The International Polar Year in the ISR-*continued from page 3.*

Gas, Arctic Peoples, and Security (GAPS)

GAPS focuses on the impacts of oil and gas activity on climate change and on arctic peoples. Its goal is to deliver this knowledge to other arctic communities and to the policy and academic communities. ISR locations: interviews and community consultations in most Inuvialuit communities.

Arctic Freshwater Systems

Building on existing programs, this project will create a circumarctic freshwater biodiversity monitoring and research network, and develop new information about northern freshwater ecosystems. ISR locations: several rivers, including the Mackenzie Delta.

Climate Change Impacts on Canadian Arctic Tundra

This project will examine how tundra ecosystems respond to climate variation. The information will be useful to Northerners, land and wildlife managers, and to policy makers who need to understand the role of tundra in future climate change. ISR locations: sites near Holman and Sachs Harbour.

Changing Forests and Peatlands along the Mackenzie Valley.

This five-year study of the Mackenzie Valley will determine how thawing permafrost will affect greenhouse gas emissions and how warming will affect vegetation. ISR location: Inuvik region.

OASIS-CANADA: Understanding Ozone and Mercury in the Air Over the Arctic Ocean.

When the sun rises in the Arctic, tropospheric ozone gas and the toxic chemical mercury mysteriously disappear from the lowest layers of the atmosphere. OASIS-CANADA aims to understand the causes of their disappearance, the effects of reduced ozone on the environment, and whether the mercury ends up in the arctic food supply. ISR locations: near Paulatuk, Holman, and Sachs Harbour.

Environmental Change in the High Arctic from Snow and Ice Cores

International teams of scientists will retrieve ice cores and snow pit samples from the Canadian High Arctic and Greenland to study past climate, contaminants concentrations, and environmental change. ISR location: near Sachs Harbour.

Ocean Production of Trace Gases in the Arctic and Their Impact on Climate

During two autumn ice-breaker expeditions, in 2007 and 2008, researchers will measure the production of gases and compounds that affect climate in order to provide knowledge about interactions between sea ice, gas circulations and emissions, and particles in the Arctic. ISR location: Beaufort Sea near Paulatuk.

Wildlife Management Advisory Council North Slope

To find out more about the International Polar Year

There is plenty of information on the Internet about the International Polar Year 2007-2008.

If you want the big picture, go to the international website at www.ipy.org. There you'll find the latest news about the IPY, chatty reports from researchers in the field, and links to detailed information about all of the IPY projects, no matter where they happen.

For information—in English, French, and Inuktitut—about Canadian activities in the International Polar Year, go to www.ipycanada.ca. The site has links to the latest news stories and to Canadian IPY organizations, as well as information about Canadian research projects and Canadian education and outreach initiatives.

And if the Internet isn't for you, contact the Canadian IPY Secretariat with any questions at:

Canadian IPY Secretariat, Z-908 Biological Sciences, University of Alberta, Edmonton, AB CANADA, T6G 2E9, Phone: (780) 492-7245, Fax: (780) 492-0493, E-mail: ipy@ualberta.ca

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Wildlife Watch
Wildlife Management Advisory Council North Slope

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The Yukon North Slope and the International Polar Year

The International Polar Year (IPY) is in full swing—and the Yukon North Slope has joined the party.

Two big international IPY research projects are working on the Yukon North Slope (see page two) and another 10 projects are conducting research in the Beaufort Sea or in other parts of the Inuvialuit Settlement Region.

But how will all this scientific activity leave a lasting impression on the North Slope and those who manage and use it?

The International Polar Year 2007/08 extends well beyond the North Slope. It's a huge global science binge, with researchers looking at both polar regions and the processes and systems that connect them to each other and the rest of the world. The IPY lasts two full years, from March 2007 to March 2009, and many of the projects will go on long after the official Year ends.

This is the fourth time an International Polar Year has been organized. Previous IPYs took place in 1882/83, 1932/33, and 1957/58. While those earlier exercises were exciting opportunities for scientists and added immensely to scientific understanding of the polar regions, northerners themselves played very little part in them.

For several reasons, this IPY is different.

First, the organizers have insisted that the peoples of the polar regions—and that means, primarily, the Arctic—must be participants in IPY. Researchers working on IPY projects have an obligation to contact and involve local communities. They also have an obligation to report results back to those communities, as well as to the general public.

Another reason is change—changing climate, changing environment, and changing governance. Much of the research in IPY 2007/08 centres around how and why change is happening and what to do about it.

Aklavik and Inuvik summer students contributing to IPY work. Photo credit Alice Kenney.

Past IPYs looked at physical processes like the aurora and sea ice. This time there are also research projects that look at the land, wildlife, and the lives of people, now and in the future, in the circumpolar world.

Finally, the people of the north are a major reason why this IPY is different. In the last several decades, northern peoples have taken back control of their land and governance. Today, through mechanisms like co-management, they control their lands and play an important role in managing wildlife, habitat, and resources.

The knowledge acquired through arctic research projects during IPY 2007/08 will help governments, policy makers, and managers cope with changes in the circumarctic world and in the lives of the people who live there.

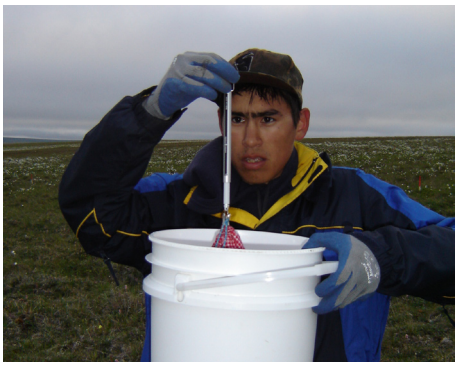
That means that the results of research conducted during IPY 2007/08 should help the Wildlife Management Advisory Council (North Slope) and other co-management bodies protect the land and resources of the Yukon North Slope for future generations.

Researchers count chicks, insects, and biodiversity

For Alex Gordon of Aklavik, a summer student with the Fisheries Joint Management Committee, field work on Herschel Island last summer meant carefully weighing a lemming by the light of the midnight sun.

For Edward McLeod of Aklavik and Gerald Noksana from Inuvik, it meant a 17 kilometre hike around the east end of the island to check on raptor nests and count chicks.

All three young people got a taste of hands-on research as part of the International Polar Year project called Arctic WOLVES—or its formal title, The Impact of Climate Change on Tundra Wildlife.



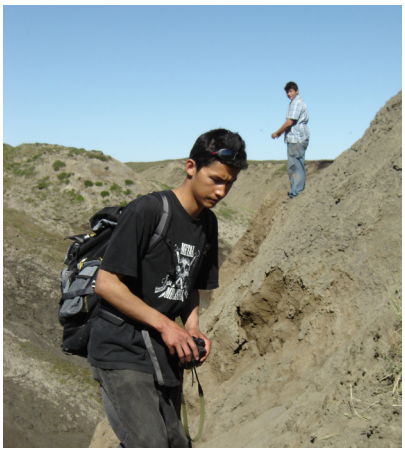
Alex Gordon, Aklavik, midnight lemming weighing. Photo credit Don Reid.

The goal of Arctic WOLVES is to map the web of predators, prey, and plants that make up the Arctic tundra ecosystem and see how climate change is affecting relationships among them. Ultimately, the project will help in the development of management strategies to adapt to climate change.

Two of the research sites are on the Yukon North Slope: Herschel Island and Komakuk. Others are located in the Northwest Territories, Nunavut, Manitoba, Alaska, Greenland, Sweden, Norway, and Russia.

The two-year program began in March 2007. Almost 20 researchers, technicians, and field assistants worked at the two North Slope sites, including several Inuvialuit students and other northern students and researchers.

Over the spring, summer, and fall at Herschel Island and Komakuk, they tracked snow cover, plant growth, insect diversity, bird migration, raptor and shorebird nesting, the abundance and behaviour of small mammals like lemmings, and the abundance and diet of mammal predators from weasels to grizzly bear. The researchers even spotted a polar bear on Herschel Island in September, apparently investigating lemming burrows.



Edward McLeod, Aklavik and Gerald Noksana, Inuvik, checking on raptor nests and counting chicks. Photo credit Alice Kenney.

Porcupine Caribou make friends in far places

Porcupine Caribou. Photo credit Alice Kenney.

The cross-border nomads of the Yukon North Slope, the Porcupine Caribou, have become even more international. They're now part of an International Polar Year project.

The project is an extension of CARMA, the CircumArctic Rangifer Monitoring and Assessment Network. CARMA was launched in 2004 in response to the Arctic Council's call to monitor Arctic biodiversity in the face of dramatic global changes.

CARMA's IPY project is called Monitoring the Impacts of Global Change on Caribou and Wild Reindeer and their Link to Human Communities. Its goal is a better understanding of the relative resilience and vulnerability to climate change, and other changes, of regional human-caribou systems around the Arctic.

Through the support of IPY, much of the CARMA Network's monitoring activity over the next three years will focus on health and body condition, population trends, and habitat changes of caribou in selected herds across the north, including the Porcupine herd.

Body condition is a useful indicator in monitoring ecological change, especially when combined with assessments of parasites, disease, habitat quality, distribution, and demographic elements.

Much of the pioneering work on body condition assessment was done during decades of research on the Porcupine Caribou herd. Now the approach is being extended to caribou and wild reindeer in other parts of Canada and elsewhere in the world.

The CARMA Network has developed monitoring protocol manuals to make sure that the same methods are used with all herds. Through monitoring, and a comparison of results between different herds, the IPY researchers hope to answer basic questions about factors that affect individual animals and those that affect caribou herds at the population level.

The IPY project is also concerned with people. Many northern communities rely on caribou and wild reindeer for both economic and cultural reasons. The CARMA Network researchers will look at the capacity of communities to sustain traditional caribou harvesting and work with co-management boards on ways to address questions on harvest sustainability.

For information about the CARMA Network, go to www.rangifer.net/carma.

The International Polar Year in the ISR

A dozen IPY projects are carrying out work somewhere in the Inuvialuit Settlement Region. The two studies on the Yukon North Slope are described on page two of this newsletter. Here are the other projects:

PPS Arctic Canada: present processes, past changes, spatiotemporal dynamics.

This project is part of an international study of the effects of climate change on position and structure of the tree line, and consequences of change in the tree line, at arctic sites around the globe. ISR locations: Aklavik and Inuvik.

Permafrost Conditions and Climate Change.

This project will provide a "snapshot" of current permafrost conditions to help predict possible future changes. The research will assist northern residents and communities, as well as industry and governments, to deal with the impacts of changing permafrost. ISR location: near Paulatuk.

Circumpolar Flaw Lead System (CFL) Study.

This study looks at the flaw lead system, created when the central Arctic ice pack moves away from coastal ice, leaving areas of open water. The open areas are some of the most fertile areas in the Arctic Ocean and could be examples of what is to come in a warming climate. Paulatuk, Sachs Harbour, and Holman are partners in the project. *continued on page 4.*

Do you want to know more about these IPY projects?

Don't hesitate to ask about IPY projects in the ISR—the researchers are encouraged to form partnerships with northern communities and to provide public information about their findings.

There are Canadian IPY coordinating offices in each of the regions involved in the International Polar Year. Here are the people to contact to find out more about IPY projects in the Inuvialuit Settlement Region:

Yukon IPY Coordinator: Bob Van Dijken

Council of Yukon First Nations

Phone: (867) 393-9237

E-mail: bvandijken@cyfn.net

NWT IPY Coordinator: Alana Mero

Aurora Research Institute

Phone: (867) 777-3298 Ext. 30

E-mail: amero@auroracollege.nt.ca

Herschel Isalnd permafrost slumping. Photo credit Don Reid.