



Wildlife Watch



Wildlife Management Advisory Council North Slope

Volume 20 • Number 1

April 2012

Yukon North Slope Research

2009-2011 Highlights

Each year WMAC(NS) reviews proposals for research projects related to wildlife management and ecological monitoring on the Yukon North Slope. The Council makes recommendations and monitors all projects that receive IFA implementation funding. Projects recommended by the Council in 2009-2011:

Herschel Island Ecological Monitoring and Report

Since 1999 the monitoring program on Herschel Island has focused on vegetation, permafrost and wildlife occurrence. Researchers recently expanded the program to include projects related to ecological change and wildlife use of the park.

Muskox Genetics

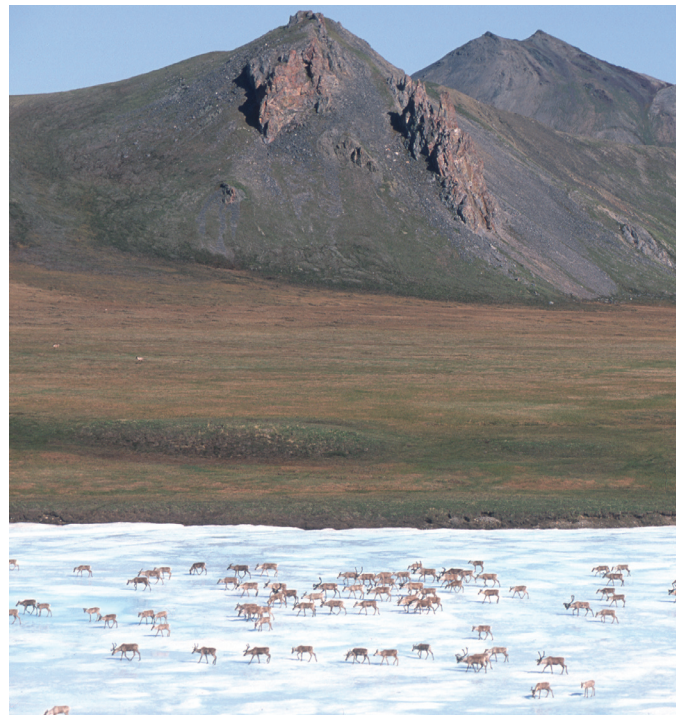
Researchers are using samples from Yukon North Slope muskoxen to compare the genetic relationships among several muskox populations across North America. The analysis shows three distinct groups (Mainland, Archipelago, and Greenlandic). The positive identification of group by origin may allow for future monitoring of muskox populations.

Richardson Mountain Sheep Survey

Government researchers have been monitoring the Dall's sheep population in the Richardson Mountains since 1984. In 2006, the population was estimated at just over 700 sheep. Early survey results from 2010 show a minimum of 697 sheep.

Porcupine Caribou Breeding Female Population Estimate

Biologists tried to estimate the population of the Porcupine caribou herd each year from 2003 to 2009 without success. A photo census was finally completed in 2010, and biologists estimated 169,000 animals. Researchers are looking at another census method based on estimates of breeding females on the calving grounds.



Caribou in Ivavik Park. Photo credit Ken Madsen

What's Inside

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- Grizzly bear research project winding down
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- Updating the Wildlife Conservation and Management Plan



Ongoing support for North Slope research

Porcupine Caribou Computer Population Model Revisions

In the late 1990s, Porcupine caribou researchers developed a population model called the Caribou Calculator. It allowed researchers to estimate population size even in years when a photo census was not done. The Porcupine Caribou Technical Committee contracted the developer to improve the tool for harvest management.

Yukon North Slope Raptor Survey

In 2010 researchers surveyed peregrine falcons, other raptors and raptor nests in Ivvavik National Park. They documented 20 occupied raptor territories, which is similar to previous surveys. Productivity was high with 2.5 peregrine chicks per successful nest and 1.0 eagle chicks per successful nest.

Ecological Integrity Monitoring in Ivvavik National Park Forests

This monitoring project looked at changes in Ivvavik forest systems and

the biological responses to them. It also compared current conditions with earlier baseline data. The project inventoried the area's biodiversity, particularly vegetation, insects, and birds, and collected data on environmental factors that might influence forest biodiversity.

Arctic Borderlands Ecological Knowledge Co-op

Since 1996, the ABEKC Community-based Monitoring Program runs annually in 8 communities. It tracks changes in environmental conditions across the range of the Porcupine caribou herd, Mackenzie Delta and adjacent marine areas. The project is important to WMAC(NS) and the Inuvialuit as it provides information about environmental trends, historical context, and possible causes of these trends. Redesigning the Co-op's survey is a current priority.

Porcupine Caribou Rut Composition Count

Government researchers did a composition survey of the Porcupine caribou herd on its winter range in October 2009. They identified 30 different groups and classified 6,897 caribou, of which 6,000 were adults. Results showed a calf-to-cow ratio of 22 to 24 calves per 100 cows and a bull-to-cow ratio of 42 to 46 bulls per 100 cows.

Porcupine Caribou Herd Satellite Program

Started in 1997, this cooperative program uses satellite radio collars to track seasonal range use and migration routes of the herd. Currently, there are about 12 satellite collars in the program. The dataset consists of almost 109,000 locations for 82 individual caribou since 1985.

Yukon North Slope Grizzly Bear Research Project-see back page

Polar Bear Traditional Knowledge Study- see below

Council working on polar bear issues



Polar Bear

Over the last two years, the Council concentrated on polar bear management issues in the Southern Beaufort. Many factors contributed to WMAC(NS) focusing more on polar bears. Recently the Committee for the Status of Endangered Wildlife in Canada (COSEWIC) completed a status assessment of polar bears,

Yukon government renewed its management interest in polar bears, and people are increasingly concerned about how climate change and how offshore development will affect Southern Beaufort polar bears.

The Council now sits as a member on the Polar Bear Technical Committee and the Polar Bear Administration Committee. WMAC(NS) has also helped develop a national conservation strategy for polar bears, which was signed last year. In 2010 the Council began attending the annual Inuvialuit and Inupiat meeting to discuss South Beaufort polar bears. Tuktoyaktuk hosted the 2010 meeting, and the 2011 meeting was in Anchorage.

We have also contributed to the review of the population boundary of the South Beaufort polar bear population. In 2011 the two Wildlife Management Advisory Councils completed a community tour across the Inuvialuit settlement region to seek input on proposed boundary changes and harvest quotas for the North and South Beaufort subpopulations.

Both WMACs submitted a joint boundary change recommendation to the Inuvialuit Game Council and the territorial governments in late fall 2011.

WMAC(NS) is also involved in the Polar Bear Traditional Knowledge study to help understand how climate change might be affecting polar bear habitat and population status. This "TK" project, which began in 2009 and includes all six ISR communities, complements scientific efforts that include a coastal bear survey, population survey and denning survey. The final report will be available in 2013.

New book on Herschel Island

Dr. Christopher Burn is producing a book about Herschel Island that includes historical and current human use, as well as information about the flora, fauna, geography, and more.

The Council has supported the book by providing funding, content and production assistance.

The book titled, "Herschel Island Qikiqtaryuk a natural and cultural history of Yukon's Arctic Island" is due to be released in the spring of 2012.

Muskox research and management planning

Managers and residents have been interested in North Slope muskox since they were re-introduced to Alaska in 1969/1970 and spread to the Yukon in the 1980s. The population ranges across the entire North Slope from Alaska to the Mackenzie Delta.

Yukon muskoxen are studied and monitored in several ways including aerial surveys, composition counts, satellite tracking, samples from captured muskoxen and community observations. Over the past two years WMAC (NS) supported genetic research of muskox. We are also developing a muskox management plan for the Yukon North Slope, and the plan is nearing completion.

Generally, across the Alaskan and Canadian range, since the reintroduction 30 years ago, the population has disbursed widely, expanding its range, while the number of muskoxen



making up the population is highly variable. The most recent population estimate was done in April 2011 . That census found a total population of 291 muskoxen (190 muskoxen west of the Canning River, no muskox in the Arctic Refuge and 101 in Yukon).

Muskox on Herschel Island. Photo credit Herschel Island Park Rangers



Developing an ISR-wide community based monitoring program

WMAC(NS) supports a new community-based environmental monitoring program in all six ISR communities. In September 2010 the Council hosted an ISR-wide monitoring workshop. The workshop identified monitoring needs and produced a vision that builds on the strengths of the Arctic Borderland Ecological Knowledge Cooperative program. Partners have held meetings and established a program framework, steering committee and working group.

Grizzly bear research project winding down

The Yukon North Slope Grizzly Bear Research Project is a major research priority for WMAC(NS). This project, which began in 2004, focuses on grizzly bears between the Firth and Blow rivers. The study looks at grizzly bear population sizes, birth rates, death rates, where bears are found at certain times of the year, and how much they move around. The information will help wildlife managers, boards, and community organizations make management decisions. Population information is especially important for setting harvest quotas.

The project used different techniques including DNA mark-recapture (using hair snagging sites), GPS and radio collaring, Inuvialuit observations, and formal interviews. Researchers gathered traditional and local knowledge of grizzly bears and bear habitat. They did telemetry surveys to check on cub survival, den surveys to figure out why bears den where they do, and how climate change might affect this, and they collected samples of what grizzly bears eat (plants and meat) with the help of local hunters to figure out the nutritional value of food available for bears across the Yukon north slope. Aklavik hunters took tracking units with them on their grizzly bear hunts in the spring. Blood and DNA (hair) samples were submitted for analysis to see how related these bears are to one another and to help estimate the number of bears in the area.

All collars were removed in 2010, and researchers completed field work in 2011. Lab work will be completed in 2012. The project team is now analyzing data and writing reports. We expect the final population analysis will be available this year. A final report that combines scientific and traditional knowledge will be completed soon afterwards.



Grizzly bear

Updating the Wildlife Conservation and Management Plan

Under the IFA WMAC(NS) is responsible for preparing a wildlife conservation and management plan for the Yukon North Slope.

Created in 1994, the Yukon North Slope Wildlife Conservation and Management Plan guides governments, other organizations and the public. The plan outlines goals, objectives and concrete actions needed to conserve and protect the Yukon's North Slope.

The three-part plan looks at the unique North Slope environment, highlighting the important relationship between the Inuvialuit and their land.

WMAC started to revise the plan in 2010 and this work is ongoing. You can find all three volumes on the Council's website at www.wmacns.ca. Hard copies are available at the Secretariat office.

The third volume of the plan, Wildlife Status Reports, provides information on 37 major species, as well as duck, songbird, shorebird, and insect species. This portion of the plan has recently been updated and will be available in April 2012.



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