Freshwater Institute
501 University Crescent
Winnipeg, Manitoba
R3T 2N6

Tel: (204) 983-5132
Fax: (204) 984-2404

To continue the work on the trophic dynamics of the High Arctic marine ecosystem. The main emphasis in 1993 will be the collection of winter data from January through December. This will include collaboration with Dr. Hargrave on organochlorine pollutant input into Arctic seas.

Fishery Turbot Exploratory **Project:** 44-92

Period: 12 - 28 March

Area: Banks Island

Name: Chiperzak, Doug

Science
Department of Fisheries and Oceans
Freshwater Institute
501 University Crescent
Winnipeg, Manitoba
R3T 2N6

Tel: (204) 983-0185
Fax: (204) 984-2403

To assess the commercial potential of marine groundfish stocks in the offshore waters of Banks Island. This project will also develop local expertise to conduct offshore winter fisheries.

Polar Bear Ecology and Interrelationships with Arctic Marine Mammals

Project: 7-73

Period: 10 April - 15 May

Area: Northern Beaufort Sea and Radstock Bay

Name: Stirling, Ian

Canadian Wildlife Service
Environment Canada
5320 - 122 Street
Edmonton, Alberta
T6H 3S5

Tel: (403) 435-7349
Fax: (403) 435-7359

In this project, a variety of sub-projects are conducted related to the ecological interrelationships of polar bears, seals and ice conditions. For 1993, the team anticipates working on population ecology and movements of polar bears in the northern Beaufort Sea, on the behaviour of free-ranging polar bears at Radstock Bay (east of Resolute), and on baseline work on ringed seals in northeastern Hudson Bay. The polar bear population in Churchill will be monitored.

Waterfowl Ecology - Central Arctic

Project: 147-86

Period: 25 May -16 August

Area: Kent Peninsula and NE Coppermine

Name: Bromley, Robert G. D

Department of Renewable Resources
Government of NWT
Box 1320, 5th Floor, Scotia Centre
Yellowknife, Northwest Territories
X1A 2L9

Tel: (403) 920-6328
Fax: (403) 873-0293

The dark goose populations of the central Arctic are poorly understood. Current studies focus on determining population delineation and geographic affinities, survival rates and reproductive success of white-fronted and Canada geese. Prenesting ecology, social behaviour and the relationship of reproductive success to lemming and fox cycles are being investigated.

Sources and Sinks of Organochlorines in Arctic Ocean, Marine Food Webs

Project: 213-93

Period: 15 June - 15 September

Area: Resolute Bay

Name: Hargrave, B.

Biological Sciences
Department of Fisheries and Oceans
Bedford Institute of Oceanography
P. O. Box 1006
Dartmouth, Nova Scotia
B2Y 4A2

Tel: (902) 426-3188
Fax: (902) 426-7823

A twelve-month study near Resolute Bay will test the hypothesis that semi-volatile organochlorines (pesticides and PCBs) are carried to the Arctic Ocean through the atmosphere, transfered to the surface ocean during the summer melt period, and accumulated in lipids of plankton and benthic invertebrates.

Monitoring Domestic Whale Hunt - Kugmallit Bay and Shallow Bay

Project: 92-89

Period: 15 - 30 July

Area: Coastline from Tuktoyaktuk to Shingle Point

Name: Robinson, Neil G.

Fish and Habitat Management
Department of Fisheries and Oceans
Box 1871
Inuvik, Northwest Territories
X0E 0T0

Tel: (403) 979-3314
Fax: (403) 979-4330

The purpose of this project is to survey the coastline from Tuktoyaktuk to Shingle Point to see how many beluga whales washed up during domestic hunt. The objective is to provide some idea as to loss rate.

Late Quaternary Marine Mollusc Assemblages and Paleoceanography, Queen Elizabeth Islands

Project: 228-92

Period: 4 - 28 August

Area: Cañon Fiord, Ellesmere Island

Name: Aitken, Alec Edison

Department of Geography
University of Saskatchewan
Saskatoon, Saskatchewan
S7N 0W0

Tel: (306) 966-5672
Fax: (306) 966-8709

To produce an integrated picture of Late Quaternary environmental change in the northernmost Queen Elizabeth Islands, NWT, through the combined study of glacial and marine sediments and their associated body fossil assemblages. The molluscan fossils, in combination with isotopic analyses of shell carbonate, have utility in inferring the paleoceanography of the region during Holocene deglaciation.

Coastal Zone Geotechnics and Impacts of Climate Change

Project: 298-91

Period: 15 March - 15 April

Area: North Head and Atkinson Point

Name: Solomon, Steve

Geological Survey of Canada
Energy, Mines and Resources
Box 1006
Dartmouth, Nova Scotia
B2Y 4A2

Tel: (902) 426-7737
Fax: (902) 426-4104

Investigation of coastal sediments and sedimentary processes, including geotechnical properties, sediment transport by waves, currents, and ice, and coastal erosion processes and rates.

Plant-Animal Interactions as Influenced by Ice in the Pelagic Zone of Barrow Strait

Project: 97-83

Period: 1 April - 30 September

Area: Resolute Bay Area

Name: Conover, R. J.

Bedford Institute of Oceanography
Department of Fisheries and Oceans
P.O. Box 1006
Dartmouth, Nova Scotia
B2Y 4A2

Tel: (902) 426-3847
Fax: (902) 426-2256

To continue the cooperative overwintering program with DFO Central and Arctic, starting about January 1, 1993 and extending to early January 1, 1994. The primary thrust of the program will be to complete studies on life cycles, production, and community energy flow of the marine communities of Barrow Strait/Resolute Passage.

High Arctic Integrated Research and Monitoring Area **Project:** 63-84

Period: 1 May - 31 August

Area: Hot Weather Creek

Name: Edlund, Sylvia A.

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 995-4882
Fax: (613) 992-0190

This program monitors the physical and selected biological responses of the terrain to climate variability, reconstructs past paleoenvironments, and makes crucial links between geological and geomorphic processes, biological processes and climate. This project seeks to enable us to predict the effects of climate change on the sensitive terrain of the Sverdrup Basin.

Grande Baleine Environmental Impact Agreement **Project:** 242-93

Period: 20 May - 30 June

Area: Poste de la Baleine

Name: Amos, C. L.

Geological Survey of Canada
Energy, Mines and Resources
P. O. Box 1006
Dartmouth, Nova Scotia
B2Y 4A2

Tel: (902) 426-7739
Fax: (902) 426-4104

This is a multidisciplinary study aimed at collecting a geoscientific database suitable for a proper evaluation of the Hydro Quebec Environmental Impact Statement. The project has coordinated offshore and coastal mapping, terrestrial sources of material to the coast, and coastal stability. It will result in a numerical simulation of sedimentation, benthic stability and water quality in the region affected by development.

Ellesmere Island National Park Reserve **Project:** 99-87

Period: 7 June - 23 August

Area: Tanquary Fiord

Name: Thorpe, Bill

Auyuittuq/Ellesmere Island
National Park Reserves
Canadian Parks Service
Environment Canada
Box 353
Pangnirtung, Northwest Territories
X0A 0R0

Tel: (819) 473-8828
Fax: (819) 473-8612

To assist in the operation and management of Ellesmere Island National Park Reserve.

Arctic Gallery **Project:** 219-92

Period: 5 - 25 July

Area: Ellesmere and Axel Heiberg Islands, Polar Bear Pass and Resolute

Name: Thiessen, Carol

Public Programmes
Canadian Museum of Nature
P.O. Box 3443, Station D
Ottawa, Ontario
K1P 6P4

Tel: (613) 991-0439
Fax: (613) 991-0403

As part of the development and production of a 5800-square-foot permanent exhibit gallery on the Arctic, specimens, photographs and colour reference material will be collected and processed in order to produce realistic, recreated environments for walk-through dioramas. Moulds will be taken of rock faces, and specimens and reference material will be collected at Polar Bear Pass, Sverdrup Pass, and the Geodetic Hills.

Bylot Island Group for Interpreting Cold Environments **Project:** 199-93

Period: 12 July - 9 August

Area: Bylot Island

Name: Michel, F. A.

Department of Earth Sciences
Carleton University
1125 Colonel By Drive
Ottawa, Ontario
K1S 5B6

Tel: (613) 788-4400
Fax: (613) 788-4490

The program of investigation will focus on studying the geochemical characteristics of glaciers, ground ice and associated surface ice bodies on southern Bylot Island as it relates to climatic change. The sedimentary record of associated lacustrine deposits will also be examined.

Ice Scour Disturbance and the Structure of Arctic Marine Benthic Communities **Project:** 240-91

Period: 27 July - 24 August

Area: Resolute Bay

Name: Conlan, Kathleen E.

Canadian Museum of Nature
P.O. Box 3443, Station D
Ottawa, Ontario
K1P 6P4

Tel: (613) 954-7677
Fax: (613) 954-6439

Ice scouring is probably the most disruptive and widespread physical disturbance that affects marine sea-bottom communities in polar waters, yet is a subject that has rarely been studied from an ecological point of view. We will explore the ecological implications of this disturbance to Arctic bottom communities by characterizing and modelling the physical disturbance regime, determining biotic responses and recovery patterns, and testing the correlation of community mosaics to disturbance intensity.

Application of Geophysical, Electromagnetic and Geothermal Techniques to Research on Permafrost and its Effects on Airport Infrastructure

Project: 20-91

Period: 2 - 11 August

Region: Nunavik and Baffin Island

Name: Pilon, J. A.

Geological Survey of Canada
Energy, Mines and Resources
601 Booth Street
Ottawa, Ontario
K1A 0E8

Tel: (613) 996-9315
Fax: (613) 992-2468

Development, demonstration, evaluation and testing of geophysical, electromagnetic and geothermal techniques to determine the regional extent of permafrost and its physical properties, particularly their significance for the operation and maintenance of airport infrastructure of northern communities.

OCEANOGRAPHY

Ice Subsurface Characterization **Project:** 11-85

Period: 2 - 21 April

Area: Beaufort Sea

Name: Melling, Humfrey

Department of Fisheries and Oceans
Institute of Ocean Sciences
P.O. Box 6000
Sidney, British Columbia
V8L 4B2

Tel: (604) 363-6552
Fax: (604) 363-6572

Moored subsea sonars are used to measure the motion of sea ice, and to measure the thickness and topography of the drifting ice pack. Data are applied to the design of offshore structures, to the interpretation of satellite radar images of sea ice, and to the study of year-to-year changes in Beaufort Sea ice.

Production of Volatile Organohalogens by Ice-Algae in the Beaufort Sea **Project:** 207-92

Period: 3 - 23 April

Area: Tuktoyaktuk

Name: Moore, Robert M.

Department of Oceanography
Dalhousie University
Halifax, Nova Scotia
B3H 4J1

Tel: (902) 494-3871
Fax: (902) 494-3877

Observed variations of atmospheric ozone in the lower Arctic atmosphere in springtime have been attributed to catalytic breakdown of ozone by bromine. The sources of bromine to the Arctic atmosphere are poorly known but probably include a component from marine algae either from the Arctic Ocean directly or, via atmospheric transport, from more temperate latitudes. We are studying the production of volatile halogenated organic compounds by Arctic algae - both macrophytes (sea weeds) and ice-algae.

Prelittoral Morphosedimentary Dynamics, Canadian Beaufort Sea

Project: 297-91

Period: 15 April - 15 October

Region: Atkinson Point, Tuktoyaktuk Peninsula

Name: Héquette, Arnaud

Department of Geography
Laval University
Ste-Foy, Quebec
G1K 7P4

Tel: (418) 656-2363
Fax: (418) 656-2019

The objective of this project is to determine how a sandy prelittoral zone evolves in an Arctic environment (south coast of the Canadian Beaufort Sea). We will attempt to discern the respective importance of summer and winter processes on the sedimentary dynamics of the shoreface. Fieldwork will be carried out during summer, freeze-up and winter. It will include sidescan sonar surveys, the use of current meters, sampling of the surficial deposits with a vibro-corer, the use of ground-probing radar to determine ice thickness, and the use of a video camera to study the movement of ice and ice processes during freeze-up.

Sources and Sinks of Organochlorines in Arctic Ocean, Marine Food Webs

Project: 213-93

Period: 15 June - 15 September

Area: Resolute Bay

Name: Hargrave, B.

Biological Sciences
Department of Fisheries and Oceans
Bedford Institute of Oceanography
P. O. Box 1006
Dartmouth, Nova Scotia
B2Y 4A2

Tel: (902) 426-3188
Fax: (902) 426-7823

A twelve-month study near Resolute Bay will test the hypothesis that semi-volatile organochlorines (pesticides and PCBs) are carried to the Arctic Ocean through the atmosphere, transfered to the surface ocean during the summer melt period, and accumulated in lipids of plankton and benthic invertebrates.

Western Arctic Tidal Program 1993 **Project:** 28-82

Period: 19 July - 7 August

Area: Tuktoyaktuk and Cape Parry

Name: Sargent, E. D.

Canadian Hydrographic Service
Department of Fisheries and Oceans
Institute of Ocean Sciences
P.O. Box 6000
9860 West Saanich Road
Sidney, British Columbia
V8L 4B2

Tel: (604) 363-6343
Fax: (604) 363-6323

To maintain and service tide gauges at Tuktoyaktuk and Cape Parry for the ongoing monitoring of water levels in the Beaufort Sea area.

Western Arctic Hydrographic Surveys **Project:** 172-93

Period: 1 August - 10 September

Area: Lady Franklin Point

Name: Mortimer, A.

Canadian Hydrographic Service
Department of Fisheries and Oceans
P.O. Box 6000
9860 West Saanich Road
Sidney, British Columbia
V8L 4B2

Tel: (604) 363-6349
Fax: (604) 363-6323

In 1990, a hydrographic survey of Dolphin and Union Strait was done using lidar instruments from an aircraft. As this instrumentation is still under development, it is proposed to use C.S.S. John P. Tully to ground truth the hydrographic data, and to extend the survey in Coronation Gulf.

NOGAP B.6 Beaufort Sea Oceanography **Project:** 285-90

Period: 1 - 15 September

Area: Tuktoyaktuk Area

Name: Macdonald, R. W.

Institute of Ocean Sciences
Department of Fisheries and Oceans
P. O. Box 6000
Sidney, British Columbia
V8L 4B2

Tel: (604) 363-6409
Fax: (604) 363-6807

To study estuarine and shelf processes affecting primary productivity and the transport of contaminants, particularly hydrocarbons.

Acoustic Sensing of Sea Ice Fracturing **Project:** 111-92

Period: 15 March - 15 April

Area: Resolute Bay

Name: Farmer, David M.

Institute of Ocean Sciences
Department of Fisheries and Oceans
P.O. Box 6000
9860 West Saanich Road
Sidney, British Columbia
V8L 4B2

Tel: (604) 363-6591
Fax: (604) 363-6798

To monitor ice fracturing processes in a highly controlled sea ice site, and to correlate observed acoustic radiation from an artificially generated crack with the cracking process. This project is a continuation of previous studies on the mechanical properties of sea ice. We will collaborate with the CANMAR group.

Large Scale Fracture Tests **Project:** 209-90

Period: 1 - 30 April

Area: Resolute

Name: Parsons, Bruce

National Research Council of Canada
P. O. Box 12093, Station A
St-John's, Newfoundland
A1B 3T5

Tel: (709) 772-2478
Fax: (709) 772-2462

The project is to perform scale effect tests on two sea ice mechanical properties, fracture toughness and flexural strength. These will be the largest such tests ever conducted, with test specimens as large as 100 m^3. This is to determine the cause of the scale effect in ice breaking force that has been observed. The usual thorough characterization of sea ice crystallography, salinity temperature and density will be done at the test site.

Ice Subsurface Characterization **Project:** 11-85

Period: 2 - 21 April

Area: Beaufort Sea

Name: Melling, Humfrey

Department of Fisheries and Oceans
Institute of Ocean Sciences
P.O. Box 6000
Sidney, British Columbia
V8L 4B2

Tel: (604) 363-6552
Fax: (604) 363-6572

Moored subsea sonars are used to measure the motion of sea ice, and to measure the thickness and topography of the drifting ice pack. Data are applied to the design of offshore structures, to the interpretation of satellite radar images of sea ice, and to the study of year-to-year changes in Beaufort Sea ice.

A Seasonal Sea Ice Monitoring and Modelling Site (SIMMS '93) **Project:** 128-90

Period: 10 April - 15 November

Area: Resolute Passage

Name: Barber, David G.

Earth-Observations Laboratory
Department of Geography
University of Waterloo
Waterloo, Ontario
N2L 3G1

Tel: (519) 885-1211 Ext. 5386
Fax: (519) 888-6768

SIMMS is a six-year multidisciplinary research program designed to develop analysis methodologies by which visible and micro-wavelength remote sensing data may be used to monitor changes in ocean-ice-atmosphere processes. Observational and modelling programs are conducted coincidentally during the spring and fall seasonal transition periods.

Prelittoral Morphosedimentary Dynamics, Canadian Beaufort Sea

Project: 297-91

Period: 15 April - 15 October

Region: Atkinson Point, Tuktoyaktuk Peninsula

Name: Héquette, Arnaud

Department of Geography
Laval University
Ste-Foy, Quebec
G1K 7P4

Tel: (418) 656-2363
Fax: (418) 656-2019

The objective of this project is to determine how a sandy prelittoral zone evolves in an Arctic environment (south coast of the Canadian Beaufort Sea). We will attempt to discern the respective importance of summer and winter processes on the sedimentary dynamics of the shoreface. Fieldwork will be carried out during summer, freeze-up and winter. It will include sidescan sonar surveys, the use of current meters, sampling of the surficial deposits with a vibro-corer, the use of ground-probing radar to determine ice thickness, and the use of a video camera to study the movement of ice and ice processes during freeze-up.

ZOOLOGY

Ringed Seal Ecology **Project:** 125-92

Period: 1 March - 10 July

Area: Strathcona Sound

Name: Innes, Stuart

Department of Fisheries and Oceans
Freshwater Institute
501 University Crescent
Winnipeg, Manitoba
R3T 2N6

Tel: (204) 983-5057
Fax: (204) 984-2403

This project combines the field research for NOGAP and PERD projects. Potential impacts of ice-breaking traffic on ringed seal behaviour is being monitored. Additionally, the value of Foreward Looking Infra-Red (FLIR) sensors to detect ringed seal lairs is being evaluated.

Grizzly Bear Population Estimates **Project:** 254-93

Period: 1 - 30 April

Area: Richardson Mountains and Brock-Hornaday River

Name: Clarkson, Peter

Department of Renewable Resources
Government of the NWT
Inuvik, Northwest Territories
X0E 0T0

Tel: (403) 979-7307
Fax: (403) 979-2418

Grizzly bear population estimates are being made in the Richardson Mountains and Brock-Hornaday area to determine the number, sex and age composition of bears in the two areas. Information will be used for grizzly bear management in the area.

Polar Bear Population Ecology in the High Arctic **Project:** 65-89

Period: 10 April - 10 May

Area: Arctic Bay, Grise Fiord

Name: Messier, Francois

Department of Biology
University of Saskatchewan
Saskatoon, Saskatchewan
S7N 0W0

Tel: (306) 966-4421
Fax: (306) 966-4461

Population productivity, population estimates, space-use patterns, and sustained yield assessment of polar bears are evaluated over two different sea ice conditions; land-fast sea ice (Viscount Melville Sound - M'Clure Strait area) and active sea ice (Baffin Bay area). The project will provide needed information on the ecology of discrete polar bear populations and the allocation of quotas for bear harvesting by native people compatible with international conservation policies on polar bears.

Telazol and Contaminant Research on Polar Bears **Project:** 287-93

Period: 10 April - 10 May

Area: Resolute

Name: Ramsay, Malcolm

Department of Biology
University of Saskatchewan
Saskatoon, Saskatchewan
S7N 0W0

Tel: (306) 966-4412
Fax: (306) 966-4461

As part of Canada's research commitment to polar bears, many hundreds of free-ranging animals are immobilized annually with the drug Telazol, a superior anaesthetic both in terms of safety for the researchers and the reduced risk of accidental deaths to bears. No data are currently available, however, on the residency time of Telazol and its metabolites in the tissues of animals after they have been anaesthetized, an important consideration for animals that are eaten by people. This project will determine the residency time of Telazol in the tissues of polar bears.

The Role of Predation in Reproductive Success in Black Brant and Lesser Snow Geese

Project: 286-92

Period: 15 May - 10 August

Area: Anderson River Delta

Name: Ramsay, Malcolm

Department of Biology
University of Saskatchewan
Saskatoon, Saskatchewan
S7N 0W0

Tel: (306) 966-4412
Fax: (306) 966-4461

Predation during the nesting season is a poorly understood factor affecting reproductive success of Arctic waterfowl. Our studies have indicated that avian predators play a significant role in determining eggs and nest survival of Black Brant (Branta bernicla nigricans). Working at the Anderson River delta, we intend to continue to study the strategies used by Brant to deter nest predators and to compare those with the strategies used by sympatric Lesser Snow Geese (Chen caerulescens caerulescens).

Marine Mammal Bioacoustics

Project: 55-86

Period: 20 May - 15 June

Area: Cape Lambton

Name: Cosens, Susan E.

Department of Fisheries and Oceans
Freshwater Institute
501 University Crescent
Winnipeg, Manitoba
R3T 2N6

Tel: (204) 983-8838
Fax: (204) 984-2403

To estimate propagation distance of beluga sounds and to assess their vulnerability to masking by ship noise. Data will be gathered on call structure and source levels, ambient noise and vessel noise characteristics. The database is being expanded to include Beaufort Sea belugas which may behave differently than High Arctic belugas because of differences in their acoustic environments.

Responses of Beluga Whales to Vessel Noise **Project:** 235-91

Period: 20 May - 15 June

Area: Cape Lambton

Name: Cosens, Susan E.

Department of Fisheries and Oceans
Freshwater Institute
501 University Crescent
Winnipeg, Manitoba
R3T 2N6

Tel: (204) 983-8838
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To test responses of Beaufort Sea beluga whales to playback of ship noise. Responses to playback will be compared with reactions to actual ships. Over the longer term, the research group plans to compare regional differences in responses by beluga to underwater noise.

Reproduction Ecology of the Greater Snow Goose Project: 148-88

Period: 31 May - 29 August

Region: Bylot Island

Name: Gauthier, Gilles

Department of Biology
Laval University
Ste-Foy, Quebec
G1K 7P4

Tel: (418) 656-5507/3180
Fax: (418) 656-2043

The major limitation for geese nesting in the Arctic is having enough time to complete the reproduction process during the short Arctic summer. The objective of the project is to quantify the costs and benefits associated with early and late egg-laying by the Greater Snow Goose nesting on Bylot Island. We will measure reproductive success, growth and survival of the young; their thermoregulation costs; the effect of parental quality on growth; and the impact of browsing by the geese on vegetation.

Beverly Herd Calving Ground Census **Project:** 12-93

Period: 2 - 18 June

Area: Naujatuuq Lake

Name: Williams, Mark

Department of Renewable Resources
Government of the NWT
Box 21, Scotia Centre, 5th Floor
600, 5102 - 50th Avenue
Yellowknife, Northwest Territories
X1A 3S8

Tel: (403) 920-8071
Fax: (403) 873-0293

Assistance from PCSP has enabled Wildlife Management staff to increase the precision of census techniques through the development of systematic helicopter surveys to determine age and sex composition of caribou on calving grounds. With survey intervals increased from two to six years, it has become increasingly important to further refine the helicopter surveys to obtain measures sensitive to range condition and herd health such as timing of peak of calving, pregnancy rates and neonatal calf survival in addition to classification data.

Nesting Bird - Habitat Relationships on the Yukon Coastal Plain **Project:** 271-92

Period: 5 - 30 June

Area: Clarence Lagoon, Babbage and Running Rivers

Name: Hawkings, James S.

Canadian Wildlife Service
Environment Canada
Box 6010, 100 Hamilton Blvd.
Whitehorse, Yukon
Y1A 5L7

Tel: (403) 668-2285
Fax: (403) 667-7962

The project's objective is to determine bird use of representative habitats on the Yukon Coastal Plain. Birds are censused during the breeding season on a series of transects, and their locations are recorded using handheld Global Positioning Systems. These bird locations are then combined with a land-cover map derived from satellite imagery, using a Geographic Information System. The results will indicate the most important habitats and the most important geographic areas for nesting birds on the Yukon Coastal Plain.

Studies of Population Dynamics of Thick-Billed Murres

Project: 47-75

Period: 5 June - 10 September

Area: Coats, Digges and Akpatok Islands

Name: Gaston, Anthony J.

Canadian Wildlife Service
Environment Canada
100 Gamelin Blvd.
Hull, Quebec
K1A 0H3

Tel: (819) 997-6121
Fax: (819) 953-6612

Following intensive studies at Coats Island, in 1993 we shall be banding thick-billed murres simultaneously at several colonies in the eastern Arctic to compare the proportions recovered in Newfoundland. The results will contribute to the management of murre hunting in Newfoundland and Labrador.

Abundance and Productivity of King Eiders on Western Victoria Island/McKinley Bay Sea Duck Monitoring

Project: 116-80

Period: 10 June - 8 July

Area: Kagloryuak River Valley

Name: Dickson, Lynne

Canadian Wildlife Service
Environment Canada
Room 210
4999 - 98 Avenue
Edmonton, Alberta
T6B 2X3

Tel: (403) 468-8924
Fax: (403) 495-2615

Project 1 - Systematic aerial surveys will be conducted on the western half of Victoria Island to determine the distribution, abundance, habitat preferences and productivity of the King Eider. The information will be used for determining harvest limits, for land-use planning, for industrial impact assessment and as a baseline for monitoring the King Eider population.

Project 2 - The object of this study is to monitor the impact of harbour development on the birds in McKinley Bay. Five years of surveys were conducted from 1981 to 1985. As a follow-up, the surveys are being repeated from 1990 to 1993 to see if use of the Bay by birds has changed since the early 1980s.

Hope Bay Raptor Survey **Project:** 154-89

Period: 15 June - 4 July

Area: Walker Bay

Name: Shank, Christopher

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Government of the NWT
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600, 5102 - 50th Avenue
Yellowknife, Northwest Territories
X1A 3S8

Tel: (403) 920-6190
Fax: (403) 873-0293

Productivity of birds of prey has been regularly monitored in the Hope Bay area since 1982 as part of a larger project on gyrfalcon ecology. A helicopter survey for ptarmigan numbers is done in mid-June when nesting success is documented for gyrfalcons, peregrine falcons, golden eagles, ravens, and rough-legged hawks in early July.

Population Dynamics of Lemmings in the Western Arctic **Project:** 117-89

Period: 15 June - 25 August

Area: Shingle and Nicholson Points, Anderson and Horton Rivers, North Star Harbour, Walker Bay

Name: Krebs, Charles J.

Department of Zoology
University of British Columbia
6270 University Boulevard
Vancouver, British Columbia
V6T 1Z4

Tel: (604) 822-4595
Fax: (604) 822-2416

The three- to four-year cycles of lemmings that is so clear in the eastern Arctic is not clearly seen in the mainland of the western Arctic. By a regional survey and by detailed studies at Walker Bay, we hope to find out what causes these cycles.

Studies of Breeding and Migration of Greater Snow Geese

Project: 126-80

Period: 15 June - 30 August

Area: Bylot Island and Jungersen Bay

Name: Reed, Austin

Canadian Widlife Service
Environment Canada
P.O. Box 10100
1141 Route de l'Église
Ste-Foy, Quebec
G1V 4H5

Tel: (418) 649-6128
Fax: (418) 649-6475

An improved understanding of the ecology of this important species is required to ensure proper management. This study examines changes in breeding numbers and densities over time, investigates interactions between the geese and their habitats, and monitors reproductive output and other parameters related to population dynamics. Systematic surveys are conducted every five years (next due in 1993), observations on breeding ecology are made each year, and large numbers of geese are banded each August.

Kittkmeot Barren-Ground Grizzly Bear Studies

Project: 212-88

Period: 21 - 30 June

Area: Coppermine, NWT

Name: Case, Ray

Department of Renewable Resources
Government of the NWT
Box 21, Scotia Centre
600, 5102 - 50 Avenue
Yellowknife, Northwest Territories
X1A 3S8

Tel: (403) 920-8067
Fax: (403) 873-0293

The objective is to document the reproductive characteristics of barren-ground grizzly bears in the Coppermine area. Age of first reproduction, litter size, breeding interval, and cub survival will be determined and the productivity of grizzly bears in the study area will be evaluated.

Coppermine Raptor Survey **Project:** 143-87

Period: 1 - 4 July

Area: Coppermine

Name: Shank, Christopher

Department of Renewable Resources
Government of the NWT
Box 21, Scotia Centre (5th Floor)
600, 5102 - 50th Avenue
Yellowknife, Northwest Territories
X1A 3S8

Tel: (403) 920-6190
Fax: (403) 873-0293

Productivity of birds of prey has been regularly monitored in the Coppermine area since 1983. Snowmobile surveys are conducted in early May to determine the number of gyrfalcons nesting. Helicopter surveys are conducted in early July to determine nesting success of gyrfalcons, peregrine falcons, rough-legged hawks, and golden eagles.

Beluga Telemetry **Project:** 100-83

Period: 1 - 30 July

Area: Tuktoyaktuk

Name: Weaver, Patt

Department of Fisheries and Oceans
Freshwater Institute
501 University Crescent
Winnipeg, Manitoba
R3T 2N6

Tel: (204) 983-5280
Fax: (204) 984-2402

This study will collect information about the distribution and movements of beluga whales in the Canadian Beaufort Sea to assist in stock management. The initial phase of the program will examine the movements and diving patterns of tagged beluga whales during their summer concentration period in the Mackenzie estuary and during their fall migration.

Ethology of the Arctic Hare **Project:** 26-73

Period: 5 - 25 July

Area: Ellesmere and Bathurst Islands, and Resolute

Name: Gray, David R.

Canadian Museum of Nature
P.O. Box 3443, Station D
Ottawa, Ontario
K1P 6P4

Tel: (613) 954-2663
Fax: (613) 954-6439

As part of a longterm study of the behavioural adaptations of Arctic birds and mammals, aspects of the behaviour of Arctic hares will be studied at Sverdrup and Polar Bear passes. In 1993, activity will focus on reproductive success and on the assessment of traditional knowledge of the species in the communities of Grise Fiord and Resolute Bay.

Status and Habitat Use of Muskoxen on the Yukon North Slope **Project:** 142-87

Period: 10 - 15 July

Area: Komakuk Beach, Yukon

Name: Smits, Cor

Department of Renewable Resources
Yukon Government
P.O. Box 2703
Whitehorse, Yukon
Y1A 2C6

Tel: (403) 667-5087
Fax: (403) 668-4363

The aim of this study is to collect information on population size and composition, seasonal distribution and habitat use.

Movements, Diving Behaviour and Seasonal Habitat use of Beluga Whales **Project:** 17-73

Period: 18 July - 15 August

Area: Cunningham Inlet, Dundas Harbour, Creswell Bay

Name: Smith, T.G.

Pacific Biological Station
Department of Fisheries and Oceans
P.O. Box 100
Nanaimo, British Columbia
V9R 5K6

Tel: (604) 756-7253
Fax: (604) 756-7053

To continue to carry out behavioral studies in various areas of beluga whale concentrations around Somerset Island. This will be the sixth year of a study which uses satellite linked transmitters to study the diving behaviour and migrations of belugas in the High Arctic.

Walrus Distribution in the Resolute Bay Area **Project:** 77-92

Period: 24 July - 24 August

Area: Gregory Peninsula, Bathurst Island

Name: Stewart, Rob

Department of Fisheries and Oceans
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501 University Cresent
Winnipeg, Manitoba
R3T 2N6

Tel: (204) 983-5023
Fax: (204) 984-2403

Walrus in the Bathurst/Cornwallis islands area will be immobilized and fitted with satellite tags and their movements monitored. Auxiliary behaviour data, such as depth and duration of dives, will also be collected.

Genetic Diversity in the Biota of Arctic Lakes **Project:** 81-88

Period: 1 - 15 August

Area: Tuktoyaktuk

Name: Hebert, Paul D. N.

Department of Zoology
University of Guelph
Guelph, Ontario
K1G 2W1

Tel: (519) 824-4120 Ext. 3598
Fax: (519) 767-1656

This research program involves the survey of patterns and levels of molecular and biochemical genetic variation in populations of Arctic fish and zooplankton. The work aims to extend understanding of taxon diversity in Arctic aquatic habitats and to reconstruct postglacial routes of dispersal from glacial refugia.

Fall Migration Pattern of the Greater Snow Goose **Project:** 261-93

Period: 9 - 16 August

Region: Bylot Island

Name: Giroux, Jean-François

Department of Biological Science
Université du Québec à Montréal
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Montreal, Quebec
H3C 3P8

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Fax: (514) 987-4648

Roughly four or five weeks pass between the departure of geese from the Arctic and their arrival in the St. Lawrence Estuary in the fall. The number of stops and the location of rest areas in the southern Arctic and in New Quebec are unknown. We plan to tag six geese using transmitters whose signals will be picked up by satellite through the ARGOS system.

INDEX OF PRINCIPAL INVESTIGATORS