Cool, cloudy weather on the western North Slope made it a difficult task, but pilot-biologists were able to photograph the Western Arctic Herd last July. The photos will be counted this winter to provide a minimum estimate of herd size. A census effort in 2002 had to be cancelled because of weather and a dispersed herd.

"Boy, what a relief to get that done!" said Kotzebue biologist Jim Dau. "The caribou were really spread out this year so we had to take a record number of photos of 3 separate groups over a four-day period. We just prayed that the groups wouldn't mix until we were done. They didn't!"

Dau added that the herd is, "still unequivocally very large" and that it will take almost a year to get all the caribou counted in the photographs. 430,000 caribou were counted during the last census in 1999.

Biologists relied on 100 caribou radio collars to lead them to the groups and indicate what proportion of the herd was present. Only two collared caribou were not found during the census, probably because their transmitters were no longer working. Once the caribou were located and conditions were favorable, the groups were photographed using a large aerial camera mounted in a DeHaviland Beaver airplane.

The computer age has even come to counting caribou. Biologists linked a laptop computer to instruments in the airplane to help ensure that no caribou were missed during the photography.

Western Arctic caribou stream across and down this mountainside in a photo taken during the 2003 census.
Winter Range
Distribution of the Western Arctic Caribou Herd last winter (November 2002-March 2003) was similar to recent years. About 40% of the herd wintered in a broad band on the Seward Peninsula from roughly Serpentine Hot Springs and Deering to the Fish River Flats.

Unlike recent years, relatively few caribou wintered in the eastern portion of the Seward Peninsula. This forced residents of Buckland and Koyuk to travel to get caribou. About 20% of the herd wintered in the Kobuk drainage west of Selby Lake while up to 20% wintered in the hills dividing the upper Kobuk and Koyuk drainages. Five to 10% of the herd wintered in the Atqasuk-Umiat area, and 5-10% wintered in the lower Noatak/Cape Krusenstern area.

Of course, these are rough approximations based on the distribution of radio collared caribou, reports from the public and our observations while conducting other wildlife surveys. After 15+ years of heavily using the Nulato Hills between Koyuk and Unalakleet, almost no caribou were in that area last winter.

Snow Affects Caribou
Although most of us felt it was (another) mild winter, by March snow had accumulated to levels that obviously affected the behavior, distribution and body condition of some caribou. For example, in the upper Kobuk drainage deep snow forced caribou to walk in trails and restricted them to ridge tops or heavily cratered areas in the trees. As a result, March many of these caribou were in poor condition.

Mortality Rates
Our estimate of adult caribou mortality also suggests that caribou had a tougher time last winter than humans did. Since October 2002, about 18% of all radio collared cows have died. The overall adult cow mortality rate for this year will almost certainly equal or exceed 20%. That has only happened twice in the last 10 years: in 1992-1993 the mortality rate was 20% and in 1999-2000 it reached 23%.

Calving Rates
Once again, we had a cool spring with snow lasting well into breakup. During March and April, we saw about 19 calves (born in 2002) per 100 adult caribou. This was similar to the previous five years, but substantially lower than calf survival during the early 1980s when this ratio reached about 30 calves to a 100 adults.

Spring Migration
Despite the prolonged breakup, caribou moved north during April and May as they normally do. By June, roughly 80% of adult females were on the calving grounds north of the Brooks Range. Of those that were in the Noatak drainage during calving, a few gave birth there but most did not appear to be pregnant. We estimated about 68% of adult females gave birth during early June. This was lower than in 2002 but comparable to 2000 and 2001. Calving was at least one week late this year.

Caribou followed their usual summer movement pattern during late June through early August. In mid to late June they moved west across the northern foothills of the Brooks Range to the eastern side of the Lisburne Hills.

During the second week of July we photographed the herd for the census as it aggregated and began to move east through the upper Kivalina-Kukpuk drainages and southeast near Cape Sabine. During July, caribou continued to move east through the mountains toward Howard Pass and the upper Noatak drainage.

By the end of July, caribou began to disperse as some moved northwest onto the coastal plain and others remained in the mountains west of Anaktuvuk Pass.

Fall Migration
The most amazing aspect of this years’ migration is that it essentially stopped around September 15, and, as of early October, hasn’t really gotten going again. Annual migrations typically have gaps, pauses and even reversals, however, I’ve never seen the entire migration come to a screeching halt for two to three weeks at peak movement time. It’s easy to say the caribou are simply responding to the unseasonably warm weather, although I don’t think it’s that simple. When the migration first stopped it was cold: the upper Noatak River was half frozen with snow on the ground, and the upper Kobuk was running ice.

In early October, the very few caribou (mostly bulls) I observed on the Seward Peninsula, seemed to be moving east - opposite their normal direction at this time of year. These may have been bulls that spent last summer on the Seward Peninsula getting impatient for potential girlfriends to move down there for the upcoming rut.

The caribou may yet have more surprises in store for us before they settle into their wintering areas during mid to late November!

by Jim Dau, ADF&G
Sterilized Wolves are “DINKS”!!

“Double Income, No Kids” is a term former Tok Area Biologist Craig Gardner is using to describe some of the wolves he sterilized as part of the Fortymile Recovery Plan at least five years ago. These wolves were sterilized to prevent production of pups. Some of the wolves have since died and when examined were heavier than non-sterilized wolves. “These wolves are accomplished killers but no longer have pups to support,” said Gardner. “They don’t need as many groceries and they don’t have to share. Also, by killing fewer moose and caribou they are reducing the chance of injury to themselves.” In recent years the Fortymile Caribou Herd has doubled in size from about 22,000 to about 44,000 in 2003.

**Military Jet Overflight Study**

In January 2003 Dr. Audrey Magoun of Fairbanks published a report entitled, “Short-term Impacts of Military Jet Overflights on the Fortymile Caribou Herd during Calving Seasons.” Dr. Magoun said, “Although short-term reactions of caribou to jet overflights were relatively mild in this study, we advise against assuming there are no long-term effects on calving caribou from jet overflights.” The full report can be found online at www.state.ak.us/adfg/wildlife/geninfo/pub/division_reports/overflft.pdf.

**Meeting Scheduled for May**

The Working Group plans to hold its spring meeting at Girdwood, Alaska May 3-4, 2004. The North American Caribou Workshop will also be meeting in Girdwood at that time—May 4-6, 2004. This will be an unusual opportunity for Working Group members to visit with the biologists and indigenous people who attend the North American Caribou Workshop.

**Smaller Antlers This Year?**

Numerous and large groups of Western Arctic Caribou began crossing the Kobuk River during the week of September 8, 2003. As Jim Dau, ADF&G, said, “I never saw as many caribou cross the Kobuk River in a weeklong period as this year. Typically in the fall groups number from 1-50 caribou: we rarely see a group numbering 200-300 individuals during the collaring project. This year we saw many groups of 500-600 caribou.” A team, led by ADF&G that included students from Noatak and White Mountain, attached a total of 33 radio collars on the swimming caribou. Blood was taken from 113 caribou for ongoing disease studies. No caribou were injured or died in the handling and no drugs were used. Most of the animals they worked with were in good body condition, both adults and calves. The antlers, however, seemed a little smaller on the big bulls this year during that week at Onion Portage.

**Summer Feasts; Winter Lichen**

In the summer, caribou feast on bird’s eggs, flowers, and other plants, but in the winter, lichen is the important food. Fortunately, Alaska has hundreds of species of lichens. Some are highly preferred by caribou and some lichens not at all. Caribou are very selective about what they eat and when they eat it, said BLM botanist Randy Meyers from Kotzebue. Randy brought various samples of lichens to the winter Working Group meeting and talked about their importance for caribou.

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**Caribou Disease Profile**

**Sandpaper Caribou: Besnoitiosis**

*Editor’s Note: A regular feature of this newsletter is about the diseases or parasites sometimes found in caribou. The Western Arctic herd is still very large so hunters may occasionally encounter an unhealthy animal. However, most caribou in the Western Arctic herd are healthy. Seriously sick or injured individuals simply do not live very long.*

Hunters often find parasites when they butcher caribou. One of these feels like sand between the meat and the skin. The parasites are barely visible to the human eye but may appear as small lumps under the skin on the lower legs that occasionally look wet or have a slight brownish discoloration. There may be hundreds or thousands of these in a single caribou.

The parasite *Besnoitia tarandi* causes this condition. In caribou, it can cause fever, runny nose, loss of appetite, swollen lymph glands and patchy loss of hair (usually on the head). However, the most common observation is the gritty or grainy appearance of the connective tissue between the skin and the muscle.

Besnoitia (pronounced Bez-no-ye-tee-ah) does not infect caribou meat and will not make people sick. Also, the parasite does not affect the taste of caribou meat. Hunters should salvage the meat of caribou even if they observe the “sandpaper” appearance caused by this parasite. Just be sure to cook the meat before you eat it and don’t let your dogs get any of the meat scraps from that animal.

The complete life cycle of Besnoitia is not fully understood. The parasite probably lives in the intestines of carnivores like dogs and wolves. The parasites then lay eggs which pass out in the feces (“anaga”) of the carnivore. The feces decompose and the eggs remain on vegetation. Caribou then eat vegetation that has been contaminated by the eggs. There is also some evidence that Besnoitia can be transmitted by biting insects. Wildlife disease experts are trying to learn more about how this condition is transmitted.

(excerpted from “Common Wildlife Diseases and Parasites in Alaska.” AK Department of Fish & Game. Anchorage, AK. Brett Elkin and RL Zarnke, 2001)

If you catch a “sandpaper” caribou, please send the frozen lower legs freight collect to the nearest Alaska Department of Fish and Game office. Be sure to call ahead so that they know your sample is coming.

Barrow: 852-3464
Kotzebue: 1-800-478-3420
Nome: 1-800-560-2271

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**Questions and Answers about Besnoitia**

**Where in Alaska does Besnoitia occur?**

It is common in caribou and can also be found in reindeer and muskoxen.

**What are the signs of this parasite?**

Infected animals usually appear healthy. Heavily infected animals may lose hair on the lower legs and face and the skin may be thick. Besnoitiosis can be most easily identified when skinning the lower legs. The cysts are hard and feel like a slight roughness (“sand-paper”) over the bone and skin.

**How can I protect myself?**

You cannot get besnoitiosis from infected animals.

**Can I eat the meat?**

Meat from infected animals is OK for human consumption. Cook the meat well. Do not feed infected meat to dogs.
Caribou Plan Approved!

Unanimous approval of the Western Arctic Caribou Herd Cooperative Management Plan was a highlight of the spring meeting held in Nome March 25-26th. All 20 Working Group members, or their alternates, have signed the new plan. Representatives of four resource management agencies present also signed, expressing their support for both the Working Group and the new plan.

The distinctive feature of the new caribou plan is that it was written by the people who actually use or value the herd in collaboration with representatives of the resource management agencies.

The Caribou Working Group Planning Committee began to work intensively on the plan in 2000 and met many times. In May, 2002, the full Working Group approved a draft plan for public review that was revised and finally approved in March 2003. Planning Committee members wrote the plan together on a computer projector and then reported back to the full Working Group for direction.

John Schoen, representing conservationists, chaired the Planning Committee.

The “Heart” of the Plan

1. **Cooperation:** Encourage cooperative management of the herd and its habitats among state, federal and local entities and all users of the herd.

2. **Population Management:** Recognizing that caribou herds naturally fluctuate in numbers, manage for a healthy population using strategies adapted to population levels and trends.

3. **Habitat:** Assess and protect important habitats of the Western Arctic herd.

4. **Regulations:** Promote consistent, understandable and effective state and federal regulations for the conservation of the Western Arctic herd.

5. **Reindeer:** Seek to minimize conflict between reindeer herders and the Western Arctic herd.

6. **Knowledge:** Integrate scientific information, traditional ecological knowledge of Alaska Native users, and knowledge of all users into management of the Western Arctic herd.

7. **Education:** Increase understanding and appreciation of the Western Arctic herd through use of scientific information, traditional ecological knowledge of Alaska Native users, and knowledge of all other users.

The Caribou Working Group understands that herd management will be based on these broad decision-making guidelines as herd dynamics, user demands, management needs, and other situations change in the future. Ultimately, the success of this new plan will be determined by its usefulness to all those who use, value or manage the herd.

“One Heck of a Plan” Gets Supporting Resolutions

Community governments and resource management organizations are showing support for the March 2003 Cooperative Caribou Management Plan. Mitch Demientieff, Chair of the Federal Subsistence Board referred to it as “one heck of a plan” on May 21, 2003 when the FSB unanimously passed a resolution of support.

Mr. Demientieff observed that people competing for the same natural resources can often resolve conflict by sitting down together and talking it out. “When they do that,” he said, “they often find they are not that far apart on the issues.”

To date, the plan has received similar resolutions from the Kobuk Traditional Council, Native Village of Koyuk and the City of Brevig Mission. The Native Village of Point Hope has also approved the plan. Federal Subsistence Regional Advisory Councils support the plan as do the following State of Alaska Advisory Committees: Southern Norton Sound, Kotzebue Sound, Noatak/Kivalina, Northern Seward Peninsula, Upper Kobuk and Lower Kobuk. Other endorsements are expected.

The Alaska Board of Game has the endorsement of the Western Arctic Caribou Herd Cooperative Management Plan on its agenda for the November 2003 regulations meeting.
Traditional and Technological: Understanding Our Herd

What do Elder Laura Smith, Ruby Foster, and David Griest of Selawik as well as Dave Beaty, an engineer who develops satellite tracking technologies for wildlife have in common? They are all helping us learn more about caribou movements in northwest Alaska.

This summer, the Selawik National Wildlife Refuge contracted Hannah Loon, Inunialaqput and Regional Elders Director with NANA, to record the oral histories of elders in Selawik as they shared their knowledge of past caribou migratory patterns and other aspects of caribou ecology. The title of Hannah’s project is “A historical perspective on caribou movements and abundance in the Selawik drainage, as documented by the subsistence hunters of Selawik.”

The Working Group suggested this project and identified it as a high priority in the Cooperative Management Plan. This project demonstrates how the traditional knowledge of our elders and the information collected through modern technology can be used together to help us better understand caribou in our region.

Hannah will finish her interviews in Selawik this fall and plans to share what she’s learned with the Working Group at the winter meeting (December 9-10 in Anchorage).

Meeting with Reindeer Herders in Spring Sunshine

The Caribou Working Group had a busy and productive meeting in Nome March 25-26, 2003. In addition to final approval of the new caribou plan, meeting highlights included:

- A presentation on the history of reindeer herding by Rose Fosdick, Executive Director for the Reindeer Herders Association.

- A panel discussion on reindeer herding and caribou by herders Larry Davis, Merlin Henry, Herman Toolie and Tom Gray.

- A policy decision by the Working Group to continue providing caribou radio collar locations for all residents of the Seward peninsula on the Internet. This information is intended to assist reindeer herders and will not be expanded elsewhere.

- Sending a letter to BLM expressing concern over possible development impacts in the Northwest NPRA planning area. The Western Arctic herd uses that area for summer range. It is also an important subsistence food gathering area.

- A reindeer potluck supper was held at Pioneer Hall provided by Roy Ashenfelter and

For copies of the Caribou Management Plan call ADF&G in Anchorage at (907)-267-2191 or toll-free (866)-467-2191. The plan may also be downloaded at: http://www.state.ak.us/adfg/wildlife/geninfo/planning/Caribou_web.pdf
Focus on the Members

Each issue, this section highlights members of the Western Arctic Caribou Working Group. Subsistence users, sport hunters, transporters, conservationists, hunting guides, and reindeer herders are all represented in the Group.

Life of a Hunting Guide

I am Phil Driver, a Hunting Guide. I represent this class of user on the Western Arctic Caribou Working Group. I was born and raised in California, where I grew up on a farm. Before coming to Alaska, from the time I was old enough to do so, I hunted and fished for food, as my father taught me, to supplement my family's diet.

Just what is a hunting guide? The best way to describe what I do is this: I lead a person to, and select an animal for them to kill. These hunters usually want a large male of one of the big game animals that live here in Northwest Alaska. Usually, these hunters come from a completely different life than us. They usually do not live on or from the land as we do, and most likely they are raised from families that are not rurally oriented.

I have been hunting and guiding in Northwest Alaska since 1965. I consider my lodge on the Wulik River my home. I have lived there for over thirty years and am usually there from March until the end of October.

It has been a privilege to be part of this Western Arctic Caribou Working Group since its inception, and participate in the deliberation shared with my fellow members. The accumulated, on-the-ground knowledge seated around our table represents hundreds of years of experience and further spans back to long ago knowledge that has been handed down father to son, hunter to hunter.

To a hunter's eye, that herd of caribou coming through the country with those spectacular big, white manes, and the fat bulls is a vision that brings good tiding and joy. I believe through our Working Group, we help to promote the natural cycle and welfare of caribou through the instigation of thoughtful management plans. I can see with my own eyes, the great herds coming, coming on in fall time with all those big bulls, the cows with their calves, and right now, plenty of them for all uses.

by Phil Driver
Midnight Sun Adventures

Meet Don Frederick...

Don Frederick, a member of the Caribou Working Group, has been with us since the beginning in 1997. Don represents the Anchorage Advisory Committee on the Working Group. As a Voting Chair, Don works hard to ensure there are opportunities for everyone who uses or values the Western Arctic herd.

Don lives in Anchorage but has traveled widely throughout the state. He is a Tier II Nencha Caribou herd hunter. He also likes to dig for clams in Katemak Bay near Homer and fish for silver salmon in Seward.

Don first came to Alaska in 1967 with the U. S. Air Force. He has recently been on active duty with the Air National Guard as a Master Sergeant small arms instructor and security specialist. He is a Viet Nam veteran (1969-70) and more recently has served in Saudi Arabia. In his civilian life, Don now works for the Alaska Communications System.

Don has served on the Anchorage Advisory Committee for 14 years. He is a life member of the National Rifle Association and belongs to many other outdoor organizations as well. Don works on both the Caribou Working Group and the Anchorage Advisory Committee because he believes in conserving wildlife and habitat for future generations. Don raised two children on wild game here in Alaska. He recalls the time that his daughter called him from college and told him about this strange tasting meat she was eating called “beef”!

Working Group Receives Award!

The Western Arctic Caribou Herd Working Group received a national award from Bureau of Land Management Director Kathleen Clark at a ceremony held at BLM’s Northern Field Office on August 12, 2003.

Chairman Raymond Stoney of Kiana accepted the BLM Director’s Four Cs Award on behalf of the Working Group. The award recognizes extraordinary achievement in the BLM Four Cs: “Consultation, Cooperation, and Communication in the service of Conservation.”

“Under Raymond Stone’s leadership this group has pulled together a real coup in terms of being able to get such a diverse group of people together. And it’s not just subsistence people or agency people—we’re talking reindeer herders, sport hunters, hunting guides, air taxi operators and conservationists, too” said Northern Field Manager Bob Schneider.

Moving on and Retiring...

John Coady, wildlife biologist, retired in July after more than 32 years of service for ADF&G. Coady helped create the Caribou Working Group. Throughout much of his career, he helped make wildlife biologists more accessible to the residents of Northwestern Alaska. The Coady family will continue to live in Fairbanks.

Dave Spirtes, former superintendent of Western Arctic National Parklands, and an active supporter of the Caribou Working Group, has now moved on to Fire Island National Park in New York. Dave was instrumental in the development of the Western Arctic Caribou Herd Cooperative Management Plan. In fact, Dave says that in his eight years in Alaska one of his hardest tasks was winning agreement on this plan. "It took six years to work through it," he said.
New technology combined with an interest in the past is enabling stories about the history of reindeer herding on the Seward Peninsula to be preserved and passed on to future generations.

Interviews with longtime herders on the history of reindeer herding on the Seward Peninsula are being recorded under the guidance of Rose Atuk Fosdick, Program Director for the Reindeer Herders Association, and Bill Schneider Curator of UAF’s Oral History Program. When the project is complete the interviews plus photographs will be available on CD to schools and other interested groups, and several radio programs are planned.

The herders discuss many topics, including climate change, predation by wolves and bears, and interactions with caribou. Following are a few edited excerpts from those interviews that describe the history of interaction between reindeer herding and the Western Arctic Caribou Herd.

For more information on conducting oral history projects contact Bill Schneider, UAF Oral History Program, (907) 474-5355, or fhwss@uaf.edu. This project was funded by a National Science Foundation grant to Knut Kielland, UAF Institute of Arctic Biology, with additional support from Greg Finstad, UAF Reindeer Research Program.

By Sue Steinacher, ADF&G

### Nathan Hadley

Nathan Hadley is a longtime herder from Buckland. He learned to herd from his father and obtained his herd from him. He was interviewed Jan. 26, 2001.

“When I was 14 years old - in 1954 - me and my friend Jimmy Gregg went rounding up with my father, Paul Hadley, and Marvin Thomas. Marvin and my dad were with the main herd, and Jimmy and I went to go pick up that one little bunch and there was this one big bull... We tell my father there’s the biggest reindeer we ever saw in our lives. Marvin and my dad hurry up and dress up, go up there and butcher that caribou. That’s when they [the caribou] first come in - in 1954... Anyway, they used to be here long time ago.”

### Herb Karmun

Herb Karmun received his herd from his father, Alfred Karmun, and herded many years in the Deering area. He was interviewed Oct. 4, 2000.

“When we first got started in the reindeer business, the old people used to say, ‘Well, caribou used to migrate through the whole peninsula in the early days.’ They keep saying, ‘You watch it. They’re gonna come back.’ I said, ‘Come back where?’ ‘You know, the same area that they migrated when they first started.’ History repeats itself. They all came back – and they’re still going through. Decimated my herd to zero. Sheldon, Hadley, Merlin Henry... half a dozen herds gone. That really hurt.”

### Dan Karmun

Dan Karmun is the former Program Director of the Reindeer Herders Association, and the former extension agent for the Cooperative Extension Service in Nome. He was interviewed Jan. 23, 2001.

“My brother would tell me stories about when the caribou begin to disappear from the scene, just right before the 1900’s... Right up there at Imuruk Lake there was people, Natives that lived there, who had a trail from the Lava Beds up to the south side to where they had their camps. And whenever the caribou would begin to come around, they would use the Lava Beds as a source of getting them [by chasing them into the potholes.] In the Lava Beds there’s a lot of holes where they [the caribou] would drop in... and they would catch their caribou by that means... So the presence of caribou must have been there before 1891, when the reindeer was introduced. That was according to my brother.”

“I’m not a professional in the caring of the caribou, but I guess history kinda tells us that when there’s a depletion of food source – let’s say in the caribou area – they tend to come in [west] from their north to south migration, to maybe look for a food source. If the caribou had been here in the early 1800s, then probably that food source was beginning to deplete so they moved away. And now their migration begins to come down and look for food sources again. That’s what I’m beginning to think after being involved in the reindeer industry... Our ancestors always told us that one day the caribou is gonna come back again. I think that’s becoming true.”

### Tom Gray Replaces Pius Washington

The Kawerak Reindeer Herders Association has assigned their President, Tom Gray, to represent them on the Caribou Working Group. The herders appreciate all the hard work done by Pius Washington of St. Michael, who is retiring from the Working Group. Pius has been with us since January 2000 and served faithfully on the Working Group Planning Committee. Thank you for a job well done Pius! Welcome Tom!
Myrna Outwater's Delicious Reindeer Stew

Reindeer or caribou meat
1 tbsp Lea & Perrins (Worcestershire) sauce
1 tsp dried onion
1 clove garlic, diced
1 can stewed tomatoes
2 medium-sized potatoes, diced
1 ½ stalks celery, chopped
2 carrots, chopped
½ cup chopped cabbage
½ cup rice
½ cup macaroni

Bring to boil the first four ingredients, add stewed tomatoes. Boil about 1 hour, then add the potatoes, celery, carrots and rice. Cook for 15 minutes. Then add the macaroni and cabbage; cook for an additional 10 minutes. Enjoy.

Editor's Note: A potluck dinner hosted by Kawaiak Inc. employees was one of the highlights of the Caribou Working Group meeting held in Nome last March. Pius Washington and the St. Michael IRA donated the reindeer that "came for dinner." It was a good one! This stew or soup is a fancy version of what is served in many homes and community gatherings throughout northern Alaska. John Trent knows it is delicious stew because he ate three bowls of it himself! Thank you, Myrna, for this recipe!

Caribou Management Plan Completed!
See Stories on Pages 1 and 4.