

Manitoba Conservation wildlife manager and BQCMB vice-chairman Darryl Hedman, along with biologist Vicki Trim, represented Manitoba on the survey team while NWT Department of Environment and Natural Resources biologists Robert Mulders and John Nishi brought expertise from that territory. Community observers Leo Ikakhik of Arviat and John Hicks of Rankin Inlet, and Nunavut Department of Environment wildlife technician Jonathon Pameolik, along with wildlife officers Jimmy Kennedy, Johanne Coutu-Autut and contracted pilots, rounded out the team.

A large yellow dump truck is shown with its bed raised, dumping a load of dark gravel onto a pile. To its right, a yellow bulldozer is positioned on the same gravel surface. The background is a clear, bright blue sky. The ground in the foreground is covered with loose gravel and some sparse green vegetation.

Several developments months earlier helped arm the survey team with quality information heading into the expensive survey. In March 2008, 20 more satellite collars were deployed, bringing the current total number of Qamanirjuaq cows collared to 32. Higher numbers of collared cows means more location data and better clues to the timing of the herd's spring migration. In May 2008, spring classification work pointed to a drop in calf recruitment, similar to the outcome of the May 2007 classification survey.



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# Around the Range

## Review for uranium project?

Following calls by the BQCMB and others to reject Uravan Minerals Incorporated's application for a permit to explore for uranium on the core Beverly calving ground in the Garry Lake area northwest of Baker Lake, the Nunavut Impact Review Board (NIRB) has gone with the BQCMB's fall-back recommendation to urge INAC Minister Chuck Strahl to agree to a public review. Strahl has yet to announce his decision.

"The potential for impacts to wildlife habitat, particularly core caribou calving grounds, and Inuit harvesting activities as a result of the proposed exploration activities for the Garry Lake Project and the cumulative effects of similar existing projects have been raised with increasing concern by organizations such as the BQCMB and the GN-DoE (Department of Environment)," said NIRB acting chairperson Lucassie Arragutainaq in the June 27, 2008 decision.

Like the BQCMB, the Lutsel K'e Dene First Nation and the Athabasca Denesuline

Negotiation Team had urged NIRB to recommend that the Uravan proposal – and all other exploration proposals on the calving ground – be dismissed. These three parties also recommended implementing the Thelon Wildlife Sanctuary Management Plan. That includes establishing boundaries and regulations for the special management areas called for in the Plan, and conducting regional assessments of cumulative impacts of mineral exploration on caribou.

As of April 10, 2008, Uravan held more than half of all mineral tenures on the Beverly traditional calving ground, with 278 mineral claims (most were acquired in 2006 and 2007).

## Dollars and sense

A business case looking at whether the Gillam-Churchill-Rankin Inlet route recommended for the proposed Manitoba-Nunavut road makes sense economically should be available by early winter. "The whole question of funding is there," says Amar Chadha, director of transportation systems planning and development for Manitoba Transportation. "The federal government is going to be the big partner in here, and we do need to get them on board." The Kivalliq Inuit Association and governments of Manitoba and Nunavut are the megaproject's other partners, but it's been suggested that the federal government would shoulder 70 percent of the cost of the \$1.2-billion all-season road. "It should," says Chadha. "I don't know whether it will." A detailed environmental impact assessment of the eastern route will follow once a business case has been completed.



Billy Ukutak

## School caribou hunts

Student Amanda Kigusiutnar (above, centre) of Arviat's John Arnalukjuak High School relaxes with guides during a five-day school caribou hunt with 14 students, guides and elders in September 2007. The BQCMB provides funding yearly to each caribou-range jurisdiction for community-based educational caribou projects ideally targeting school-age youth. The Arviat students harvested seven caribou during their hunt northwest of Arviat. They also caught some fish and filled out caribou health monitoring forms for the BQCMB. Meanwhile, 17 students from Oscar Blackburn School in South Indian Lake, Manitoba headed to nearby Big Sand Lake Lodge in March 2008 on a six-day outing that netted 10 caribou, 200 walleye and a moose! Field trainers, cooks, the trip co-ordinator and others joined the students, and the adventure wrapped up with a community feast.

## BQCMB meetings

As usual, the Board returns to Winnipeg for its fall meeting, scheduled for November 18-20 this year. The BQCMB plans to hold its spring 2009 meeting in the Kivalliq Region, but is still scouting around for a location.

## Qamanirjuaq sampling

Manitoba Conservation wildlife manager Daryll Hedman (below) takes samples to help determine body condition of Qamanirjuaq caribou during fieldwork early in 2008



Courtesy of Daryll Hedman

# Few caribou on Beverly calving ground again

For the second year in a row, a NWT-led survey team found very few caribou on the Beverly calving ground in June. The animals were also scattered over a larger area. This meant the team could only outline, or “delineate,” the calving ground instead of doing a visual stratification survey to estimate herd size.

In June 2007, an attempted calving ground survey of the Beverly herd was largely grounded by stormy weather. When team members were able to fly, sometimes not a single caribou per square kilometre was sighted (usually 30 to 40 caribou per square kilometre are seen). As a result, the Beverly population is thought to have declined.

“It looked like we were having late movement of animals on to the calving

ground,” added Deb Johnson, the former South Slave regional biologist and BQCMB member who headed the work. She wasn’t convinced that a late spring in NWT was to blame, and suspected low pregnancy rates were more likely the culprit. The Department of Environment and Natural Resources (ENR) is still deciding what its next steps will be in determining the size of the Beverly herd, Johnson added.

During five days of flying, the survey team’s community observers — John Nukik of Baker Lake in one plane, and BQCMB member Dennis Larocque of Camsell Portage and alternate member Pierre Robillard of Black Lake in another plane — flew over migration routes to the Beverly calving ground to make

sure that animals weren’t calving elsewhere.

ENR has beefed up its monitoring of the Beverly herd this past year. A spring composition survey of Beverly and Ahik animals discovered that the herds have a recruitment rate of 48 calves per 100 cows. ENR also placed satellite collars on 30 more Beverly cows during the first week of April in order to better track the herd. The collaring team targeted animals associated with the same group of caribou collared during the July 2007 post-calving season. These animals would all likely be moving in similar patterns, Johnson said, and there would be more chance of them returning to the Beverly calving ground.

“Qamanirjuaq survey,” continued from page 1

Nunavut Department of Environment



“Every member of the team played a critical role towards (the survey’s) successful completion,” Campbell told his crew.

In June 2008, as soon as satellite collaring location data showed most collared cows as having reached the Qamanirjuaq calving ground, a reconnaissance survey was flown to confirm that caribou were on the calving ground. By about the end of the first week of June, the survey team started the actual population survey, working “very, very long, long days” to take advantage of perfect weather conditions, Shewchuk said.

## The view from up here

“It was a whole new experience for me,” marvels Leo Ikakhik of Arviat, who joined a caribou survey for the first time this summer as a community observer on the Qamanirjuaq calving ground survey. “You can cover a lot of ground by air.”

For seven days straight, Ikakhik kept his eyes glued to the landscape during six-hour flights in order to report on the type and number of caribou he spotted (for example, cows, calves or yearlings). He also identified other wildlife: lots of grizzly bears, wolves, muskox and birds.

The immense numbers of caribou on the calving ground dwarfed everything Ikakhik had seen before. And while he has travelled as far as Baker Lake before on a snow machine, he had never travelled so far in summer, especially during June when the snow has just melted and high water levels make it tough to cross even small creeks. “There was so many things to see,” says Ikakhik. “Not only animals but seeing the places. I recognized the lakes and the stuff that I’ve been through on a snow machine. It really opened my eyes.”

“I was just having a ball out there,” Ikakhik enthuses. “Like the best experience I ever had!”



Community observer Leo Ikakhik

Nunavut Department of Environment



# How many cumulative effects are too many?

AREVA Resources Canada



Saskatchewan Ministry of Environment

Kiggavik uranium project camp (above), forest fire in northern Saskatchewan (right), Meadowbank Gold Mine and all-season road (page 1): some of the many human activities and natural factors on the ranges whose effects on caribou add up

Many things are happening on the Beverly and Qamanirjuaq ranges that could threaten the caribou. Human activity is at an all-time high, with extensive mineral exploration and development, new roads being built, greater numbers of people hunting caribou, and more. Barren-ground caribou travel far and wide, so they're exposed to many factors that could cause stress and affect the herds' survival and productivity.

Then there are natural factors that cause stress like disease, predators, forest fire and extreme weather — factors caribou have dealt with for thousands of years. Today's caribou are also battling the effects of climate change.

What results are "cumulative effects," also known as "cumulative impacts." They are the combined environmental effects from similar activities that add up over time and space, and they could threaten caribou and the people who depend on caribou.

The stress and disturbance from each land use activity might seem small, but together, these effects can be damaging. They may influence the health of caribou and their ability to cope with natural factors that cause stress.

The attempted population survey of Beverly caribou in 2007 discovered relatively few caribou on the calving ground compared to surveys done in the 1980s and '90s, and the herd's numbers are believed to have dropped. Population declines have been documented in five other NWT herds. Human effects on caribou will continue to pile up over time. It's important to make sure they don't harm caribou and threaten their future.

## Across the ranges

Different forces are at work across the Beverly and Qamanirjuaq caribou ranges. Forest fires have burned valuable foraging areas in NWT and Saskatchewan. "It's so dry and (there's) so much lightning," says BQCMB member Dennis Larocque of Camsell Portage, who found that fires were edging closer to communities in northern Saskatchewan.

BQCMB member Albert Thorassie of Tadoule Lake suspects global warming may be behind unusual weather patterns in northern Manitoba. By June now, the land is dry and free of snow. Yet some caribou still linger, Thorassie notes. "Usually they travel (when)

the ice is still there."

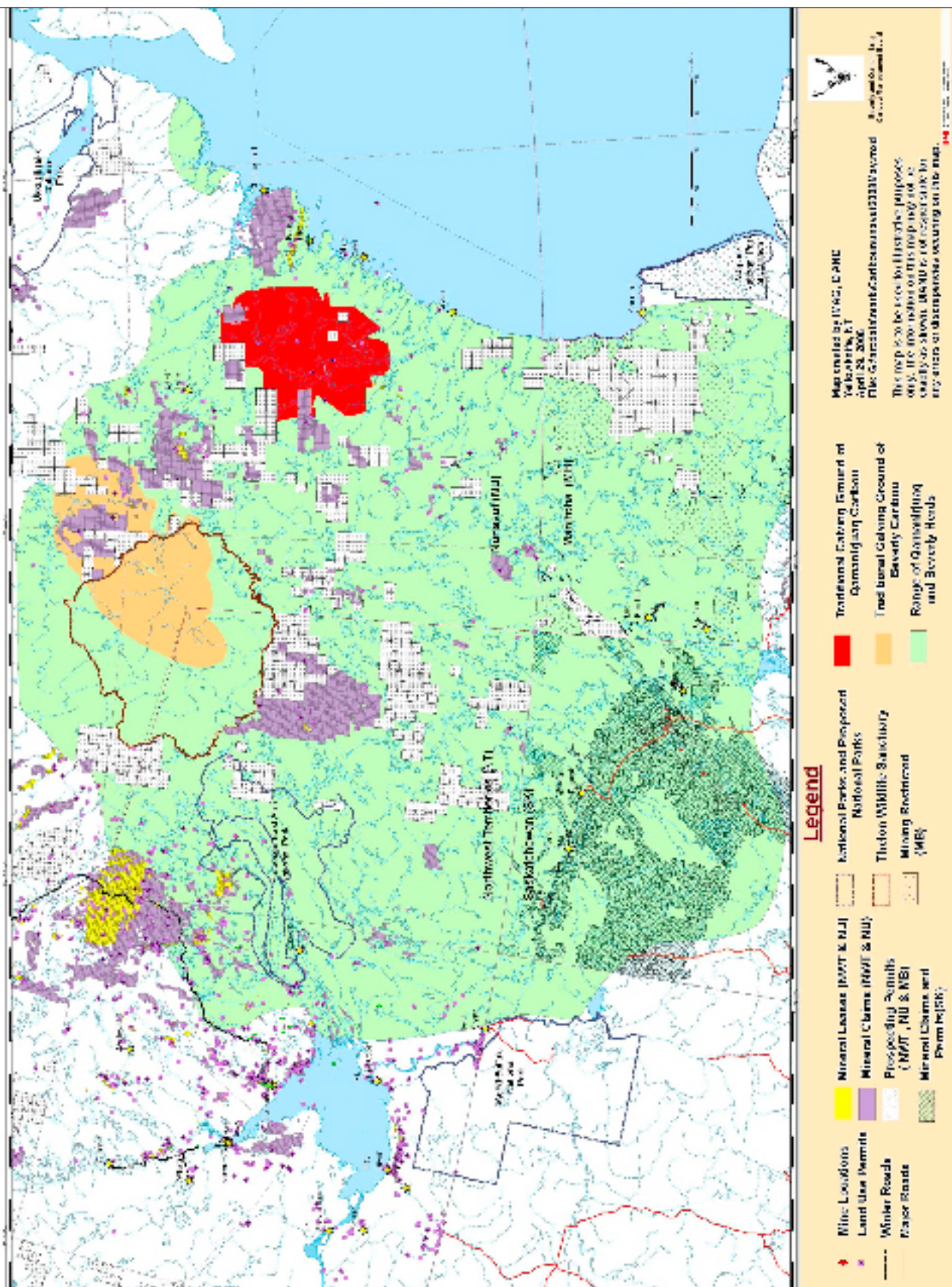
Mineral exploration and development accounts for most human activity on the Beverly and Qamanirjuaq ranges today. In Nunavut, Baker Lake has become a hub for mineral exploration. BQCMB member Thomas Elytook of Baker Lake, who has started doing wildlife monitoring for Cameco Corporation and Agnico-Eagle Mines Ltd., says that the caribou he has seen continue to eat as the monitoring team passes by, either during helicopter flights to drill sites or driving along the new Meadowbank Gold Mine road.

But Elytook, who hunts year-round, says caribou "seem to be not as fat as when I was growing up. It seems like they're (gradually) getting thinner and thinner." He notes that some years, caribou are fat if the previous autumn has been a rainy one.

Outfitter and wildlife biologist Alex Hall of Canoe Arctic in Fort Smith, who sat in on the BQCMB's May meeting, says air traffic from mining activities has long disrupted his NWT business's canoe treks on the remote and sparsely populated barrens. As soon as

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# Land Use Activities on Beverly and Qamanirjuaq Caribou Ranges



A larger version of this map, showing land use activities across the Beverly and Qamanirjuaq ranges as of April 2008, can be seen at [www.arctic-caribou.com/mining.html](http://www.arctic-caribou.com/mining.html). Other maps online show who holds prospecting permits, mineral claims and mineral leases on the two herds' calving grounds



"Cumulative effects," continued from page 4

pilots see another human, "(t)hey dive-bomb and harass us and have been for decades," Hall told *Caribou News in Brief*. "I'm sure they do the same for every animal they see."

### Dangers of cumulative effects

For years, the BQCMB has recommended to governments and regulatory agencies that more data be gathered about the combined effects of human land use activities occurring on the caribou ranges. The Board has repeatedly urged that regulatory and other territorial and federal government agencies assess cumulative effects with respect to caribou, examining impacts on a regional scale — not looking only at smaller individual project areas. Here are a few factors an

assessment should consider:

- Impacts from exploration and development projects can include disturbance (such as from helicopters and drilling), habitat loss (resulting when animals avoid areas because of human activities as well as from habitat destruction) and contamination of food or water sources.
- Caribou reactions to disturbance are not always as obvious as seeing them run away from aircraft or vehicles. For example, a caribou's head might remain lowered when a plane flies over but an observer may not see that the caribou has stopped feeding.
- Caribou need to feed continuously — frequent interruptions during spring migration through to late summer can lead to

more calf deaths, and fewer pregnancies and calves the following year.

### Dealing with all the impacts

The BQCMB's role is to gather, co-ordinate and convey information on cumulative effects studies, workshops and other initiatives. To that end, a special session was held at the BQCMB's May 2008 meeting in Fort Smith, where Board members learned about projects in NWT and Nunavut that will determine how to monitor and assess cumulative effects. The session was intended to encourage discussion and identify how the BQCMB could promote monitoring and assessment of the cumulative effects of human land use activities on caribou, and support existing programs addressing this key issue.

Managing cumulative effects is the purpose of the multi-organizational **NWT Environmental Stewardship Framework (ESF)**, created by INAC and Environment Canada in 1999. The **NWT Cumulative Impact Monitoring Program (CIMP)** feeds into the NWT ESF and monitors things important to communities, such as caribou. The committee dedicated to caribou, led by NWT ENR biologist Jan Adamczewski, is spearheading a **Caribou-Cumulative Effects Modelling Project** that eventually will be crafted to suit all barren-ground caribou herds. Another NWT-based initiative still in the design stage is the **Thelon Cumulative Effects Study**, being led by INAC with the Lutsel K'e Dene First Nation and other partners.

Meanwhile, the Nunavut Planning Commission (NPC) is creating a **Cumulative Impacts Management Framework for Nunavut** that will be enacted in the still-to-

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### A glimpse of mining activity

*Number of active prospecting permits, mineral claims and mineral leases as of April 10, 2008 on the Beverly and Qamanirjuaq calving grounds: 655 (of these, 447 are on the Beverly calving ground)*

*Number of mineral claims registered over the past six years in the uranium-rich Upper Thelon geological basin: more than 1,000*

*Number of mines on the horizon in the Kivalliq Region: 3*

- Agnico-Eagle's Meadowbank Gold Mine, north of Baker Lake, plans to open in January 2010
- AREVA's Kiggavik uranium project, west of Baker Lake, will soon start an environmental assessment process and could start operating by 2015, and
- Starfield Resources' Ferguson Lake nickel-copper-cobalt-platinum-palladium-rhodium project, west of Rankin Inlet, may see a feasibility study start in 2010

*Number of companies/individuals with mining interests in northern Saskatchewan, home to the Beverly herd's winter range: more than 100*

*Number of active mines in northern Saskatchewan: 3, with 2 more on the way*

*Number of abandoned uranium mines and mill sites in northern Saskatchewan still to be cleaned up: 37*

# Slow going for Upper Thelon planning

Conflicting schedules and taxing workloads among potential partners forced INAC to revise its ambitious March 2008 deadline to carry out short-term goals envisioned for an Upper Thelon Land and Resource Management Plan in the NWT. But Teresa Joudrie, manager of environment and conservation for INAC-NWT Region, says the March 2010 deadline for long-term goals still stands (no new deadline

has been set yet for short-term goals).

INAC intends to create a land and resource management plan with Aboriginal groups, governments, industry representatives, resource management boards and non-government organizations. By the end of June, INAC had corresponded with several interested parties, and held initial discussions with the Lutsel K'e Dene First Nation and

Saskatchewan's Athabasca Dene First Nation (including several Athabasca chiefs). Joudrie said the BQCMB would be asked to assist with environmental studies focusing on caribou.

The Upper Thelon region contains key Beverly and Ahiak caribou habitat, including primary migration routes for both herds, and is a cultural sanctuary for the Akaitcho Dene. The area is also highly desired by mining companies for its uranium.

Unfortunately, mineral exploration proposals for the Upper Thelon region continue through the regulatory process. Four proposed uranium exploration projects have been undergoing environmental assessments since the summer of 2007: Bayswater Uranium Corporation's Crab Lake and El Lake projects, and Uravan Minerals Incorporated's South Boomerang Lake and North Boomerang Lake projects. In a November 2007 letter to the Mackenzie Valley Environmental Impact Review Board, the BQCMB urged that the environmental assessments "not be conducted until adequate progress is made on sorting out the broader issues of land and resource management in the upper Thelon basin."

## Planning across the ranges

*Thelon Wildlife Sanctuary Management Plan:* While the Government of Nunavut, the Kivalliq Inuit Association, the NWMB, Nunavut Tunngavik Inc. (NTI) and the Lutsel K'e Dene First Nation have endorsed the plan for approval, the NWT government has yet to agree to it. Its Cabinet was expected to make a decision by the end of summer. One of the plan's two special management areas proposed outside the Sanctuary's boundaries would more fully protect the portion of the Beverly calving ground north of the Sanctuary.

*Nunavut Land Use Plan:* Reports are being produced to help the NPC develop a territory-wide land use plan with regional components. One goal was to compile existing knowledge of wildlife resource and habitat values, plus land use planning considerations. The BQCMB provided info on caribou and habitat. Data collected for all reports will be reviewed at Kivalliq community meetings mid-October, says NPC director of policy Adrian Boyd. Then NPC will discuss a land use planning process with NTI and the Canadian and Nunavut governments.

*Nunavut Caribou Management Strategy:* Consultations on a draft Nunavut Caribou Management Strategy are to take place this fall with Nunavut communities and other jurisdictions. Nunavut Department of Environment wildlife manager Dan Shewchuk says that the BQCMB will also be asked to provide input. This strategy will be critical to the way that the Beverly and Qamanirjuaq herds are managed and monitored in Nunavut.

*Athabasca Land Use Plan:* For the Stage I Draft Land Use Plan, comments from interested parties have been incorporated and a revised plan reviewed by the Saskatchewan government, Prince Albert Grand Council, area communities and leaders. Comments included the BQCMB's extensive input from 2006. As well, seven First Nations and communities created an Athabasca Land Use Vision ([www.pagc.sk.ca/alup](http://www.pagc.sk.ca/alup)), outlining what they want to see in a land use plan. The Stage I plan is back with communities for review, says Todd Olexson, landscape planning manager for the Saskatchewan Ministry of Environment.

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"Cumulative effects," continued from page 6

be-developed Nunavut Land Use Plan.

Finally, University of Calgary student Steve Lines is creating **Caribou Impact Assessment and Monitoring Guidelines**. Baseline data for many herds is scarce in NWT and Nunavut. Mining companies would benefit from caribou impact assessment guidelines that told them what information to file as part of their environmental impact statements.

*Read an expanded version of this story at [www.arctic-caribou.com](http://www.arctic-caribou.com).*

# People and Caribou

Karen Hunter



Left to right: Outgoing BQCMB members Carl McLean, Deb Johnson and August Enzoe

The BQCMB has bid farewell to several much-appreciated board members. **August Enzoe** of Lutselk'e represented the Dene communities of NWT's South Slave region since 1999, "and was a quiet but strong advocate for caribou conservation over the years," says BQCMB biologist **Leslie Wakelyn**. Enzoe shared his knowledge of caribou and the land during many Board meetings. Appointed as Enzoe's replacement is **Archie Catholique**, also of Lutselk'e. The Board welcomes him.

**Deb Johnson**, the South Slave regional biologist for NWT ENR, left the territory to attend veterinary school in Saskatchewan.

up on tasks on behalf of the Board and communities." Meanwhile, INAC—Nunavut Region director of operations **Carl McLean** has taken a position with the Nunatsiavut government in Goose Bay, Labrador. McLean became a BQCMB member in 2006, and was an active alternate member prior to that. He delivered valuable experience and was key in securing additional INAC funding for Board projects. "Carl always came through from one pot or the other," Thompson remarked. "Carl was truly a strong ally and advocate for the Board on the federal and, often, industry scenes, bringing open and accurate

Since joining the Board in 2002, Johnson contributed enormously to BQCMB projects. "She brought a quiet, assertive and hard-working presence from the GNWT and scientific community to the Board," says BQCMB secretary-treasurer **Ross Thompson**. "Deb was open to new ideas and techniques, and always followed

information from his department, yet clearly pointing out what the Board needed to do to make its cases stronger for habitat and caribou protection." Board replacements have yet to be appointed for Johnson and McLean.

A stream of presenters and visitors made the Board's information-packed May meeting in Fort Smith a lively one. On hand were **Willie Joe Laurent** of Fond du Lac, BQCMB alternate member **Pierre Robillard** of Black Lake, former BQCMB chairman **Jim Schaeffer** of Fort Smith, **Phillip Josie** of Wollaston Lake's Hatchet Lake Band, NWT ungulate biologist **Jan Adamczewski**, University of Calgary student **Steve Lines**, **Martin Gebauer** of Agnico-Eagle Mines Ltd., **Barry McCallum** and **Mark Warbanski** of AREVA Resources Canada Inc., **Ron Matthews** of Cameco Corporation, **Monte Hummel** of WWF-Canada and **Alex Hall** of Canoe Arctic Inc.

This year, the BQCMB honoured two students with a Caribou Management Scholarship Fund award instead of one: University of Alberta biological sciences student **Liv Vors**, and University of Calgary veterinary medicine and biological sciences student **Bryanne Hoar**.

*Read an expanded version of "People and Caribou" at [www.arctic-caribou.com](http://www.arctic-caribou.com).*

## Publisher's Box

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## Caribou Management Scholarship Fund award winners

Liv Vors (left) and Bryanne Hoar



Photos courtesy of ACUNS