

CARIBOU TRAILS

News from the Western Arctic Caribou Herd Working Group

2012 Issue 12

Tuttut tumai
(Inupiaq)

bedzeyh tene
(Koyukon
Athabaskan)

tuntut tumait
(Yup'ik)



Photo Wayne Thompson

CARIBOU CENSUS COMPLETE

325,000 ANIMALS

Alaska's largest caribou herd, the Western Arctic Herd (WAH), numbered about 325,000 animals as of July 2011 according to a census recently completed by the Alaska Department of Fish and Game (ADF&G).

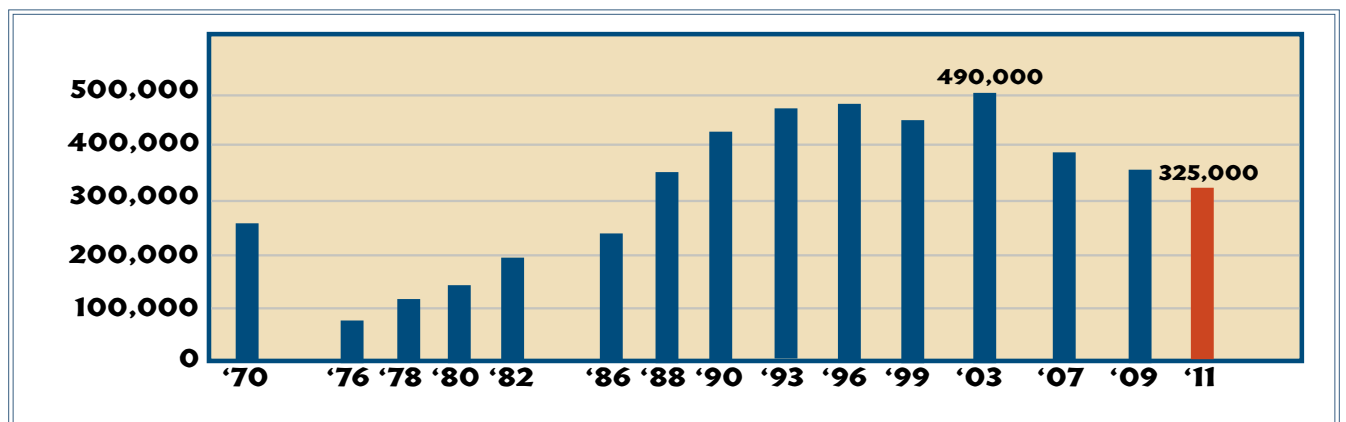
This represents a 5% decline since the last census was completed in July 2009, and a continuation of the 4-6% annual decline since it peaked at 490,000 caribou in 2003. This trend is consistent with annual estimates of increasing adult cow mortality and declining calf survival.

The WAH ranges over a 140,000 square-mile area bounded by the Arctic Ocean, the lower Yukon River and the trans-Alaska pipeline. About 40 communities and 13,000 people live within its range. For the indigenous people of these communities, the herd is both a vital link to their cultural heritage and a staple source of food. The WAH is also important to visiting resident and nonresident hunters, and is an important source of income for commercial service operators. Because of its tremendous size, the herd has a huge, almost incalculable influence on the ecology and dynamics of natural systems in Northwest Alaska. As well as being important prey for wolves and bears, the caribou directly and indirectly impact the entire food web through nutrient cycling and browsing, affecting organisms from bacteria to vegetation, to moose and other species.

Biologists classify factors that limit the size of caribou herds into 2 categories: density dependent factors and density independent factors. Density dependent factors are those that exert a greater negative force on the caribou population as it grows. Examples of density dependent factors are range condition, predation and disease. Density independent factors are those whose effects are not related to caribou herd size, such as weather or resource development. Both density dependent and density independent factors are likely influencing the decline of this herd.

There is no indication that this population decline will reverse anytime soon. Severe midwinter icing events have occurred several times since about 2005. Additionally, although there is little data on predator numbers throughout the range of this herd, opportunistic observations by ADF&G staff as well as many reports they have received from the public suggest that numbers of predators - especially wolves but also grizzlies - are now relatively high in many portions of the herds' range compared to previous years. The Bureau of Land Management (BLM) has documented measurable long-term changes in winter range condition, and demand by hunters for food and recreation is stable despite lower numbers of caribou. Even though the WAH has numbered over or around 300,000 caribou since 1988, health assessments conducted by the department and reports from hunters indicate that the body condition of caribou from this herd generally remains good. Although this herd is still very large, it may become necessary to reduce harvests in the future if this decline continues.

The next census is scheduled for 2013.



Caribou jumping over a pond (left) by Mike Aamodt. Caribou aggregation photos (above) by ADF&G Geoff Carroll.

Western Arctic Caribou Herd
Working Group
P. O. Box 175
Nome, AK 99762



Postal Patron

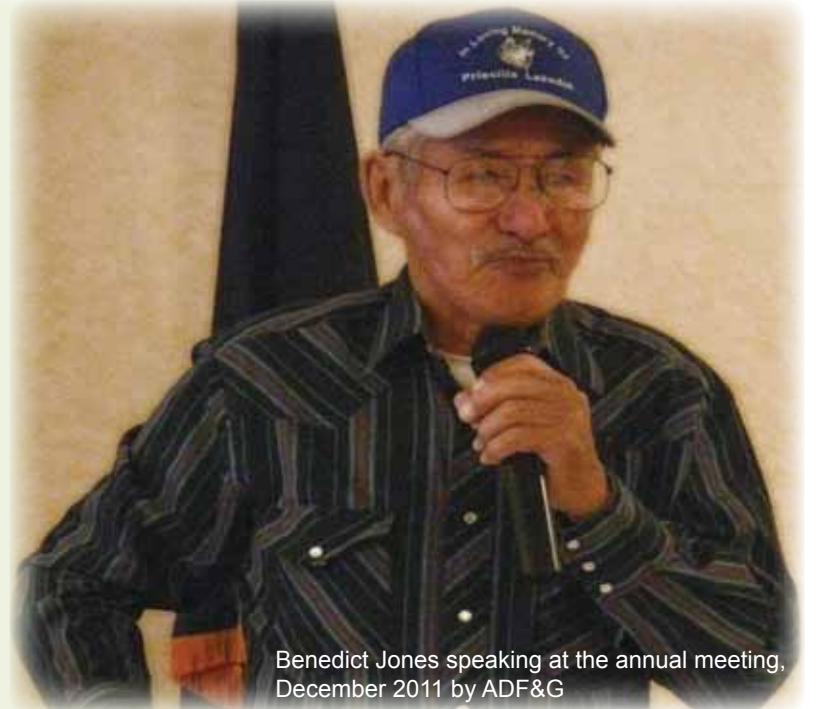
ECRWSS
PRSRT-STD
U.S. Postage
PAID
Anchorage
Printing, Inc.
POSTAL CUSTOMER

BENEDICT JONES SPEAKS AT THE WORKING GROUP MEETING

MIDDLE YUKON RIVER CHAIR KOYUK, ALASKA

A RESPECTED AND KNOWLEDGEABLE ELDER

Benedict Jones or K'ughto'oodenool'o', is the elder Chief of Koyukuk and chair for the Western Arctic Caribou Herd Working Group (WACH WG) representing the Middle Yukon River. An attentive audience smiled as he shared caribou stories from the Yukon River.



Benedict Jones speaking at the annual meeting, December 2011 by ADF&G

MY GRANDMOTHER A CARIBOU CLAN

My grandmother was a Caribou Clan. The Caribou Clan people are quick and nimble, just like the caribou. When caribou shifted through the area, the caribou clan people would travel with the caribou as a means to survive. My grandmother told many stories about caribou. Caribou could predict the future.

One time when the caribou came through, they made a camp by the Ruby mountains. The ravens spoke with the caribou, "We're so sad," said the caribou. And the raven asked them, "Why are you so sad?" The caribou replied, "There will be big changes in our future." The raven asked, "What changes?" Caribou said, "There will be people coming in and killing us off with their guns."

They also told the raven that they were scared. "Why?" asked Raven. Caribou said, "Now there are no wolves in the Interior and he said wolves would be coming. The wolves are fast and our legs are too short. We can't outrun the wolves." So the raven said, "Well, put sticks on your legs." So the caribou did. The caribou were happy and thankful to the raven because they would be able to outrun the wolves."

One time back in 1939, we were at our camp up in Koyukuk and my dad wanted a pair of new mukluks because his old ones were wearing out from hunting every day. My grandmother got up in the morning and she sewed so fast, just like a sewing machine, and she made the pair of mukluks. That evening my dad came home around supper and she handed the new pair of boots to him. She was fast and strong, just as Caribou Clan people were, just like the caribou."

HOLDING UP THE STEAMBOATS

An elder long ago spoke about the caribou. He worked on the steamboats during the gold rush days out on the Yukon. In late August the caribou migrated from the Alaska Range up north to Huslia, Koyukuk, and the Tanana area. He recalled a time when traveling back upriver, and they ran into a caribou herd migrating across the Yukon. There were so many caribou that they couldn't go through. He estimated probably a million caribou migrating across the Yukon and he said they had to tie the boat up.

They tied up for seven days waiting for the caribou to cross. They ran out of wood for the steamboats, and had to go back down 40 miles to the wood pile to pick up some more wood. On the tenth day, they came back and they said there was still caribou going across the river night and day.

HOW WE LEARNED TO HUNT CARIBOU WITH BOWS

Before firearms were introduced, bow and arrow were used to hunt caribou. An elder told me that sometime in late summer they'd start practicing for their caribou hunts using dried salmon, they would hang salmon up on the willows. They would have a young kid run as fast as he could and the fish would be tied way up above their head and the men would be practicing with arrows, shooting at the salmon trying to hit that fish and they'd practice like that for about a month before they'd go caribou hunting. Another way they'd practice is that they would put that dry fish up on a stick and then they'd shoot at it with arrows to see how many times they could hit that dry fish.

"The way they'd come up to a caribou out in the flats, in open country, they'd chop down a spruce tree and carry it while crawling. The caribou would suspiciously watch the tree. They'd (the caribou) would come towards it (the tree) because the tree is moving until they were within shooting range of the caribou." It was an effective method for sneaking up on caribou.



Caribou on the Yukon Archives, University of Alaska Fairbanks, Katherine Peter Collection UAF-1974-144-4

AN INTERVIEW WITH PHIL DRIVER VICE-CHAIR OF THE WORKING GROUP

A HUNTING GUIDE AND LONG-TIME MEMBER OF THE WORKING GROUP

NORTH TO ALASKA

Phil Driver came to Alaska from Northern California in the mid 1960s. His passion for Alaska and interest in hunting started early.

In the first grade he was asked what he wanted to be when he grew up. "A professional hunter in Africa," he told his teacher who poked fun at his comment and embarrassed him in front of the other students.

As a young man, Phil turned his sights on Alaska.

Heading north he met up with long-time Alaskan guide Lee Holen hunting polar bear out in Point Hope Alaska. Phil fell in love with the Arctic and so began a life-time of work and living in Alaska's north. In 1970 Phil homestead an 80 acre trade and manufacturing site on the Wulik River and began his life's work as a hunting guide.

"Once this country is in your heart and soul it never leaves you." Phil expresses.

RESPECTING THE RESOURCE

"I didn't guide for caribou much because I knew it was food for the locals," Phil explains.

When Phil needed help, he made a point of employing as many young men from Kivalina as were willing.

"The local men made the best assistant guides. They had an innate understanding of the country, worked hard, and were requested by clients."

Phil knew he was an outsider and worked hard to establish a reputation as a land steward and a friend to subsistence. He remembers a promise he made to local people, "I knew that I wasn't welcome, but I always tried to put the subsistence needs of the locals first. I made a promise that I would not interfere with their caribou."

The Western Arctic Herd (WAH) is one of the most unique herds in the world. Watching the caribou year after year is, "awe inspiring and something to see," says Driver.



Phil was chairman of the Big Game Commercial Services Board and Alaska Pro Hunters Association. As a member of these groups he demanded that they always respect and consider subsistence first. Unlike many other individuals that were part of these boards, he had the unique perspective of living in the bush among subsistence users and was able to advocate on their behalf.

"Priority for subsistence is important and needs to be addressed. Local residents are required to share their food with people who have no tradition of hunting caribou. Non-locals also have the money and means to buy other types of food. We need to do a better job of making sure the people who live among caribou have plenty of food for their families first."

THE WESTERN ARCTIC HERD

Phil has been a part of the Western Arctic Caribou Herd Working Group (WACH WG) since the beginning. He is proud to be a part of a group where "all perspectives work together".

"The Cooperative Management Plan is the best thing this group has done. People respect the Plan and respect the people who put it together," says Phil.

When asked about the future of the WACH WG Phil would like to see the group have more political involvement and influence over how regulations are made concerning the WAH and subsistence.

"Keeping liberal bag limits for local subsistence users should be a priority," Phil explains. "The window for harvesting the big fat bulls in the fall is narrower than you might think. Making sure subsistence needs are met

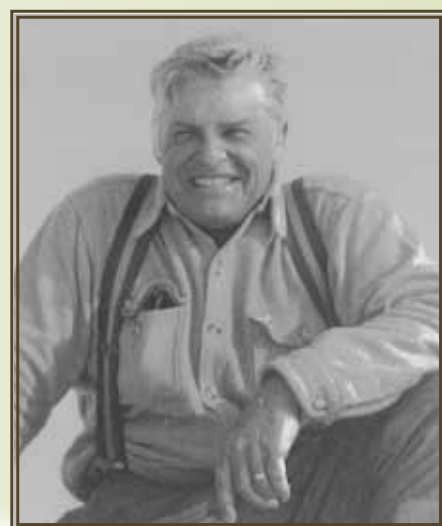
first and sport hunting needs are met last is something we must do."

Teaching people how to be respectful and hunt ethically is another priority Phil feels should be addressed. "Hunters with planes can just move on in during prime hunting time with little or no respect for locals. When people come from the outside, they land in the prime places and get to the caribou before locals can and this just isn't fair," says Driver.

Phil is also concerned about the plans for roads within the range of the WAH. "All kinds of commercial services will come in with roads and we need to be prepared to deal with what this means for subsistence."

Phil has guided ethically, never overly advertised or exploited his guided area, and volunteered hours of his time to advocate for subsistence in the region. Phil is passionate about doing his part for subsistence users making sure the caribou are managed soundly for the health and prosperity of the herd.

"Being a part of the WACH WG is a great honor. I look forward to the meeting each year and to serving as the vice-chair of this group is one of the most important things I do."



Photos above of Phil packing out a sheep circa 1970. Phil at the 2011 annual meeting, and left photo, sometime in the early 80s.

WACH WORKING GROUP: ANNUAL MEETING 2011

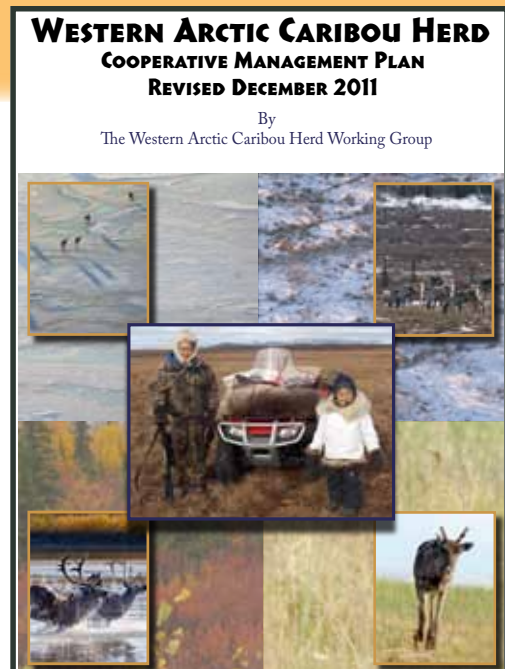


Working Group members at the annual meeting, December 2011 by ADF&G

THE MISSION OF THE WORKING GROUP

“To work together to ensure the long term conservation of the Western Arctic Caribou Herd and the ecosystem on which it depends, and to maintain traditional and other uses for the benefit of all people now and in the future.”

THE WESTERN ARCTIC CARIBOU HERD WORKING GROUP IMPROVES THE COOPERATIVE MANAGEMENT PLAN



This new millennium brings with it substantial challenges to the continued well-being of Alaska’s caribou and people who depend upon and value them. Today there are concerns about industrial development, contamination and increased potential for over-hunting, and there are differing visions of how the Western Arctic Herd (WAH) should be used and protected.

In the words of Joseph Ballot, first Chairman of the Western Arctic Caribou Herd Working Group (WACH WG), “We can no longer take for granted that these caribou will always come through our communities!” Guides and transporters worry about being able to continue taking clients to this great herd. Many stakeholders are concerned about potential impacts of oil and mining industries on the WAH.

As one hunter said, “We want to keep those caribou coming back.”

The Cooperative Management Plan will help ensure that the caribou return by relying on the knowledge and active participation of all people who use or otherwise value this caribou herd. The planning process requires active collaboration between resource management

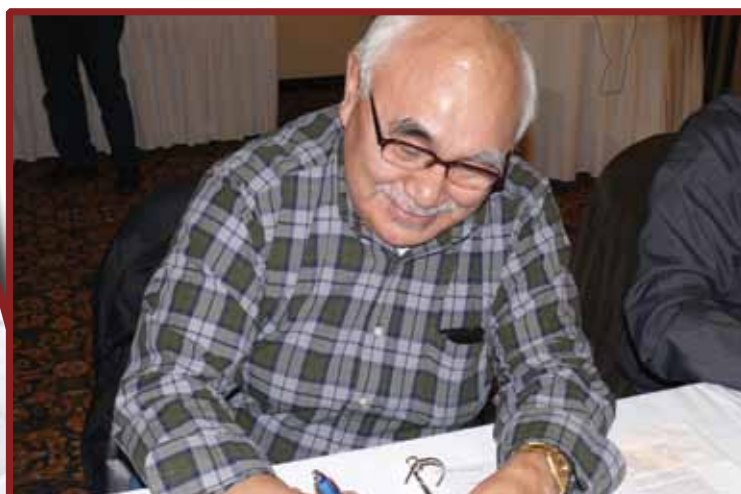
agencies and all people who depend on and value this herd. It is also a cross-cultural process. Knowledge gained by local and traditional hunting experience, for example, is just as valuable as that which was collected more recently by biologists using satellites and laboratories.

The Cooperative Management Plan emphasizes the coordinating roles of the WACH WG among state and federal regulatory systems, subsistence hunters, sport hunters, guides, outfitters, conservationists, and the resource management agencies themselves.

Copies of the completed revised Cooperative Management Plan will be available soon.

Please check the Working Group’s website for information regarding the completed plan and for a PDF.











www.westernarcticcaribou.org

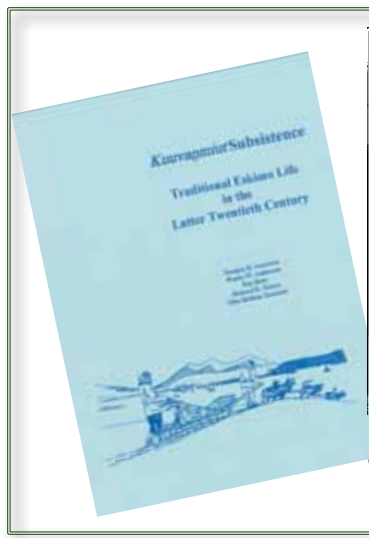
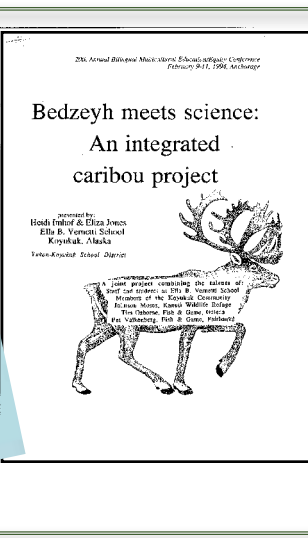
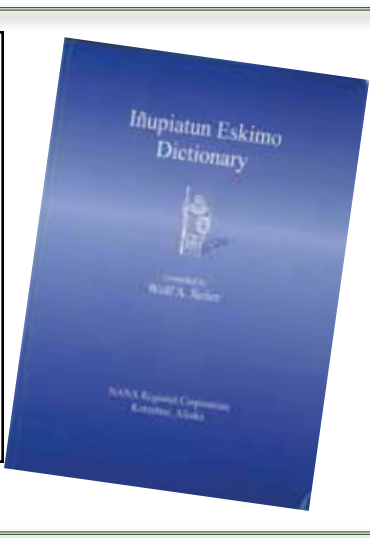


Working Group members from left to right: Ted Frankson, Willie Goodwin and Tom Gray reviewing and approving the plan with signatures at the annual meeting, December 2011. Photos by ADF&G

CULTURE: KNOWLEDGE OF CARIBOU REFLECTED IN LOCAL LANGUAGES

In any culture, the words and vocabulary expressed in language reflect the needs of the people speaking the language—what they need to describe or discuss. Not surprisingly, Alaska Native languages spoken by people who depend on caribou include many words for the animals themselves, their parts, and materials harvested from them. Below are some examples of common words for caribou and caribou items. The English, Inupiaq (Northwest Alaska), and Koyukon Athabaskan words are used and listed respectively.

| | | | | |
|--|--|---|--|---|
|  <p>Jim Dau</p> | <p>E: caribou I: tuttu K: bedzeyh</p> | <p>E: English I: Inupiaq K: Koyukon-Athabaskan</p> |  <p>Raymond Hawley by Joanne Harris</p> | <p>E: fur parka I: qusrunḡaḡruk K: deyoodze de'aak</p> |
|  <p>Jim Dau</p> | <p>E: bull caribou I: paḡniq K: bedzeyh kuh E: bull caribou in rut I: nuliḡniq K: N/A</p> |  |  <p>ADF&G</p> | <p>E: hooves I: kukik K: k'ekkaalghule'</p> |
|  <p>Jim Dau</p> | <p>E: cow caribou I: kulavak K: beggoy k'eelaanee E: caribou calf I: nuḡḡaq K: daatsughe</p> | |  <p>ADF&G</p> | <p>E: sinew I: ivalu (from forelegs) uliutik (from back) K: tl'aah</p> |
|  <p>ADF&G</p> | <p>E: dried meat I: paniqtuq K: nelaan ggunh</p> | |  <p>Image from tinperfactory.com</p> | <p>E: omasum, tripe, book, bible I: tunusrisag K: k'edee'one'</p> |
|  <p>CARMA Greenland (Akia) collection rump fat (WNixon)</p> | <p>E: Fat I: qaunnaq itchaurat (mesentery) tunnuq (back fat) K: k'ekooye (stomach fat, "the lace") k'ekonh hukk'uh (mesentery fat)</p> | |  <p>USFWS</p> | <p>E: caribou mukluks I: aquptitak (fur outside) tuttulik (fur inside) iliqnillak K: deyoodze de'aak (liners) deyoodze kkaakene (boots)</p> |

| | | | |
|---|---|--|--|
|  |  |  | <p>“Kuvvaḡmiut Subsistence” by Douglas B. Anderson, Wannu W. Anderson, Ray Bane, Richard K. Nelson and Nita Sheldon Towarak for the National Park Service “Bedzeyh Meets Science: An Integrated Caribou Project” by staff and students of Ella B. Verneti School (in Koyukuk, AK), members of the Koyukuk community, and staff of Kanuti National Wildlife Refuge and Alaska Department of Fish & Game. “Inupiatun Eskimo Dictionary” compiled by Wolf A. Seiler for NANA Regional Corporation</p> |
|---|---|--|--|

COOPERATION: WORKING TOGETHER FOR CARIBOU



Unit 23 User Conflict Working Group members 2012 photo by ADF&G



THE GROUP'S RECOMMENDATIONS & ACCOMPLISHMENTS TO DATE

1) Recommended to the Board of Game to extended dates of the Noatak Controlled Use Area (CUA) from August 15- September 30 .

- Approved by the Board of Game.

2) Recommended to the Board of Game a mandatory one-time orientation test for pilots flying in Unit 23 for the purpose of transporting big-game beyond state maintained airports.

- Approved by the Board of Game.

3) Evaluation of the Pilot Orientation.

4) Improved communication between local communities and the management and enforcement agencies, and the guides, transporters, and non-local hunters who come to the region each fall.

- Agencies provide a consistent and complete package of information to guides, transporters, and visiting hunter before each season.

- Annual pre-season meeting with local communities held in August of each year to inform residents about commercial services expected to operate in Unit 23.

UNIT 23 WORKING GROUP WORKS TO ADDRESS HUNTING CONFLICTS IN NORTHWEST ALASKA

Fall hunting in Unit 23 in northwest Alaska has been the subject of conflict since the early 1980s, particularly between local hunters, visiting hunters and commercial operators providing guide and/or transport services. The Unit 23 Working Group formed in early 2008 to improve communication about issues related to fall hunting and to work cooperatively toward solutions that all can support.

The group's 21 members include representatives of regional and tribal governments and organizations, state and federal land and wildlife management agencies, Big Game Commercial Services Board, Alaska Professional Hunters Association, NANA Corporation, Fish and Game Advisory Committees (AC), Northwest Arctic Regional Advisory Council, Board of Game, and Federal Subsistence Board.

The Unit 23 Working Group's charter states that the purpose of the group is to find solutions to hunting conflicts that will preserve the Inupiaq values of the region, including opportunities for local hunters to take caribou as needed, while also providing reasonable opportunities for visiting hunters to hunt caribou in the unit.

The Working Group has no authority of its own, but makes advisory recommendations to the regulatory agencies and boards that manage hunting, land use and wildlife in Unit 23. The group works to reach consensus agreement on its recommendations.

THE ISSUES

The Unit 23 Working Group has discussed a wide range of issues, brought to the table by group members and the public.

- Management of high use areas hunted by both local and visiting hunters
- Potential disruption of caribou migration by human activities
- Avoidance of areas important for subsistence hunting
- Importance of proper meat care
- Coordination of agency management of lands, use and access
- Importance of data and regulatory tools needed to manage human use
- Enforcement of wildlife and land management regulations

For more information, including a list of Unit 23 Working Group members, meeting agendas and summaries, go to:

<http://www.adfg.alaska.gov/index.cfm?adfg=wildlifeplanning.unit23>

To submit comments or for more information contact the group's facilitator:

Jan Caulfield, janc@gci.net
907-523-4610

SUBSISTENCE: HARVEST SURVEYS IN THE RANGE OF THE HERD

In 2012, Alaska Department of Fish and Game (ADF&G) Division of Subsistence completed caribou harvest surveys in Selawik, Noatak, Deering, Brevig Mission and Teller.

Nikki Braem, Andrew Brenner, James Magdanz and Alida Trainor coordinated the Division’s survey efforts. Local residents were hired in each community to conduct the surveys.

“Our thanks to the local surveyors, community residents, and the tribal councils,” Braem said. “The assistance of the tribal administrators and staff is invaluable. We are grateful for the participation we received and the hospitality we encountered while traveling to the communities. For many of us in the Division of Subsistence, fieldwork for this project is the best part of our year.”

Survey questions ask about the amount of game a household harvested in a 12-month period, the sex of the animal(s), where they harvested and when, and sharing of subsistence resources. Species on the survey included caribou, moose, brown bear, black bear, Dall sheep, and muskox, as well as several furbearers. All information collected is confidential. ADF&G calculates a harvest estimate for the entire community for the study period (Graph 1).

Selawik was surveyed in October 2011, Noatak and Deering in April 2012, and Brevig Mission and Teller in May 2012. Preliminary results for Selawik estimate that the community harvested 684 caribou between October 2010 and September 2011. Preliminary results for Noatak, Deering, Brevig Mission and Teller are not yet available, but Noatak reported better harvests than in the previous study year.

Also in 2012, ADF&G finalized three previous years of data collected in the Western Arctic Herd (WAH) project. Final reports are slated for publication in summer 2012. Community summaries will be mailed out to all residents of communities surveyed in 2009, 2010, and 2011 by fall of 2012. These include Noorvik, Shungnak, White Mountain, Ambler, Buckland, Kiana, Kobuk, Shaktoolik, Shishmaref, Elim, Golovin, Koyuk, Kivalina, Noatak and Wales. Final reports and data will be available online at ADF&G’s website.

2012 marks the 15th year of the WAH big game survey project. This research is funded by ADF&G, with support from The National Park Service, US Fish & Wildlife Service, regional organizations, and local tribal governments.



Photo of Devon Harris by Joanne Harris

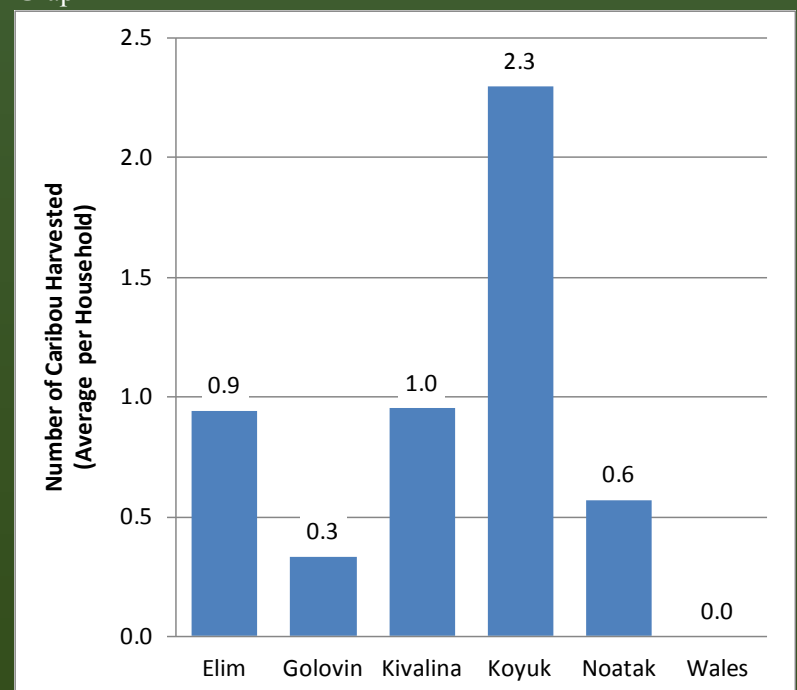
TAIKU

A big TAIKU to those who take time to fill out Harvest Reports, participate in harvest surveys, and provide information reports on body condition, disease, and caribou behavior. By providing this information you are helping caribou.



Photo by Jim Dau

Graph 1



Division of Wildlife Conservation and the Division of Subsistence.
Electronic copies of these reports are available at:
<http://www.adfg.alaska.gov/sf/publications/>

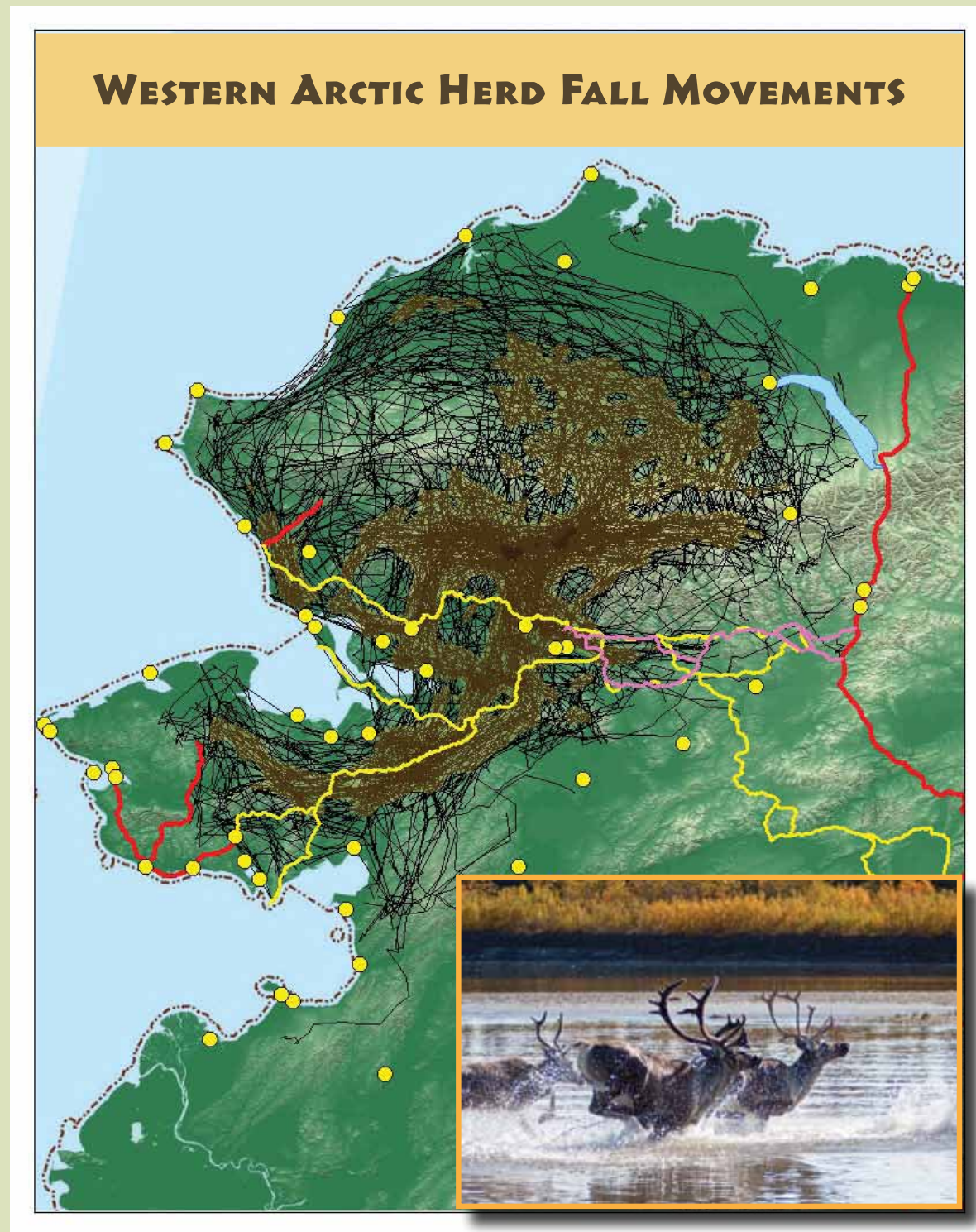
Community Subsistence Information System (CIS)
<http://www.adfg.alaska.gov/sb/CSIS/>

RESOURCE DEVELOPMENTS: PROPOSED ROAD CORRIDORS AND THE WESTERN ARCTIC HERD

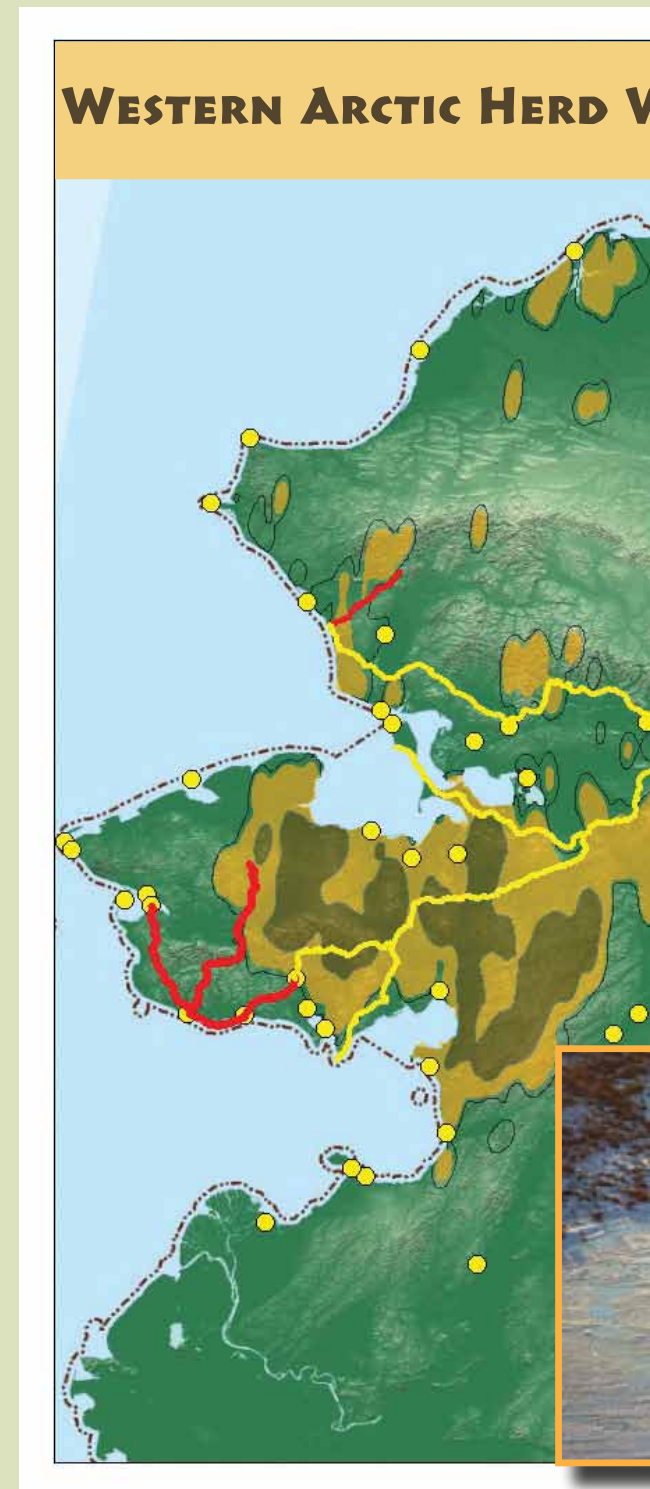
Northwest Alaska is largely road free. As a result, it is an area with limited access to many modern supplies and services, yet rich in wildlife. The Caribou Herd Working Group is concerned that increased access through roads and other developments will bring more hunters and make it more difficult for local users to harvest caribou.

It is crucial that people in rural communities understand how subsistence activities could change if roads are established through the area. Including off road vehicles, boats and snow machines may also impact the behavior of the Western Arctic Herd and other species that rely on the land to obtain the meat they need.

Although roads may provide a number of economic benefits, the Working Group is concerned that these benefits may not outweigh the impacts on wildlife. The Working Group believes that it is essential for residents of Northwest Alaska to educate themselves about proposed road developments that will serve the long-term needs of the people and wildlife that live in these areas. The maps on these pages illustrate the path of seasonal movements of the Western Arctic Herd.



The road linking the Ambler Mining District to the Dalton Highway extends into the eastern portion of a high-use fall caribou migration corridor (shaded in dark brown). Each potential extension of this road west to a deepwater port on the Chukchi Sea or Norton Sound would cross all fall migration corridors.



The two southernmost road options between the Dalton Highway and a deepwater port in either Kotzebue Sound or Norton Sound cross the winter range of this herd (shaded in yellow). The road route linking the Dalton Highway to Red Lake crosses the high-use winter range (darkest shaded areas).

Recent Road Highlights

AMBLER ACCESS ROAD

Hydrology, geology, subsistence and economic data were collected and analyzed during 2011. An additional \$4 million was provided by the Legislature for work in 2012. Helicopters will be used in 2012, through July, to survey potential routes for material sites and access sites to collect weather and stream flow data. High resolution radar (LIDAR) data will be collected for the most promising route. Detailed subsistence surveys will be conducted in Ambler, Kobuk and Shungnak. Along with DOT helicopter activity, mining activity in the Dahl Creek area will likely be greater in 2012 than last year.

ARCTIC HERD

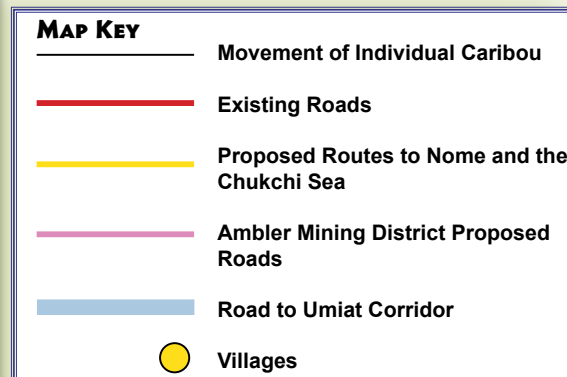
in abundant natural resources. The Western Arctic
s into traditional subsistence hunting areas and make

a traditional hunting areas. Increased off-road access,
s and make it more difficult for local hunters to

weigh the costs to wildlife and the people who depend
posed road projects and make informed decisions that
several proposed roads and the seasonal distribution

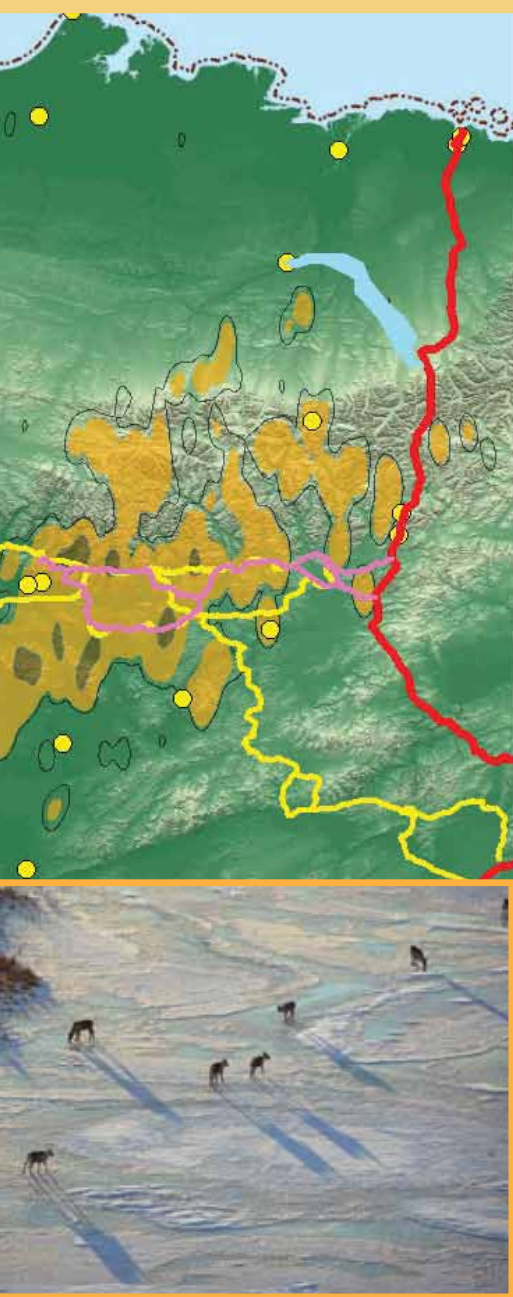


c) Alaska Stock RM / www.fotosearch.com



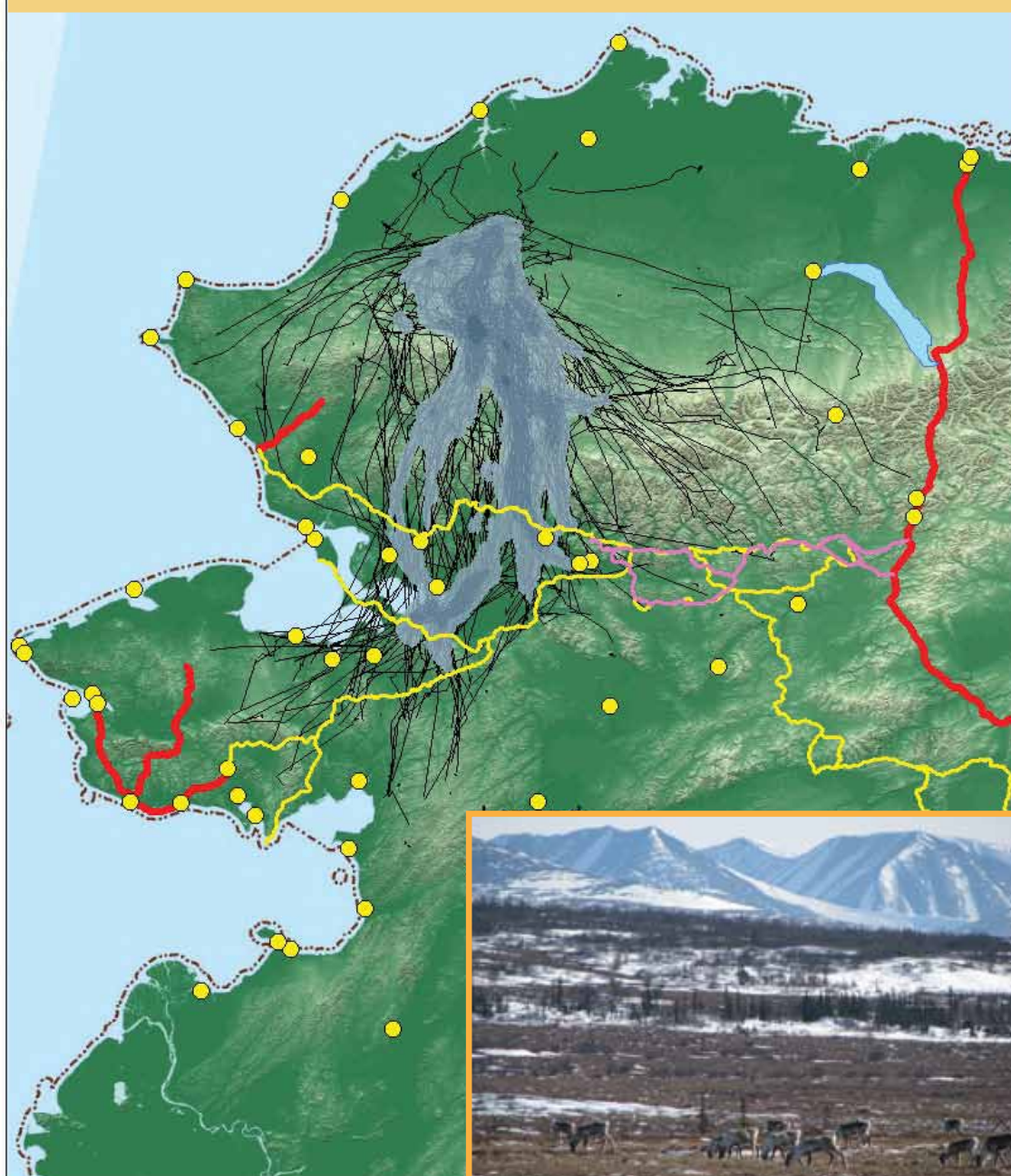
Photos on maps. Caribou running by Wayne Thompson. Caribou on the ice by James Mason. Caribou on the melting spring tundra by Jim Dau. Maps by Jim Dau, ADF&G

WINTER DISTRIBUTION



en the Dalton Highway and a
or Norton Sound would be within
low). Roughly half of the northern
Dog Port Site would be within high-

WESTERN ARCTIC HERD SPRING MOVEMENTS



The road to the Ambler Mining District would mostly be east of high-use spring caribou migration corridors. Each potential road route to the coast would cross all high-use spring migration corridors (shaded in blue).

ROAD TO NOME

Construction on the first phase of a road to Nome could begin this summer. The Western Alaska Access Planning Study, which assessed different routes to connect Nome to Alaska's existing road system as part of the State's "Roads to Resources" program has been concluded by the Alaska Department of Transportation. The 550 mile route along the Yukon River corridor, via Tanana, connecting to the Elliot Highway in Manley was chosen and could cost \$3 billion to complete. The State's fiscal year 2013 capital budget contained \$10 million to begin the construction of the road to the confluence of the Yukon and Tanana rivers, just upstream of Tanana. The route will follow and upgrade existing road out of Manley to Tofty.

CARIBOU A HEALTHY CHOICE-BY BRITTANY SWEENEY USFWS

Caribou are the lifeblood of our region. They provide a high-quality food and valuable material to locals and non-locals alike. Eating a daily dose of traditional Inupiaq food, such as caribou, contributes to good health.

How does caribou meat compare nutritionally to beef you buy at a store?

First, caribou is fresh. Caribou is not flown in from a faraway farm, but harvested locally. Beef has up to 23 times more fat than caribou. Caribou also has 66% more protein than beef, an essential nutrient in muscle development.

Along with muscle tissue, many other parts of the caribou are edible. Many people enjoy the vital organs, bone marrow, parts of the head, stomach fat, and even stomach contents. The stomach contents provide important vitamins and nutrients that are otherwise hard to come by in the traditional meat-rich Inupiaq diet. Not only that, but eating additional parts of the caribou minimizes waste.

These specialty caribou foods,



Above photos, Susie Loon at culture camp preparing caribou for dinner, a caribou kidney and ulu by USFWS. A pot of caribou roast ADF&G.

packed with healthy nutrients, are one of the secrets to health among Iñupiat. Caribou bone marrow (patiq) is high in good quality fats and a rich source of iron and calcium. Liver (tijnuk), heart (uumman) and kidneys (taktuq) are especially high in vitamins A and B. An old-time delicacy, nigukkaun (the stomach contents of a freshly killed caribou), is a particularly abundant source of nutrients and is made suitable for human consumption by stomach acids in the caribou partially breaking down the lichen.

Where does vitamin C –typically associated with fresh fruits and veggies—come from in the northern diet? Berries and plants, of course, are a major source of this vitamin. But caribou meat and liver are also high in vitamin C. Because vitamin C breaks down during cooking, traditional meals such as dried meat (paniqtuq) and frozen uncooked meat (quaq) retain vitamin C.

However you choose to eat caribou, it contributes to your good health!

CENTURIES OLD FOOD PREPARATION TECHNIQUES STILL PREFERRED BY SUBSISTENCE HUNTERS



“When I am hunting caribou--a late fall or winter caribou-- I won't skin it right away,” explains

Cyrus Harris, who harvests traditional foods primarily for local elders.

“Keeping the hide on allows the meat tenderize a little because the meat doesn't freeze too fast,” says Harris.

The centuries-old Inupiaq custom of storing caribou with the hide on helps both preserve the meat and create a traditional delicacy, with the hide acting like “super butcher paper” if you will, minimizing “freezer burn” while retaining more moisture in the meat.

Most organ meats are also harvested. Heart, tongue,

and liver are favorites, but a few others are also considered excellent.

“We also use an organ that most people would throw away,” says Harris. “It is the omasum, but we call it the ‘Bible.’” Some people may refer to it simply as the ‘book’. “The omasum has folded tissues that look like pages in a book. This is why we call it the ‘Bible.’”

This is usually prepared by cleaning and boiling, although some elders may leave the contents inside while cooking.

Harris notes that another favorite part of the caribou is the “sausage” or kivviq. To prepare the sausage, mesentery fat is pulled away from the stomach. Then it's stuffed into the sausage tube as you turn it inside out. The sausage is tied off, boiled, and eaten with flour soup (a thickened broth) or sliced and dipped in seal oil.

Ted Frankson, a hunter from Point Hope describes a local caribou food preferred especially by elders.

“Subsistence hunters take care of game in a couple of different ways,” he explains.

“One is to cut the head off, take the stomach out, lay it on the ground with the head up and then cover it (the entire caribou). We cover it with snow to freeze it, and we call that pirruoag.”



(L)Cyrus Harris Working Group Chair Kotzebue. (R) Ted Frankson Working Group Chair Point Hope. Cyrus Harris cutting into a fresh caribou kill by Joanne Harris

CARIBOU BITS: WINTER ICING AND CARIBOU - BY RYAN WILSON

The Wilderness Society has implemented a newly described method to detect winter icing events across Alaska. Understanding the frequency and extent of icing events can help determine the impact these events have on caribou.

The study took place during the winters (Oct-Apr) of 2001-2008. Satellites were used to detect changes in the characteristics of snow after an ice crust forms. The average number of icing events (figure 1) occurring across the state each winter were determined as well as winter months and parts of the state that had the highest frequency of icing (figure 2). Data also helped illustrate the average size of icing events across different regions of the state (figure 3).

Studies showed that the highest frequency of icing occurred in southwestern Alaska. The lowest frequency

of icing occurred on the north slope. Icing was detected at least once across all areas of the state during the study, except high elevation sites in the Brooks and Alaska Ranges. The largest events occurred in the interior of the state, with events in southwestern Alaska typically being smaller in size. Icing occurred at similar levels across winter months, except in northern Alaska, where events were more frequent in early or late winter.

Because icing can inhibit the ability of caribou to forage for food under the snow, results are essential in our understanding of how icing events may impact winter forage. This information may also help us to better understand how climate change may affect future winter icing events in Alaska and their impact on caribou populations.

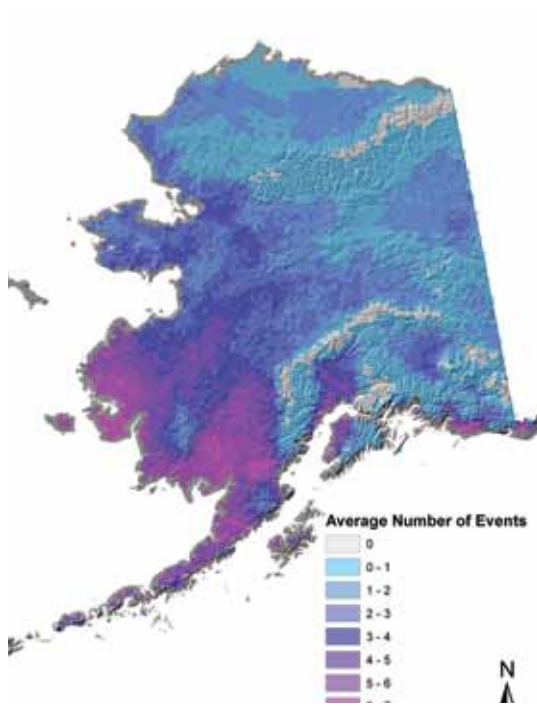


Figure 1

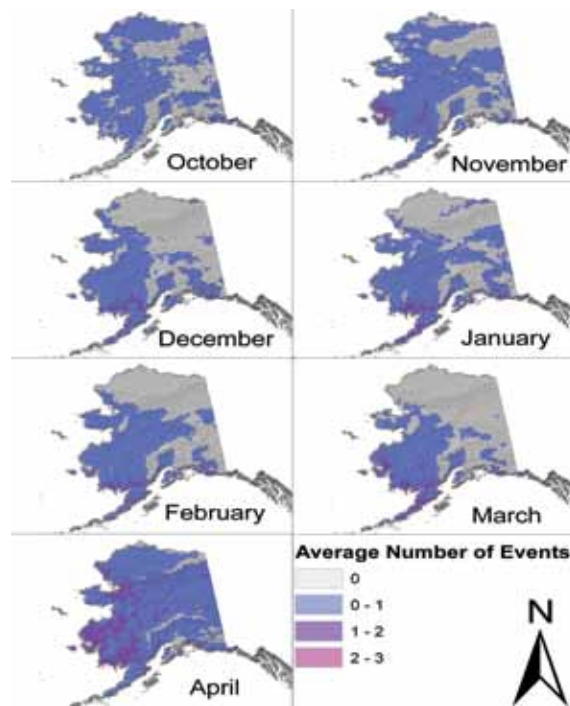


Figure 2

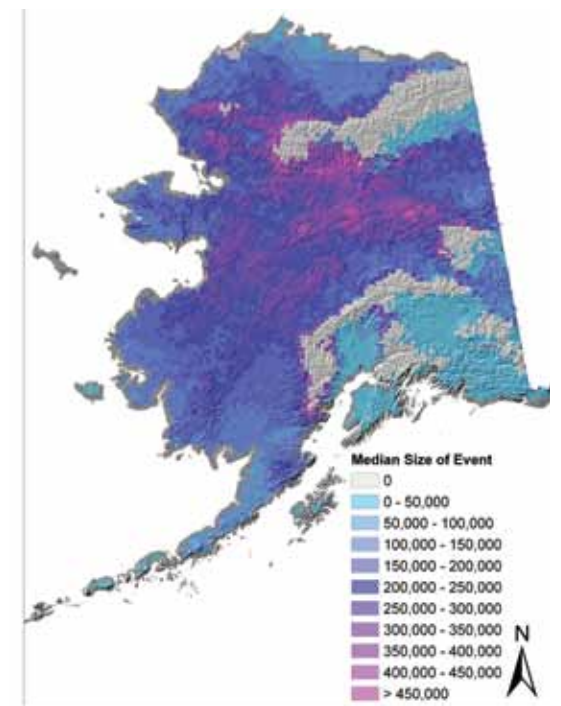


Figure 3

SOMETIMES TRADITIONAL LAW AND WESTERN LAW ARE THE SAME

“Our elders and folks, they always told us not to get what we don’t need. We select what we need and not over shoot what we don’t need. You don’t kill them and leave them. You must get only what you need.”

—Daniel Sipahk Foster, Sr., A Selawik elder

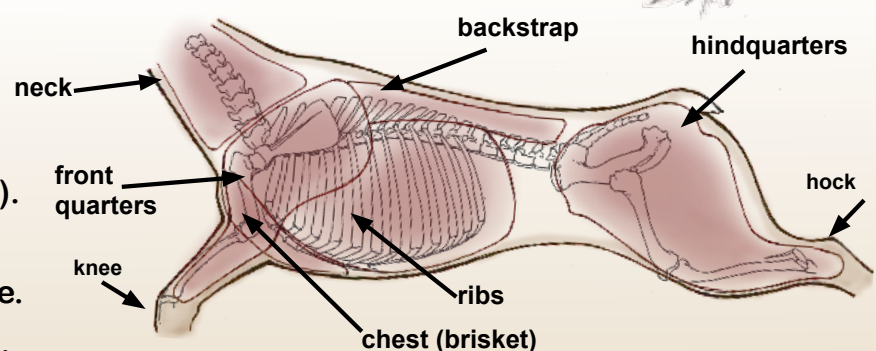
Some people hunt for meat, some people hunt for trophy antlers, and some hunt for both, but the law about caring for the meat is the same for everyone.

If you shoot a moose, caribou, sheep or muskox, Alaska State law requires that you salvage:

- All of the neck meat.
- All of the chest meat (brisket).
- All of the meat of the ribs.
- The front quarters to the knee.
- The hindquarters to the hock.
- All of the meat along the backbone (backstrap) between the front and hindquarters.



Augie Nelson, photo by ADF&G



“We were brought up to respect the land and subsistence living, and our natural resources. We listened to our elders, and you didn’t waste caribou. When I go out and see animals wasted it hurts me, it hurts you, and it also hurts the future of the caribou.”

—Jacob Ahwinona, Nome Elder

AMBLER SCHOOL WORKING WITH THE WESTERN ARCTIC HERD



Mollie Penn carefully inspecting a collar



Timothy Cleveland
keeping a close eye
on caribou



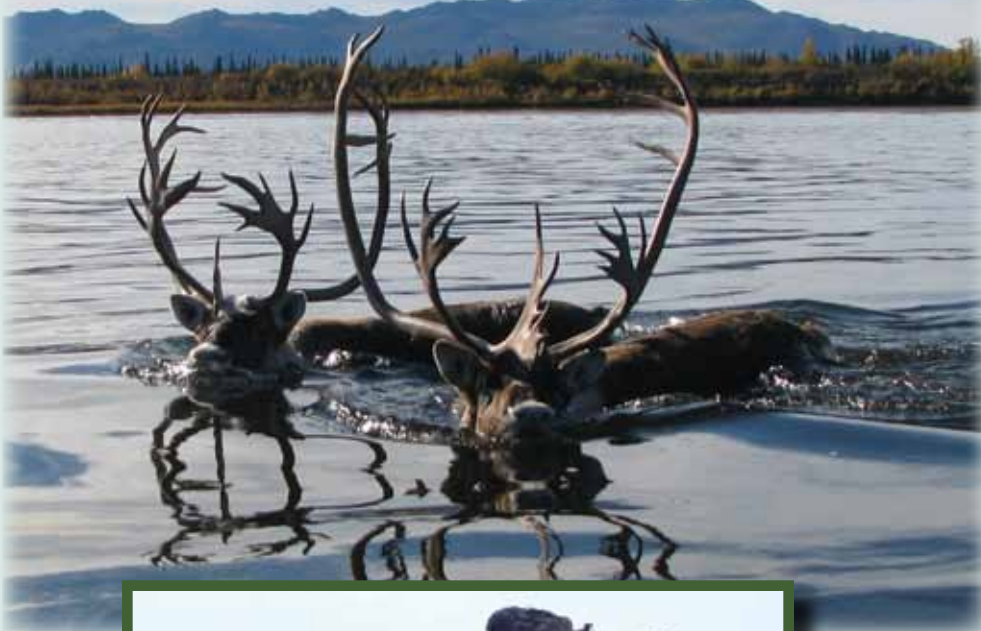
Carrie Williams and
Kituq Williams holding
a calf caribou

L-R: Quinn Tickett, Tim James, and
Kituq Williams, Tony Gorn (biologist)



L-R: Ambler Students Carrie Williams, Mollie Penn, Ann Washburn (teacher), Kituq Williams, Timothy Cleveland

SHUNGNAK SCHOOL A KNACK FOR COLLARING CARIBOU



Jerrilyn putting the finishing touches on a collar



ADFG volunteer
Gunnar Carroll
and Annie
Griest



Girls L-R: Annie, Jerrilyn, and Lindsay.



Lindsay Lee
practicing
before
placing a
collar (left)
and Jerrilyn
Cleveland
cutting the
collar on a
bull (right).



Group photo (L-R) Jim
Dau, ADFG biologist.
Shungnak students
Annie Griest, Jerrilyn
Cleveland (red coat),
Brad Lee, Tom Tabler
(chaperone), Lindsay
Lee (purple coat),
Cindy Cleveland
(seated in the front),
and William Lee (back
to camera) talking to
Cindy.



CARIBOU VS. REINDEER- BY KAREN MAGER

Many are familiar with the recent conflicts between Western Arctic Herd (WAH) caribou and domestic reindeer on the Seward Peninsula.

In the late 1990s after the WAH winter range expanded onto the peninsula many reindeer joined the caribou herd. Less well known is that reindeer were herded across the North Slope until the 1940s, when a number of factors, including mixing with caribou, brought an end to the reindeer industry.

“The caribou kept coming, and finally they come in larger numbers and during insect seasons and the reindeer start following them. And that’s when they get mixed up, mixed in with caribou... you could take care of them but these caribou, they start coming towards the coast in large numbers. They was, it was a bit hard to control the reindeer.”— Ovluaq Warren Matumeak Sr.

Elders from Barrow who worked as herders remember losing their reindeer when they joined caribou herds. Once reindeer mixed with caribou it was almost impossible to get them back.

Samuel Nayukok explains that, “They [tried to] get their reindeer back from the caribou herd. But it was just not possible. They chased the herd to try to get their reindeer back for days,

but couldn’t catch up with them.”

This history has made reindeer herders, biologists, and local people curious:

What happened to all the reindeer that joined caribou herds?

Though predation likely played a major role in reducing reindeer survival, local observations of reindeer-like animals within caribou herds suggest that some of the lost reindeer may have survived.

Residents of reindeer herding communities, such as Barrow, learned to recognize physical and behavioral differences in order to tell reindeer and caribou apart.

Hunters still use that knowledge today to recognize an occasional animal that looks like a reindeer. Reindeer and caribou are the same species, *Rangifer tarandus*, and are capable of interbreeding despite differences in reproductive timing. Therefore, it is possible that some animals are indeed hybrids (mixed caribou and reindeer).

How do we know that the animals people see are hybrids or lost reindeer?

Each animal’s DNA provides a genetic record of its ancestry—caribou, reindeer, or both. Researchers from the University of Alaska Fairbanks along with local herders and hunters have recently analyzed 312 North

Slope caribou and reindeer. Genetic evidence suggests that some reindeer and caribou have interbred. While hybridization does not appear to be widespread there are indeed some hybrid animals within the North Slope caribou and Seward Peninsula reindeer.

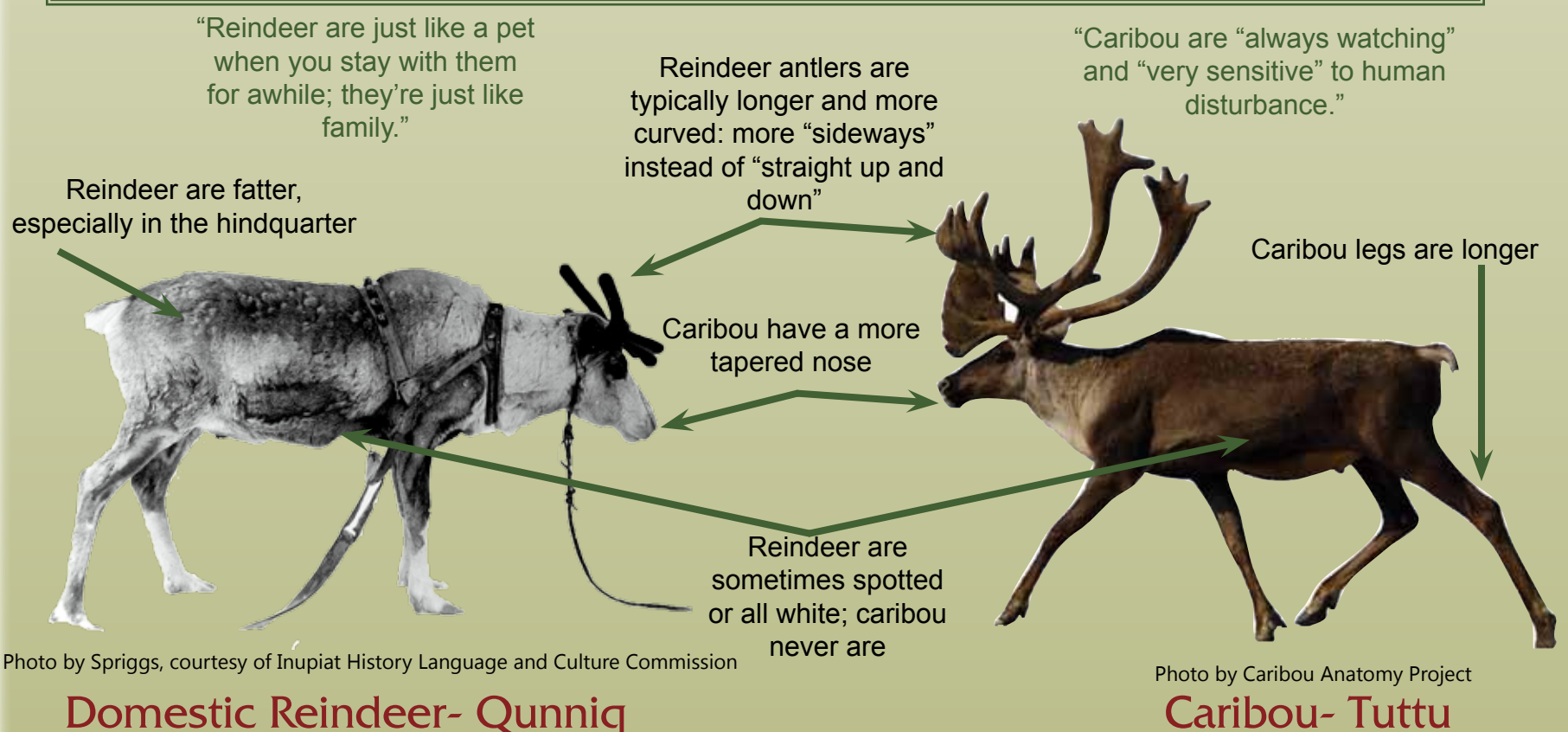
When Dickie Moto from Kotzebue and Deering shared samples from animals he hunted within a group of WAH caribou that he visually identified as reindeer, the genetic analysis confirmed his observation—they were reindeer.

This lends support to the idea that at least some of the reindeer-like animals that hunters see within caribou herds actually are reindeer or hybrids. People from communities with a heritage of both reindeer herding and caribou hunting identify the animals they see with both sets of knowledge in mind. And in this way, by selectively hunting reindeer-like animals, hunters may have an influence on removing reindeer from caribou herds over time.

Interviews are archived with the Iñupiat History Language and Culture Commission in Barrow, Alaska.

Karen Mager conducted interviews with elder herders and hunters and analyzed DNA from caribou and reindeer for this study. She will graduate in May 2012 with a Ph.D. in Biological Sciences at the University of Alaska Fairbanks. Contact: kbmager@alaska.edu

Reindeer herders and caribou hunters share how they tell the difference between reindeer and caribou



How to Make Akutuk (Eskimo ice cream) the Right Way!

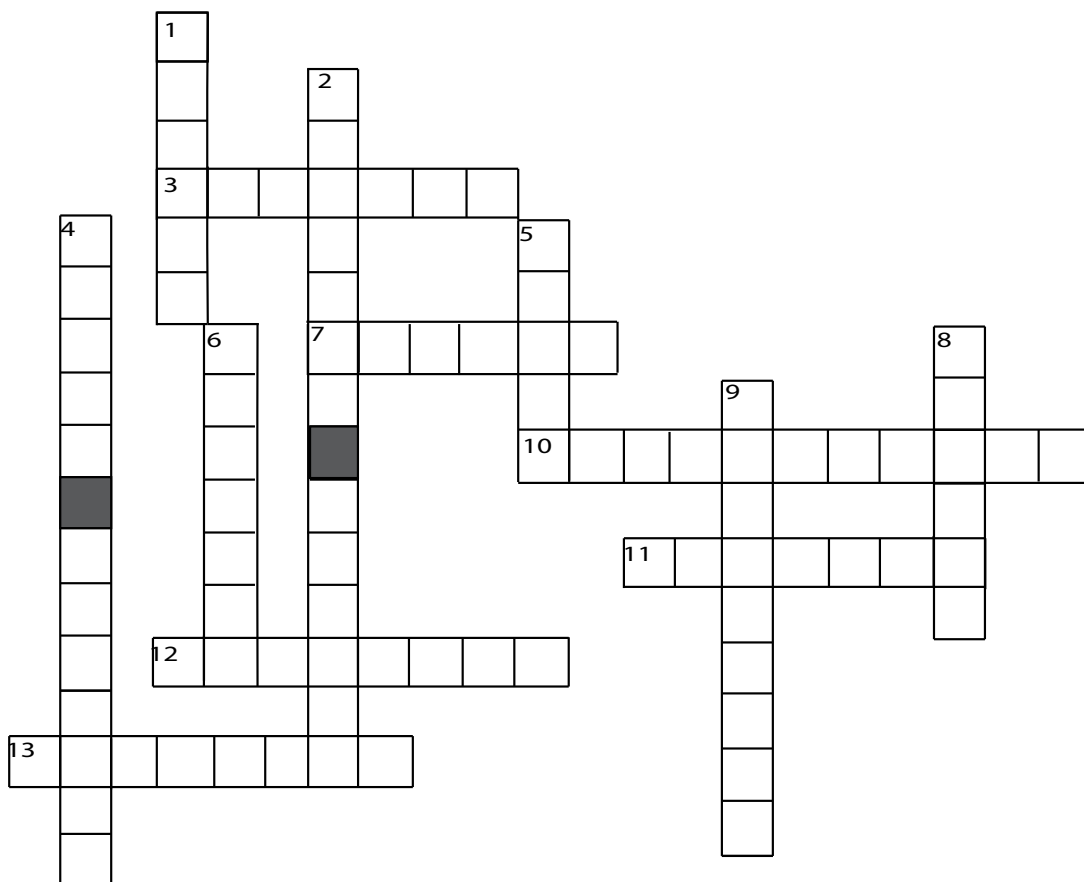
By Ada Cleveland Griest



1. Use dried caribou fat that is white with all the blood dried off. Set this aside.
2. Take white fish that is caught with nets in the fall. This makes the best fish for akutuk because it is dry in the flesh. You take this fish and boil it whole or maybe cut it in half and boil it. Then you take all the meat off the fish and squeeze the water out. Once you have this nice dry fish meat you set it aside.
3. Mix 1/2 or 2/3 cup of berries (cranberries or blueberries) with sugar to taste. Some like it more sweet and others more tart. Crush the berries with sugar and set aside by the fish in a separate bowl.
4. Chop the dried caribou fat into chunks. Run the chunks through a hand-cranked meat grinder. Take the ground fat and form it into four balls about the size of a softball or a bit bigger.
5. Take the balls of fat and melt them in a pan on the stove. After the fat is melted, add one cup of seal oil.
6. Now it is time to mix the fat in a big bowl. You must use your hands. You cannot use any mixing tools or it will not be right. Wait for it to cool a little bit, but it should still be hot to touch. Make big clock-wise circles with your hand. Slow and steady at the same pace for one hour. When the fat starts to turn a cream-color then you add the fish a little at a time and keep stirring with your hand. Add all the fish and then when you hear the whipping sound of the fat against the bowl then you are done.
7. Add berries and mix.
8. Form into small balls for eating. Store it in the freezer.
9. Enjoy and share with elders!

Test your Caribou-Crossword Knowledge

Answers Online! at www.westernarcticcaribou.org



DOWN

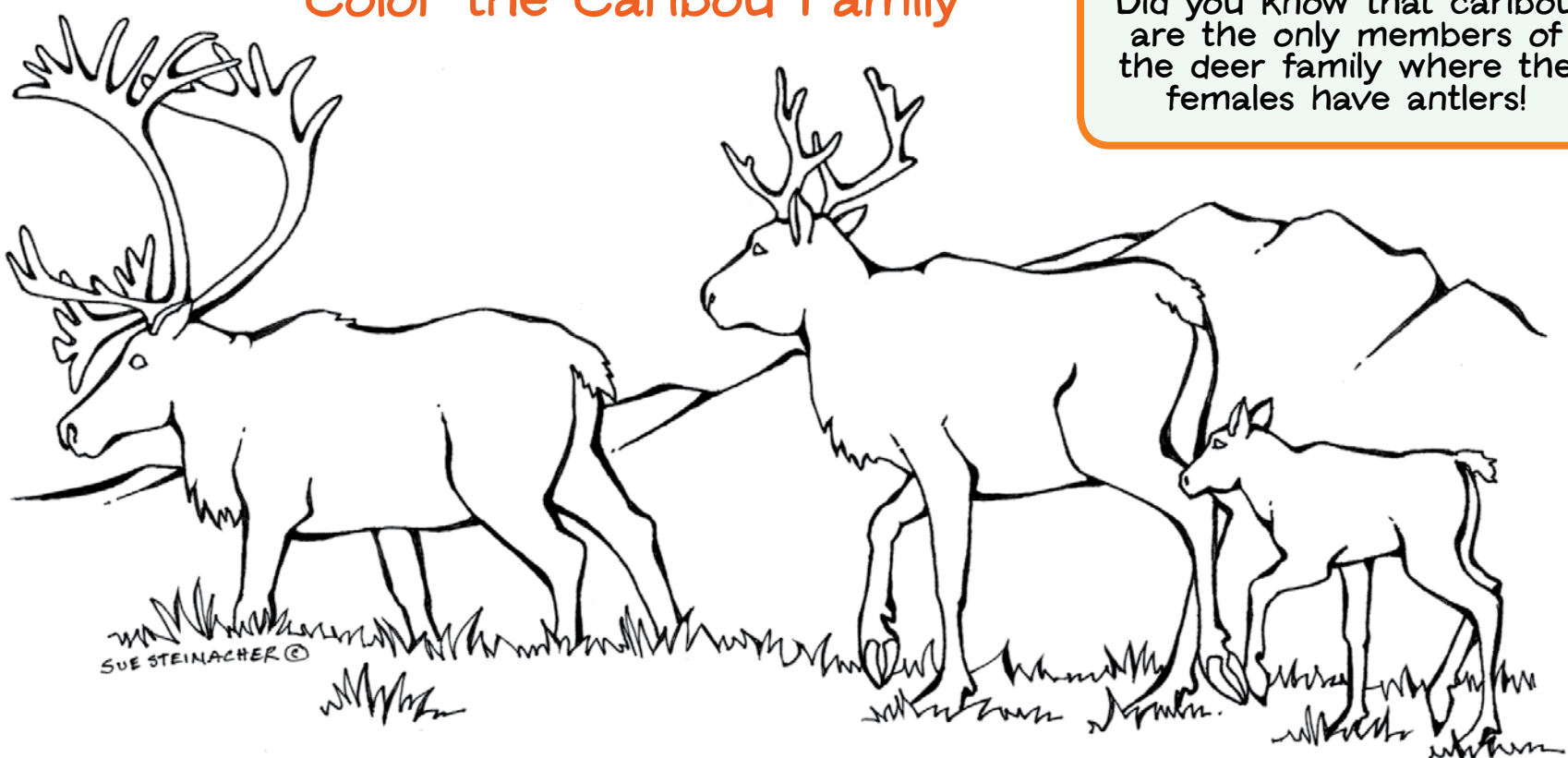
1. Acronym for the Western Arctic Caribou Herd Working Group
2. Global issue impacting circumpolar caribou herds
4. Historic location on the Kobuk River, important for hunting and science
5. Large groups of caribou
6. Caribou are at an increase risk due to changes in habitat
8. Term used for counting caribou
9. Seasonal movements of caribou from wintering to summering grounds

ACROSS

3. Critical area that supplies forage, shelter and water to animals
7. The ecosystem where the Western Arctic Caribou Herd resides
10. Customary and traditional food gathering
11. Antlered animal that roams the tundra
12. Caribou cousin and Christmas icon
13. Caribou scientific name (genus)

Color the Caribou Family

Fun Fact
Did you know that caribou are the only members of the deer family where the females have antlers!



Western Arctic Caribou Herd Working Group 2012

Contact your local representative or one of the agencies to share comments and concerns or become involved!

VOTING CHAIRS

Anchorage
Buckland, Deering, Selawik
Nuiqsut & Anaktuvuk
Elim, Golovin, White Mountain
Fairbanks Hunters
Hunting Guides
Kivalina & Noatak
Kotzebue
Koyukuk River
Lower Kobuk River
Middle Yukon River
Point Hope & Point Lay
Nome
Conservationists
Northern Seward Peninsula
Southern Seward Peninsula
Reindeer Herders Association
Transporters
Upper Kobuk River
Atkasuk, Barrow, and Wainwright

REPRESENTATIVES

Steve Flory
Ron Moto
Isaac Kaigelak
Charles Saccheus
Larry Bartlett
Phil Driver (vice-chairman)
Raymond Hawley
Cyrus Harris
Pollock Simon Sr.
Verne Cleveland Sr.
Benedict Jones
Ted Frankson
Roy Ashenfelter (chairman)
Wendy Loya
Elmer Seetot Jr.
Frank Kavairlook
Tom Gray
Jared Cummings
Sally Custer
Enoch Oktolik

ALTERNATES

Grant Klotz
Roger Clark
Esther Hugo
Morris Nakaruk
Rod Arno/Dick Bishop
Bob Hannon
Mike Adams
Willie Goodwin
Jack Reakoff
Robert Sampson Jr
vacant
Steve Oomittuk
Ralph Anungazuk
Darcie Warden
Christine Komanaseak
Al Unok
Herb Karmun
Judy Jespersen
William Bernhardt
Oliver Peetok



The following agencies support the Caribou Working Group, but are not voting members:

Alaska Dept. of Fish and Game, Steve Machida,
1-800-560-2271 or 267-2421, steve.machida@alaska.gov

US Bureau of Land Management, Fairbanks, Shelly Jacobson,
1-800-437-7021 or 474-2200, s05jacobso@blm.gov

US National Park Service, Kotzebue, Frank Hays,
1-800-478-7252 or 442-3809, frank_hays@nps.gov

US Fish & Wildlife, Kotzebue, Lee Anne Ayres,
1-800-492.8848 or 442-3799, leeanne_ayres@fws.gov

Please bring questions regarding the working group to:

Roy Ashenfelter, Chair, 907-304-1776, nr.advoc@kawerak.org

Phil Driver, Vice-Chair, 664-4524 or 442-0379, wulikchar@ak.net

Peter Bente, ADF&G, Agency Rep. 443-2271, peter.bente@alaska.gov

Please send questions regarding Caribou Trails to:

Meghan Nedwick, ADF&G, 442-3420, meghan.nedwick@alaska.gov

NEXT MEETING:
December 5 & 6, 2012
Anchorage, Alaska
Please check the website for details.

Photo of Caribou on the Kobuk Sand Dunes in Kobuk Valley National Park by Wayne Thompson

www.westernarcticcaribou.org

Looking for more information regarding the Western Arctic Herd or the Working Group?
Visit us at our website!

On the site you can find information regarding the herd, users, meeting updates, digital copies of *Caribou Trails* and much more.

