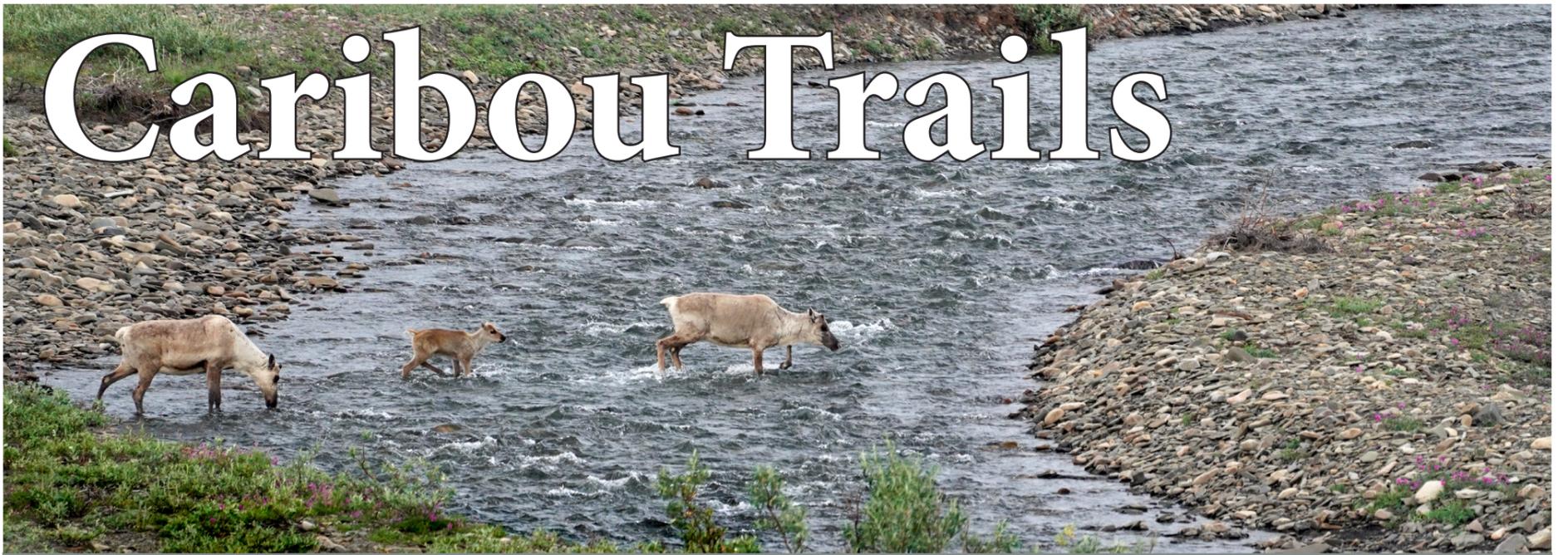


# Caribou Trails



News from the Western Arctic Caribou Herd Working Group

Summer 2020, Issue 20

## Western Arctic Caribou Herd Working Group

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## Herd Status ‘Conservative Declining’

Last year was a successful year of monitoring efforts for the Western Arctic Herd (WAH). Alaska Department of Fish and Game biologists conducted and obtained critical information on caribou that allowed them to assess the current herd status. A photocensus, completed in July 2019, estimated the herd size to be 244,000 animals, which was slightly lower than the 259,000 found during the last census of 2017, but higher than the 201,000 observed in 2016. The 2019 census showed a smaller change in the herd’s estimated population than previous years, unlike the steep drops seen between 2003 and 2016.

The sheer size of the WAH allows for huge population fluctuations in a short amount of time. Large declines or increases can occur in any given year and shift the herd’s population numbers to a different management level as outlined in the Working Group’s Cooperative Management Plan.

Based upon the recommendations presented by its Technical Committee, the Working Group (WG) has expressed additional concerns about the herd’s stability by designating its status as “conservative declining”. Population size, population trend (stable, increasing or decreasing), adult cow survival and calf recruitment are the major factors considered when determining herd status.

Last year’s calving surveys showed that a high number of calves were born in 2019 at 81 calves per 100 cows, which is similar to the past few years of 86:100 in 2018 and 83:100 in 2017. Calf recruitment surveys conducted in the spring of 2019 indicated that the number of calves surviving until spring is on track with the 25-year average.

The concern for the herd is that over the past two years, adult cow mortality has been above average. Caribou cows are the drivers of the population growth and high cow mortality is causing some uncertainty for the population. The 2018-19 cow survival rate was 78%, which is below the long-term average of 82% for this herd, but an improvement over the 2017-18 survival rate of only 64%.

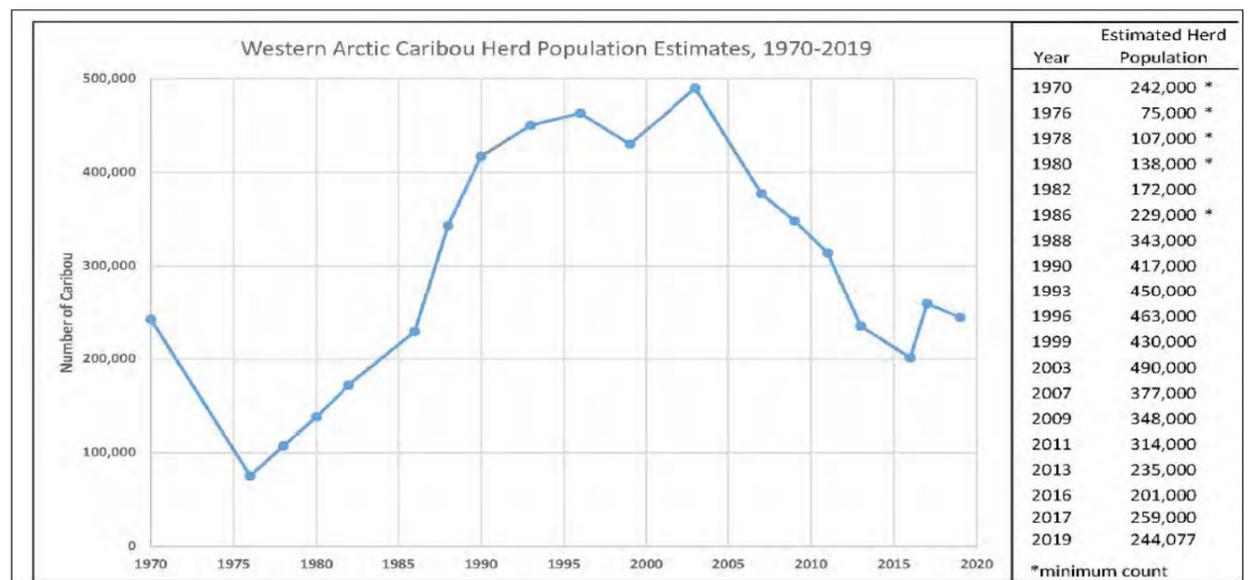
In the Fall of 2019, biologists with the Alaska Department Fish & Game and National Park Service were able to deploy 49 radio-collars at Onion Portage. During this time, adult caribou were observed to be in good condition and calf body weights were healthy leading into the winter.

The herd’s population is near some important thresholds; reaching these could lead to management and regulatory change. *For more on the WACH WG Cooperative Management Plan turn to page 3.*

The most recent census of 2019 was estimated at 244,000- down from 259,000 caribou in 2017

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NOTE: Some of these population points are minimum counts (see asterisks), and others are based on Rivest modeling. For more details on estimates, including confidence intervals, see Dau 2015.

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## QUYANNA

The Western Arctic Caribou Herd Working Group would like to say a big QUYANNA to those who take time to fill out Caribou Registration Permits RC907 (Units 23 and 26A) and RC800 (Unit 22). Permits provide valuable information on harvest, behavior, and caribou distribution. By providing this information you are helping biologists better understand the caribou to support hunting now and for future generations.

# Updates from the Working Group Meeting



Guest Elder Nathan Hadley at the Western Arctic Herd Working Group meeting in December 2019

## Listening to Our Elders

Guest Elder Mr. Nathan Hadley Sr. of Buckland started off the 2019 Working Group meeting by reminiscing and reflecting on his life experience with caribou and reindeer on the Northern Seward Peninsula.

“I’ll start from the beginning when my father had his reindeer. I think it was 1953 or 1954 when we first got a load of reindeer, and there was no caribou around. But around 1955, fall time, we were helping my father round up his reindeer but there was one big bull with big horns with the herd of reindeer when we were rounding up. When we drove the reindeer to the main herd we sent a message to my father, Paul Hadley. We told him there was a big reindeer with big horns in our herd. He got up right away and dressed and went with his nephew to go check what it was. It was a caribou. In 1955, I was 15 years old and helping my father round up the reindeer. And that is how I learned what is reindeer or caribou. There was no caribou for a while but later on big bunches started coming in from the north.

Right now there are some caribou at Buckland. Hunters are getting some. We get out on snow machines and get some. When we start hunting caribou we always let our youngsters try to learn what is good meat of the caribou. And we let them know when they are breeding the meat is not good to eat. But later on in the springtime after the mating, when they start getting fat, the meat gets good. That’s when we start hunting them, the bulls anyway, so they could have some meat and dry them up for dry meat. For subsistence, we hunt caribou for our food because we lost our reindeer to caribou, which was not good for us.

We always let our youngsters try to learn what is good meat of the caribou

-Nathan Hadley, Guest Elder

Before my father passed he gave me the reindeer so I could take care of them. I lost our reindeer to caribou in 1997 – that was our last corralling. At first, I was shooting the caribou that go towards our reindeer. But I respected the game warden, so I let the reindeer go so I wouldn’t get in trouble. Me and my sons we’d go hunt caribou too. We try to pick a fat one from the caribou. Four shots, four fat caribou.

Right now people are waiting for the main herd of caribou from way up north. We hear that they are fat this time of year because there’s hardly any snow to cover the good grass that they eat.

The late Johnson Stalker and I, we could tell the reindeer among thousands and thousands of caribou because we grew up with the reindeer, we could tell the difference.”

## Working Group Meeting Highlights

The Western Arctic Caribou Herd Working Group (WACH WG) is made up of community members from within the Western Arctic Herd range combined with representatives from reindeer herders, Alaskan hunters, hunting guides, transporters, and conservationists.

In December of 2019, the group met in Anchorage with management agencies, to discuss caribou-related topics including herd management, regulation proposals, climate change and proposed development within the herd’s range. Key points of the meeting included:

### Herd Designated as Conservative Declining

After a review and discussion of caribou biological data, working group members expressed concerns over the stability of the herd’s population. With a slight decline of the population and lower than average adult cow survival, the WG designated the herd status to be conservative declining. A voluntary reduction in cow harvest is encouraged. A further explanation of status terms can be found in the Working Group management plan.

### Updated WACH Cooperative Management Plan Approved

The WG adopted an updated revision to the 2011 Cooperative Management plan. Adjustments were made to help define and guide management levels of the herd and two new plan elements were added. These changes will support suggested management guidelines the WG submits to management agencies and regulatory bodies.

## Caribou in your Region

Every year observations of caribou, habitat, and hunting reports are shared at the WG meeting during the “Caribou Round Table”. Below is a summary of the 2019 discussion.

### North Slope

Break-up was earlier. Caribou first showed up in April, May. Plants came out earlier and died out early, but some stayed green another month or so. Summer was hot and shrubs are growing taller. This year had the record of not snowing in July. Later freeze-up and after it melts it can warm up again. Had rain after first snowfall this winter. The rain has given caribou a hard time.

### NANA Region

Middle of August up the Noatak River caribou showed up. Getting earlier than other years.

Caribou are very healthy. Breakup getting earlier and earlier every year. Try to teach our young folks how to go out at breakup. Changing drastically. Really bad, a lot of rain.

### Seward Peninsula

There are so few caribou and so much pressure on them that they are hard to get from Nome. Later freeze-ups. Early melting prevented us from going. People can’t really travel until January, lots of overflow. This climate change stuff is a reality.

### Climate Changing in the WAH Range

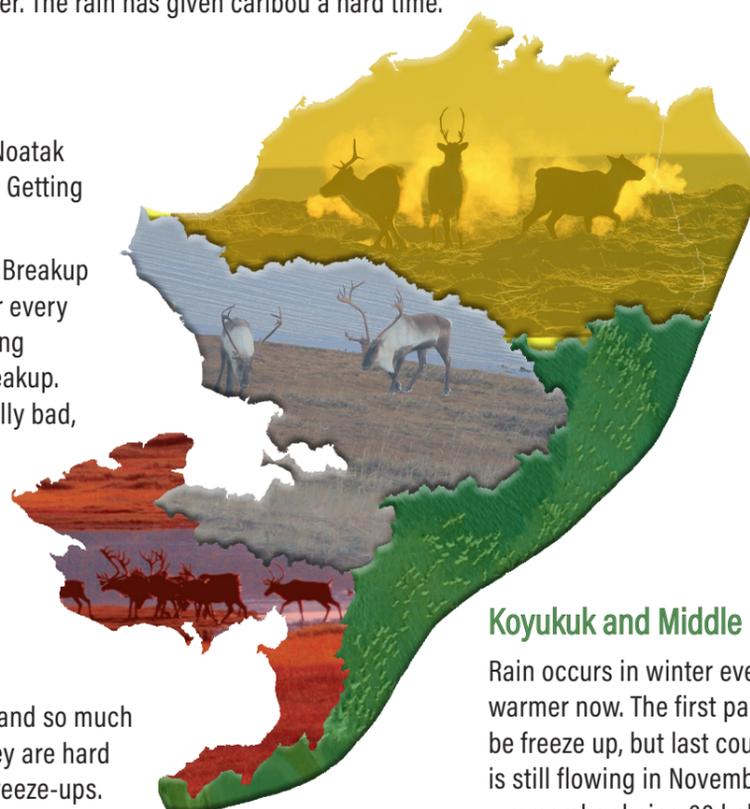
An overview of the current state of the climate within the Western Arctic Herd’s range was provided by climatologist Rick Thoman from the Alaska Center for Climate Assessment and Policy. Research biologists addressed climate-related impacts that might affect caribou and Working Group members voiced their observations and concerns for the herd. *For more on caribou in our changing climate turn to page 8.*

We all know the climate is changing big time and it is hurting us. We as Elders have to teach the younger the climate is changing

-Vern Cleveland, Chair

### Board of Game

The WG reviewed and provided comments on regulatory proposals that had been made to the Alaska Board of Game and Federal Subsistence Board. In addition to the submitted comments, a representative from the WG was present to provide testimony at the Board of Game’s meeting in January. State and federal regulatory updates will take effect on July 1, 2020. *To view the Working Group’s comments and regulatory updates view page 3.*



### Koyukuk and Middle

Rain occurs in winter every year now. Much warmer now. The first part of Oct. used to be freeze up, but last couple of years ice is still flowing in November. 50 years ago – remember being 60 below for months, but now there’s rain in Feb. and animals are struggling except for the wolves which can run on top of the frozen crust. When permafrost melts, entire lakes drain. Global warming is affecting Allakaket.

# Management Updates

## Working Group Updates Management Plan

The Working Group has updated “The Western Arctic Caribou Herd Cooperative Management Plan,” which provides guidelines for agencies and researchers to follow when working with the Western Arctic Herd. The plan is built on group consensus and is focused on recommendations to maintain the health of the herd, the surrounding ecosystem, and uses for people now and in the future.

One major accomplishment of the Working Group is its adoption of a Cooperative Management Plan for the Western Arctic Herd. The plan covers topics such as habitat, regulations, population management, reindeer, traditional knowledge, and education. Local managers and biologists look to the plan for guidance in their work while WG members use the plan as a guideline when providing comments to proposed development, proposals for regulations and determining the level of herd management.

The original plan was completed in 2003 and updated in 2011. At its 2017 meeting, the Working Group decided to undertake another update, and formed a subcommittee to work on this task. The new plan was reviewed in 2018 and adopted at the 2019 meeting. Revising the plan, and putting it into action requires active collaboration between resource management agencies and all those who depend on and value the herd.

All have a stake in the conservation and management of this herd

### Changes that were made include:

The new plan adds the consideration of calf recruitment and cow survival, in addition to population size, to help define the management level for the herd (see Table 1). Both recruitment and cow survival are important factors in whether the herd is increasing in size, stable, or declining.

Two new plan elements have been added. The new elements recognize the potential effects of a changing climate and how a number of human activities have the potential to affect the WAH.

Each of the plan elements includes one or more goals, strategies for attaining those goals, and a list of management actions that the WG and management agencies use when making decisions that will influence the herd.

This plan does not set regulations, but it does offer guidance on specific herd conditions that could trigger regulatory changes. Hunting regulations are set by the Alaska Board of Game and the Federal Subsistence Board. The newly adopted plan will soon be available in hard copy from local agencies and on the Working Group’s website at [www.westernarcticcaribou.net](http://www.westernarcticcaribou.net)



The Management Plan has a new cover by NASUĞRAQ Rainey Hopson, an Inupiaq Artist and Writer

TABLE 1. Western Arctic Caribou Herd management levels using herd size, population trend and harvest range.\*

Management Level	Population Trend		
	Declining Adult Cow Survival <80% Calf Recruitment <15:100	Stable Adult Cow Survival 80%-88% Calf Recruitment 15-22:100	Increasing Adult Cow Survival >88% Calf Recruitment >22:100
Liberal	Pop: 265,000+ Harvest: 14,000+	Pop: 230,000+ Harvest: 14,000+	Pop: 200,000+ Harvest: 14,000+
Conservative	Pop: 200,000-265,000 Harvest: 10,000-14,000	Pop: 170,000-230,000 Harvest: 10,000-14,000	Pop: 150,000-200,000 Harvest: 10,000-14,000
Preservative	Pop: 130,000-200,000 Harvest: 6,000-10,000	Pop: 115,000-170,000 Harvest: 6,000-10,000	Pop: 100,000-150,000 Harvest: 6,000-10,000
Critical	Pop: <130,000 Harvest: <6,000	Pop: <115,000 Harvest: <6,000	Pop: <100,000 Harvest: <6,000

\*Annual harvest has been estimated at around 12,000 caribou per year since 1996.

## Regulation Updates

### State Regulation

In January of 2020, the Alaska Board of Game met in Nome to discuss wildlife in the Arctic/Western region and to consider proposals directed at changing local state hunting regulations.

The Kotzebue Fish and Game Advisory Committee and the WACH WG submitted two proposals for consideration by the Board. Both proposals were supported by the WACH WG through public comment and by testimony during the Board of Game. The Board adopted the proposals as regulations that will go into effect July 1, 2020.

#### Unit 23: Open a year-round, resident season for bull caribou

Bulls will be available for resident harvest year-round. Local hunters have indicated that, even during the rut, younger bulls can still be palatable and offer a good alternative to taking cows in the fall and early winter. *As always, take the time to assess which caribou you are harvesting as seasonal restrictions on cow harvest are still in place. By selectively harvesting bulls you can help reduce the harvest pressure on cows and thereby, help promote herd growth.*

#### Unit 22, Unit 23, Unit 26A: Removal of prohibition on calf harvest

With the removal of the prohibition, calves can legally be harvested for human use.

\*Any caribou harvested still need to be reported through a registration permit and will count towards the 5 caribou per day bag limit. Permits are available at no cost; on-line, in-person or through a license vendor for Unit 23 and Unit 26A (RC907) and for Unit 22 (RC800).

### Federal Regulation

In April of 2020, the Federal Subsistence Board met via teleconference for the Wildlife Regulatory Meeting.

The Kotzebue Sound Fish and Game Advisory Committee, Northwest Arctic Subsistence Regional Advisory Council, and WACH WG submitted the below proposals that will go into effect July 1, 2020.

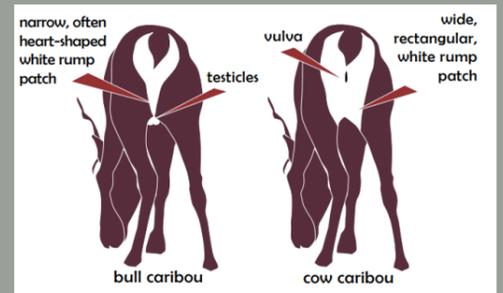
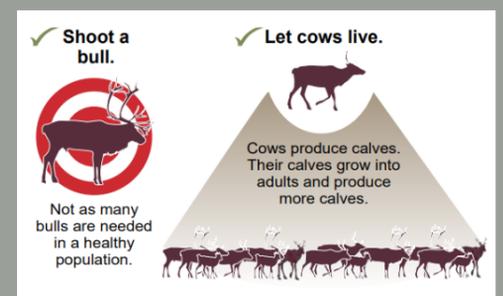
#### Unit 23: year-round bull season and that calf harvest be permitted for caribou

The Federal Subsistence Board adopted the proposal for a year-round bull season and that calf harvest be permitted in Unit 23: Residents of Units 21D (west of the Koyukuk and Yukon rivers), Galena, 22, 23, 24 (including residents of Wiseman, but not other residents of the Dalton Highway Corridor Management Area) and 26A.

For current regulations affecting hunters of the Western Arctic Caribou Herd, consult the Federal Subsistence Management Regulations for the Harvest of Wildlife on Federal Public Lands in Alaska at [www.doi.gov/subsistence/wildlife](http://www.doi.gov/subsistence/wildlife) and the State of Alaska Hunting Regulations [www.hunt.alaska.gov](http://www.hunt.alaska.gov)

### Voluntary Reduction in Cow Harvest

The herd is currently within the Conservative Management Level outlined in the Western Arctic Herd Cooperative Management Plan. The Conservative Management Level calls for a voluntary reduction in cow harvest.



# Caribou updates

## Hunter harvest data helps sustainable harvest

As the largest caribou herd in Alaska, the Western Arctic Herd ranges over a vast, remote landscape encompassing over 40 communities, five game management units, and overlaps with four other caribou herds. Many factors influence the herd as they wander throughout their seasonal migrations. It takes multiple sources of information from many types of biological assessments to piece together the complex puzzle of the herd's status.

Unforeseen natural elements, human impacts, and a changing environment add additional challenges biologists must navigate to recommend levels of management for the herd. This has led biologists and managers to seek information provided by hunters through harvest reports.

The agencies working with the Western Arctic herd collect a great deal of data, but during times of instability, some of the most important data come from hunters reporting their harvest. This information, contributed by each hunter is critical to understanding how the herd is doing, where the harvest is happening, sex of harvest and importantly where no harvest is happening due to changes in herd size or distribution. Harvest report data shows how hunters are affected by herd dynamics.

All types of harvest data are helpful. Community

harvest and household survey data help create long-term trends of harvest while harvest reports through registration hunts like RC907 track short-term changes. Right now, not enough harvest reports are returned each year by hunters to detect short-term changes in harvest across the WAH range. This is a concern. Not accounting for short-term changes can have a long-term negative impact on the herd if harvest levels go beyond an amount that is sustainable, especially with cow harvest.

Based on the Cooperative Management Plan for the WAH, a herd the size of 200,000 is considered sustainable for long-term harvest. The herd is currently 44,000 animals above that 200,000 threshold but in a herd the size of the WAH we could see that change happen quickly. While a decline of 44,000 caribou (18%) sounds like a lot, it is similar to other average annual declines seen in recent years (15% from 2011-2013).

Harvest reports provide the missing piece to answer the questions that biologists, managers and the public are seeking. Is the current level of harvest sustainable? When regulations change, do they have an impact? Is the ability to harvest changing? Harvest data can establish subsistence patterns and are needed to help inform discussions that ensure regulations are a good fit and adapt to change when needs change.

In times of abundance, these questions can seem unnecessary, but in recent years, the need for more harvest data has repeatedly come up. The lack of data may be reducing the ability to be more responsive to conservation concerns.

Information from harvest reports are not to restrict harvest, but to help manage a continued sustainable harvest. Monitoring the herd with an incomplete understanding is challenging in our changing times. By submitting your harvest report, you are documenting the changes you are seeing, and adding that valuable missing piece.

**Not enough harvest reports are returned each year by hunters to detect short-term changes in harvest**

You can help by getting your free permit on-line, in-person or through a license vendor for Unit 23 and Unit 26A RC907 and for Unit 22 RC800.

**Reporting your hunt helps ensure a sustainable future for the Western Arctic caribou herd.**

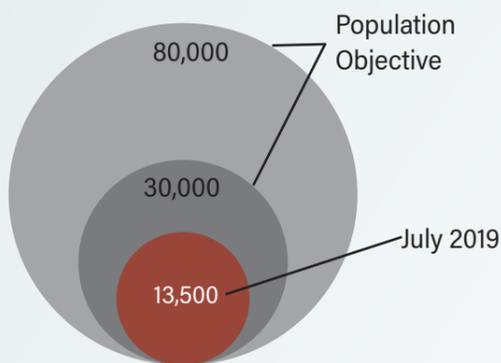
For more information for harvest report requirements in your area contact your local Fish and Game office or visit [www.hunt.alaska.gov](http://www.hunt.alaska.gov)

## Caribou around the world

Across the entire Arctic ecosystem, caribou are the most abundant large mammal, often living in herds that number into the hundreds of thousands. These large herds are known to have huge swings in population over time. However, numerous herds have recently declined quite dramatically, especially in Canada. In Alaska, declines include the Mulchatna Herd, which has seen a 93% drop in herd size in the last 20 years. The Western Arctic Herd is now one of the largest herds on the planet, even considering recent declines since the 2003 peak count of 490,000 caribou.

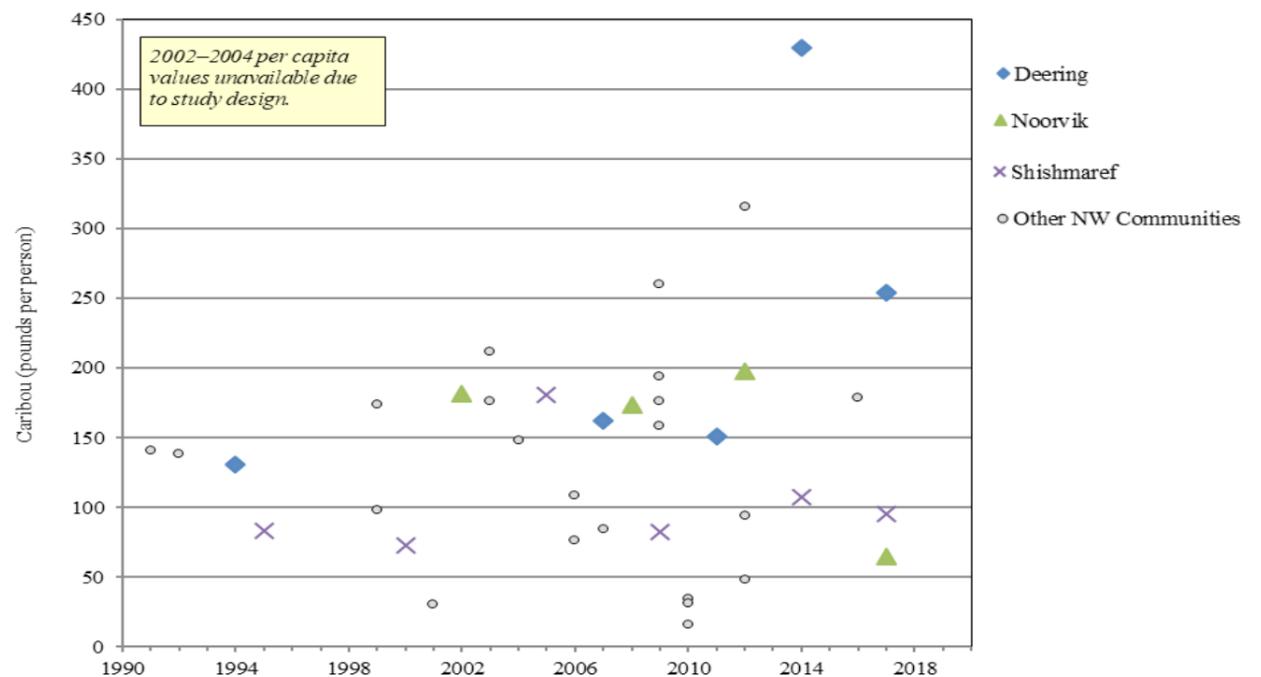
Our region's caribou herd is a rare, precious and irreplaceable resource, with proper care and management, we hope caribou herds will persist for our children and their children.

### Mulchatna Caribou Herd



As of July 2019, ADF&G estimated the Mulchatna Caribou Herd at approximately 13,500 caribou. The population objective for the herd is 30,000-80,000 caribou.

## Subsistence Survey



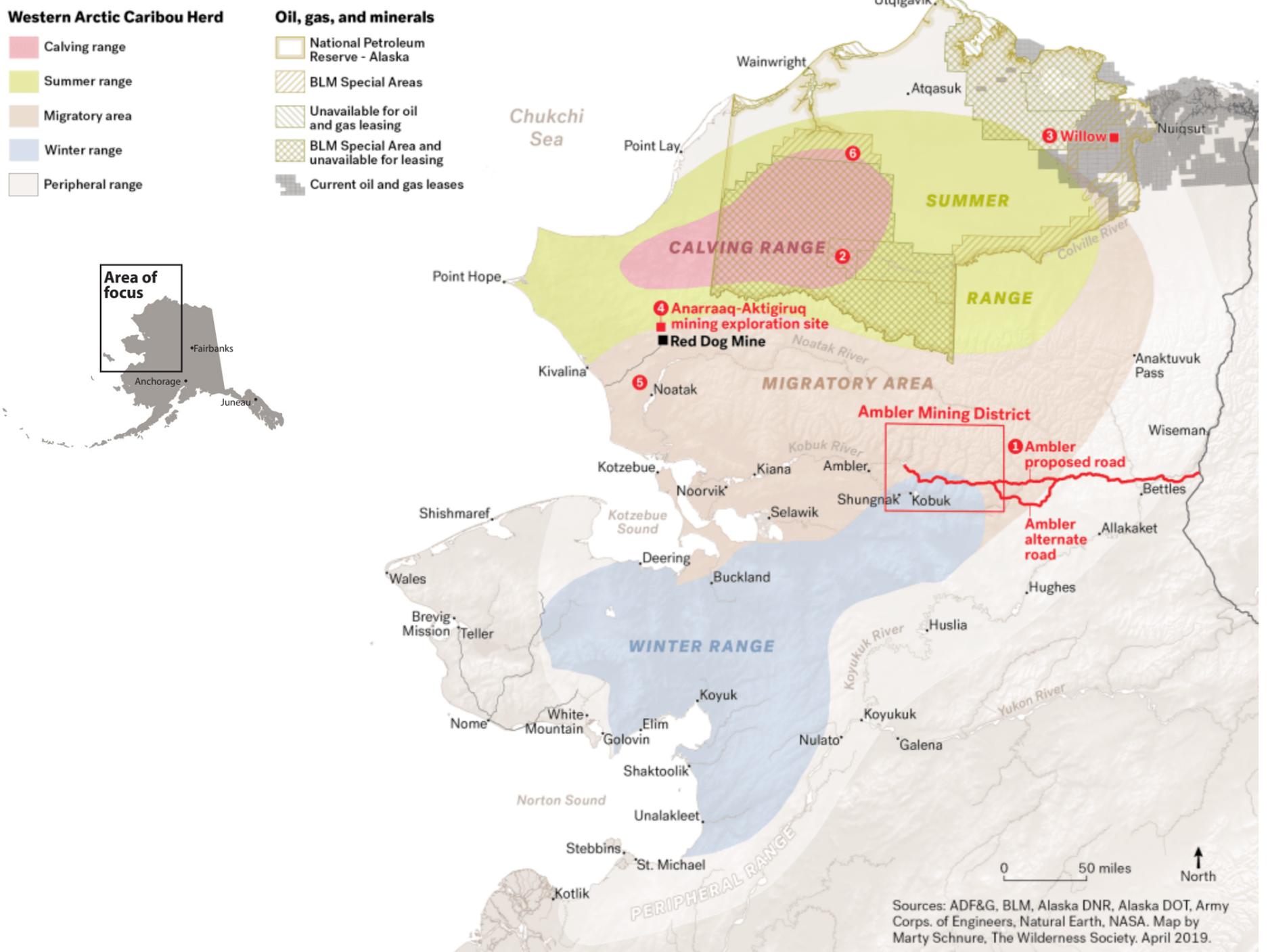
In 2018, ADF&G completed caribou harvest surveys in Deering, Noorvik, and Shishmaref. Division of Subsistence researchers directed the survey effort, contracting with 22 local residents to conduct 256 household harvest surveys. Participation rates were high in each of the 3 communities, with sample sizes ranging from 75% of households in Noorvik, 78% of households in Shishmaref, and 87% of households in Deering. Local residents were instrumental in conducting the surveys, and ADF&G researchers could not have completed the work without them.

The figure above portrays harvests of caribou over time in Deering, Noorvik, and Shishmaref. These estimates are shown in terms of number of pounds of caribou per person, which makes them comparable over multiple years since this controls for changing populations sizes in communities.

These harvest surveys provide critical information for managing these important resources, and they offer an opportunity to open dialogue between local subsistence users and managers. Survey respondents shared perceptions about nonlocal user groups, management of the resource, intensive management, and changes to abundance and migratory patterns of the WAH.

Common themes among respondents in Deering, Noorvik, and Shishmaref included concerns about high predator populations in the region and comments about the impacts of air traffic on caribou movements and hunter success. Respondents in all study communities emphasized the dependence of their communities on big game resources and the overwhelming importance of subsistence to their households.

# Proposed Development in the Range



### 1. Ambler Road Project

The Ambler Road Project proposes about 200 miles of road between the proposed Ambler Mining District and Dalton Highway, crossing WAH migration and winter areas. The Working Group opposed the project in comments on the draft Environmental Impact Statement (EIS) in 2019 and raised concerns about the proposed alternatives. The Bureau of Land Management issued a final EIS in March 2020 in which they recommended approval of the road. Contact Tina McMaster-Goering, the project manager, for details at 907-271-1310 or [tmcmastergoering@blm.gov](mailto:tmcmastergoering@blm.gov)

### 2. National Petroleum Reserve – Alaska Integrated Activity Plan Revision

A draft Integrated Activity Plan (IAP) was released in 2019 that would alter land use within the National Petroleum Reserve – Alaska (NPR-A). Four alternatives opened different areas for oil and gas development. The Working Group supported Alternative A, which would maintain existing protections for calving grounds and other important habitat for the WAH and Teshekpuk Caribou Herd (TCH). A final IAP is expected in mid-2020. For details contact Stephanie Rice at 907-271-3203 or [srice@blm.gov](mailto:srice@blm.gov)

### 3. Willow Master Development Plan

This project would expand development west into the Bear Tooth Unit, closer to core TCH calving areas than existing NPR-A developments in the Alpine and Greater Mooses Tooth units. A draft EIS was released in 2019 and a draft supplemental EIS, with new options for project construction, was published in March 2020.

### 4. Red Dog Mine

Plans for exploration of the Anarraaq – Aktigiruaq mineral deposits about 8 miles north of the current Red Dog Mine have been delayed as Teck American Inc. reevaluates its plans and prepares necessary materials for permitting. The Working Group submitted comments about potential impacts to caribou to inform the previous permitting process and will keep an eye on future proposals.

### 5. Noatak – Red Dog Road

Alaska Department of Transportation and Public Facilities (DOT&PF) is considering a gravel road between the Red Dog road and the village of Noatak. They are conducting a Planning and Environmental Linkage study with 4 alternatives. You can provide input at <https://www.noatakpel.org/survey.html>. The Working Group submitted comments in 2019 that offered general recommendations for avoiding negative impacts on caribou but has not taken any position regarding the project.

### 6. Arctic Strategic Transportation and Resources

This project seeks to develop plans to support creation of roads and other infrastructure between communities and resource development areas on the North Slope. It is still in the planning and analysis stages and no concrete proposals have been made. The Working Group is paying close attention as previous maps have shown roads passing through WAH calving grounds.

## Make your voice heard!

Join the Working Group in making your voice heard! Comments from the public are an important part of development decisions. They are considered along with scientific information to guide which projects should be approved or how they should be done to minimize harm to caribou, other wildlife, the environment, and people.

There are multiple opportunities to provide input on proposed projects, with more expected throughout 2020. The Working Group's Resource Development Committee keeps track of development proposals across the range of the herd to enable the Working Group to provide comments. You can find out more on the Development tab on the Working Group website at [www.westernarcticcaribou.net](http://www.westernarcticcaribou.net).

# 20th Edition Issue

## Through the years with Caribou Trails

The vision of the Western Arctic Herd Caribou Working Group had its beginnings in the mid 80's when Fish & Game staff and representatives of Maniilaq Association met to discuss whether hunters and scientists could work together, build trust and confidence in each other, and jointly help manage caribou. It wasn't until 1997 that the WACH WG was created. This year marks the 20th issue of Caribou Trails, a newsletter put forth by the WACH WG that highlights the Working Group's concerns, interests and life experience living with the largest caribou herd in Alaska.

Visit the WG website at [www.westernarcticcaribou.net](http://www.westernarcticcaribou.net) to view past Caribou Trails.

### 1997

#### Western Arctic Caribou Working Group Working is created

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.



"We can no longer take for granted that these caribou will always come through our communities. We want to keep those caribou coming back."

-Joseph Ballot, WACH WG Chairman, Subsistence Hunter and Community Leader in Selawik



Working Group member Pollock Simon, Sr. shares his knowledge at the 2002 Working Group meeting.

#### Working Group Receives National Award

The Western Arctic Caribou Herd Working Group received a national award from Bureau of Land Management. The Four Cs Award; Consultation, Cooperation, and Communication in the service of Conservation.



Chairman Raymond Stoney of Kiana accepts the award for the Working Group.



#### Counting Caribou

Using a magnifier, Don Williams spent his winters counting nearly half a million caribou. He is pictured with his wife, Mary, and granddaughter, Brandy.

## 2003

### 1999



#### First Issue Fall 1999

News about caribou and caribou hunters highlight how the annual WACH caribou migrations provides food for communities ranging from Nuiqsut near Prudhoe Bay to Stebbins at the mouth of the Yukon. Nearly 50 villages and towns in northwestern Alaska "share" the same caribou.

### 2002

#### A New Caribou Management Plan By and For the People

For the past two years, WACH WG has been developing a new plan to guide management of the herd. The draft plan is circulated for public review.



The Western Arctic Caribou Herd Working

#### Cooperative Management Plan Approved

All 20 Working Group members, or their alternates, 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.



Roy Ashenfelter signs the Plan while Raymond Stoney looks on.



#### Retirement

John Coady, wildlife biologist retires after more than 32 years of service for ADF&G. Coady helped create the WACH WG.

### 2004

#### Caribou Lessons Highlighted

White Mountain students highlight their experience at Onion Portage, hunting with local hunters and a range of classroom projects at the Tenth North American Caribou Workshop. With their teacher, Chris Brown, and ADF&G wildlife biologist Jim Dau, they gave a presentation to several hundred caribou biologists from Alaska, Canada, Greenland, Finland, Norway, Sweden and Russia.



#### Tribute

Dave Spirtes, NPS superintendent of the Western Arctic Parklands and author of the first draft of the Working Group Management Plan, loses his battle against cancer.

### 2009

#### Caribou Jaws

ADF&G requests jaw collections to assist with data to determine the cause of the population decline



### Herd Size

1999	2003	2007	2009
430,000	490,00	377,000	348,000



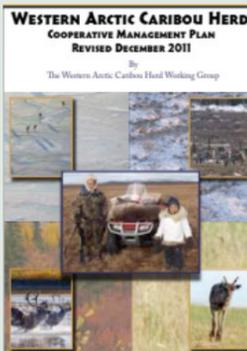
“Time will tell if this ship is seaworthy and will stand the storms of time. My bet is that the caribou Working Group is not only seaworthy, but that it will be critical to protecting caribou and their habitat in the 21st century.”

-John Trent, ADF&G

Agency representative until retirement in 2004

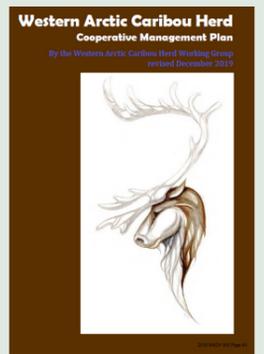
The Western Arctic Caribou Herd Working Group improves The Cooperative Management Plan

Concerns about industrial development, contamination and increased potential for over-hunting were updated.



**Helping the herds through harvest**

The Alaska Board of Game changed regulations to reduce the total harvest from the Western Arctic and Teshekpuk caribou herds. Each herd had declined significantly.



**Cooperative Management Plan Update**

Two plan elements were added.

2011

2015

2020

**2012**

**Development**

The Working Group submits comments supporting protection of WAH and Teshekpuk Caribou Herd calving grounds and other critical habitat in the National Petroleum Reserve – Alaska, advocating for the alternative later selected by the Bureau of Land Management.

**Herd Decline**

Herd has declined 4-6% annually since its peak of 490,000 caribou in 2003.

**2014**

**New Archaeological Sites Documents Ancient Caribou Hunting**

Lake Matcharak site, a 4,000 year old caribou hunter’s camp in the upper Noatak River valley.



**Retirements**

Roy Ashenfelter retires after over a decade of service with the WG as a member, vice-chair, and chair.



Lee Anne Ayres retires as manager of the Selawik National Wildlife Refuge. after a 30 year career in northwest Alaska

**2016**



**Retirements**

Peter Bente retires after a 25 year career with ADF&G. Peter spent his time with the WACH WG facilitating the annual meetings and reporting new information for the WAHWG members to consider as they faced decisions on the future of the herd.



Jim Dau retires after more than 28 years of service with the Kotzebue ADF&G office. He was the lead caribou biologist.

**2017**

**Upgraded camera equipment provides more precise counts**

ADF&G upgraded its camera equipment prior to the 2017 photocensus, switching from film to digital format.

The digital format gives biologists better resolution photos and should provide more accurate information on the herd.

**Working Group supports registration hunt**

Requiring a registration hunt permit (RC907) in Units 23 and 26A to gather more harvest data.

**2019**

**Development**

The Working Group reiterates its support for maintaining protection of caribou calving and other habitat as the NPR-A management plan is revised.



**Retirement**

Long time WG member Benedict Jones resigns his seat as the Middle Yukon River Representative.

2011  
314,000

2013  
235,000

2016  
201,000

2017  
259,000

2019  
244,077

# Changing times

## Caribou in our changing times

The Western Arctic Caribou Herd Working Group recognizes that northern Alaska's climate is changing, and those changes are occurring more rapidly here than in other places around the world. Warmer conditions can lead to less and thinner ice on rivers, lakes and the ocean. It can also cause earlier green up, changes in plant communities, more wildfires, icing events, heavier snowfall, and shifts in migration; all of which can impact caribou and the ability of users to access them. Many of these changes are already evident in the herd's range.

As you look out your window, walk across the tundra or boat upriver to camp, you can see the climate of northern Alaska changing and it is changing fast. Warming in this region is occurring at twice the rate as other parts of the world. Average temperatures are about 4° F warmer now than when the Elders were born—the last ten years being the warmest ten years ever recorded.

As the ocean warms, the amount and thickness of sea ice diminishes. The lowest levels of sea ice ever recorded are now taking place, leading to a significant change in coastal areas. Warmer weather is delaying freeze up. Deep, sustained cold periods in winter are shorter and less frequent. Spring breakup is occurring earlier. Permafrost is melting and draining shallow lakes, thawing food cellars, and allowing taller shrubs to grow. Without drastic intervention, temperatures are certain to continue to rise for the rest of the century. With the current outlook, Ambler is projected to be as warm as Homer, Alaska by the year 2050. These changes will continue to impact the environment altering the landscape, animals and people who call the region home.

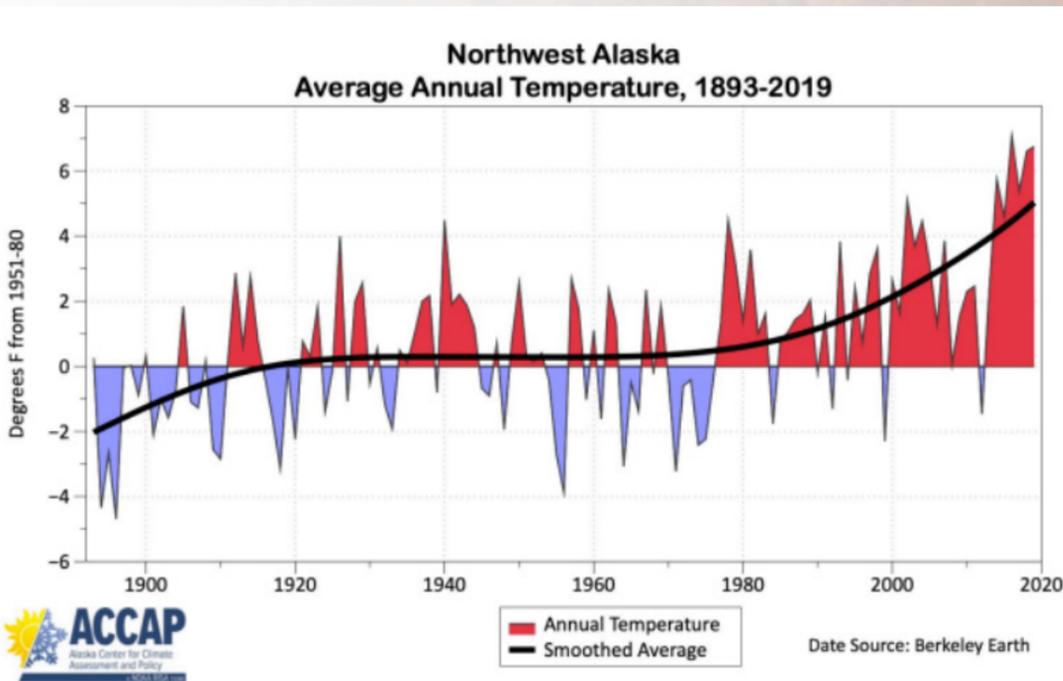
While it is challenging to determine how these changes will affect caribou, there are some impacts that will likely appear. As winter temperatures rise, the chance of rain-on-snow and rain-on-frozen ground events increase. This can cause a layer of ice to form. If the ice is thick enough, caribou are not able to crater (dig through it) to reach lichens, their preferred winter forage. Breaking through ice can also damage fur and cause cuts which may help transmit diseases like hoof rot.

In some cases, the lack of snow could increase the caribou's access of lichens, but the expected warmer and drier conditions will reduce lichen growth. Summer warming has the potential to create more vegetation for caribou to eat. However, all caribou forage is not the same, and the growth of shrub-like plants that are less nutritious may not be beneficial.

One of the most notable aspects of the short Arctic summer is insects. Parasitic mosquito, warble fly and nasal bot fly numbers can be astounding, and warming could boost their numbers even higher if winds and dry conditions don't also occur. Harassment of caribou by insects is one of the most important factors influencing what caribou do and where they go in the summer. Caribou use windswept areas and snowfields to alleviate insect harassment. High levels of insect harassment can affect the growth of calves and weight gain of the adult females, which may affect pregnancy rates the following year.

The expected warmer and drier conditions set the stage for more wildfires. A warmer climate makes spruce forests and tundra more susceptible to fire—and lichens are especially vulnerable. Lichens are very slow to regrow in burned areas. After a wildfire it can take 50-100 years or more for lichens to come back, leading to an avoidance of those areas by caribou.

We should anticipate that a changing climate will affect caribou populations, including how and where they are harvested. The Working Group, the public and wildlife managers should diligently monitor the health of the herd, document human-related landscape changes, and recommend protections that will help caribou herds remain healthy and strong.



Each year in the range from 2014-2018 has been warmer than the long-term average and 2018 was the hottest year on record.

## What are some of the changes and how might they affect caribou?



### **Increase of rain events**

Rain-on-snow and rain-on-frozen ground events increase. This can cause a layer of ice to form. If the ice is thick enough, caribou are not able to dig through it to reach lichens.



### **Increase of insects**

Summer warming increases insect harassment. High levels of insect harassment can affect the growth of calves and weight gain of the adult female caribou.



### **Increase of shrubs**

Warmer summers have the potential to create more vegetation. In some cases, like alder, it may be less nutritious for caribou.



### **Fire activity**

More fires can change where caribou go to find food and how much is available.

While the effects are difficult to predict and negative impacts could be offset by positive changes, in general a changing climate is thought to be detrimental for caribou populations overall. Make note of how you see the changing climate impact caribou, their behavior, their movements and their health, as well as how it affects how you access and use them yourself. This information is important so the Working Group and managers can better understand and deal with the changes that are coming.

# Sharing Knowledge

Through the years Guest Elders and Working Group members have shared their lifetimes of knowledge on the importance of caribou to their families, communities and subsistence way of life.



"They would leave in the early fall while the hides are thin and could be used for clothing. The hunters also took dogs to help pack. They also traveled one day at a time, and they relayed their possessions to and fro."  
-Laura Iguaqpak Smith, Selawik Elder 2005



"There were not as many caribou but they were big, too big. One man could not handle a caribou"  
-Raymond Hawley, Kivalina & Noatak Chair 2001



"Nothing was wasted from the caribou; antler, hide, and head all had their uses; food, clothing, tools, everything."  
-Beulah Ballot, Buckland Elder 2010



"Today, our young people don't do that now. It is first come, first served. The elders worked together in the past. When we followed the elder men; that was how they made us hunt. Together, they worked as a team."  
-Johnny Mikiana Norton, Selawik Elder 2006



"Always try to do the right thing. It's never too late to learn."  
-Donald Smith, Kiana Elder 2008



"Whatever you have it's good to share. It will come back bigger... You'll enjoy your food after you share, and it will come back bigger."  
-Emma Ramoth, Selawik Elder 2018



"You must only shoot the caribou that you can handle. The hunter shares the caribou he got with others. He shares with the hunting partner. Upon arriving at home, share with those having no meat. The more you share; it will always come back to you. You have to learn these skills in order to be a good hunter."  
-Ralph Ayyatunga Ramoth, Selawik 2005



"After the meat is eaten off the head, you can see "tears" on the side of the skull. These "tears" are there for a reason. Mildred remembers hearing the story from Robert Cleveland."  
-Mildred Black, Shungnak Elder 2011



"It was best to get caribou in the fall time, they get fat before mating."  
-Abraham Anasogak Sr., Koyuk Elder 2010



"Once this country is in your heart and soul it never leaves you."  
-Phil Driver Vice-Chair 2012



"Tuttu (caribou in Inupiaq) are known as the great wanderers. They deserve the name."  
-Josephine Woods, Shungnak 2014



"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 of Nome and White Mountain Elder 2006



"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."  
-Benedict Jones, Middle Yukon River Chair 2012



"Our elders always advised us to not be wasteful."  
-Minnie Gray, Kobuk River Elder-2015

Note: Dates are shown for the year featured in Caribou Trails

## Onion Portage the Outdoor Classroom

Since the early 1990s students from schools within the WAH range have accompanied biologists to assist with the collaring of caribou at Onion Portage.



Selawik, Shungnak & Barrow -2006



Kotzebue -2007



Kiana-2007



Koyuk -2008



Elim-2008



Buckland & Deering 2009



Shishmaref -2011



Golovin -2011



Ambler & Shungnak- 2012



Kobuk & Kivalina- 2013



Elim-2004



Nome -2015



Noorvik-2016



Selawik- 2017



Kiana & Ambler -2018



Point Lay 2019

Note: Dates are shown for the year featured in Caribou Trails

**TUTTU: MORE THAN JUST DINNER**

While caribou from the Western Arctic Herd have been a vital food source for local people for thousands of years, they provide more than healthy meals. Another prized material obtained from caribou is the skin or hide.

A recent study, published in the journal "Arctic", used infrared thermal imaging to compare modern-day cold-climate gear to caribou-skin clothing. The testing of three types of clothing took place in a controlled climate of -6°F to -10°F. Thermal imaging detected and measured the outside surface temperatures of the clothing. Heat loss is shown in red and yellow below. The bluer areas are where heat loss was less.

The study found that caribou-skin clothing performed similarly to modern extreme-cold clothing. Thermal imaging was able to pinpoint areas where the clothing had leaks. Modern-day zippers and detachable hoods allowed air to pass through in contrast to the design of the caribou-skin clothing, which limited the number of heat leaks. Note that each clothing type wore the same hand and footwear. To view the results of the study, visit <https://journalhosting.ucalgary.ca/index.php/arctic/article/view/69909>.

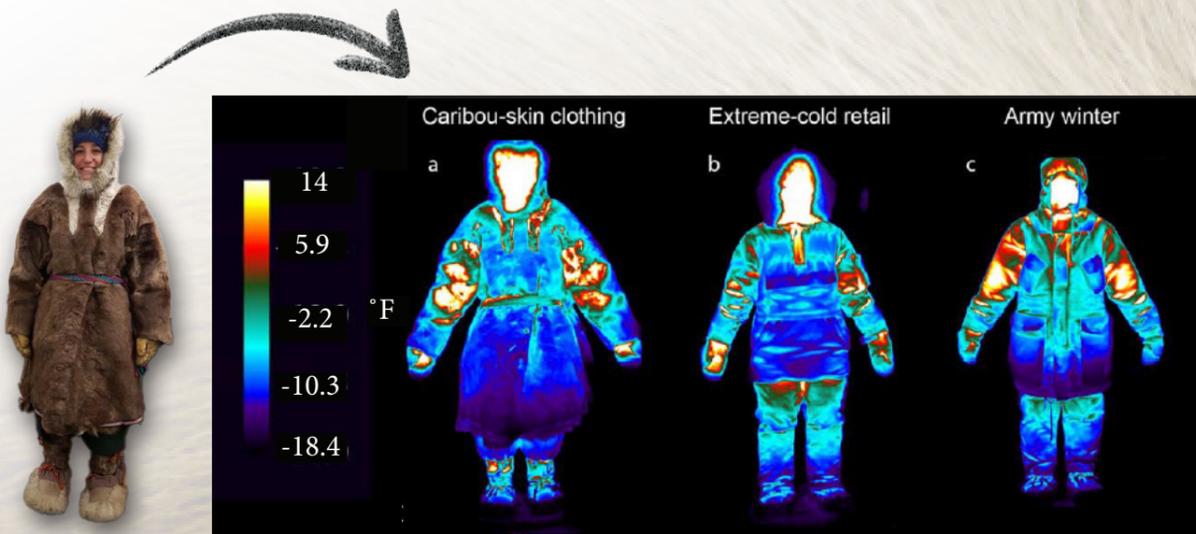
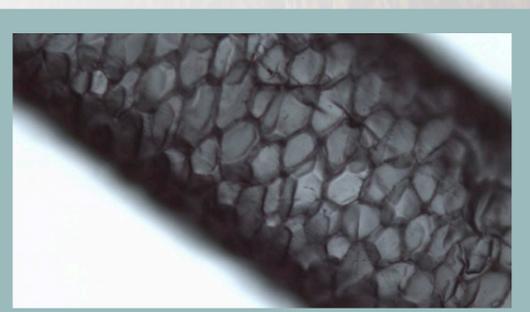


FIG. 2. Front full-body thermal images in the three types of clothing. Source: Hill et al 2020 "Thermal Imaging and Physiological Analysis of Cold-Climate Caribou-Skin Clothing." *Arctic*, Vol. 73, No. 1, March 2020, pages 40 - 52



**What makes these hides so great?**

Caribou hair is amazingly lightweight and insulating because the hairs are hollow.

Can you see the bubble wrap like formation inside of the hair?

To see more examples of wildlife fur from Alaska check out, the The Alaska Fur ID project

[www.alaskafurid.wordpress.com](http://www.alaskafurid.wordpress.com)

**Have you ever wondered about furs?**

Pick up the Wild Wonders Fur activity book for kids at any ADF&G office or view it on-line at [www.adfg.alaska.gov](http://www.adfg.alaska.gov)



**Long Migrations**

Arctic caribou display the longest land migrations on the planet, with numerous herds covering more than 700 miles on these round-trip movements. Caribou migrate much further than their next closest species such as the white-eared kob, wildebeest, and zebra of Africa and mule deer of the Lower 48. Long-distance migrations are thought to be a strategy to access areas of great resource abundance in highly seasonal environments like the Arctic. These movements are threatened globally as human activity and development can negatively affect migrations.

Caribou are almost always moving, not just during migration. Indeed, they can travel over 3000 miles a year in the course of their wanderings. Over the life of a caribou, the distance they walk would be more than walking around the entire planet. Interesting to note- although it does not migrate, the caribou's main predator, the gray wolf, has to keep up with its prey and can walk even further in the search of it.

**What do caribou eat while on the move?**

They eat lichens, especially in winter when other plants are not available. They also feed on the branches of dwarf willow and birch, and on grasses and sedges. In autumn, they eat fungi (mushrooms) as well.

**Outreach and Education**

**Contact information:**



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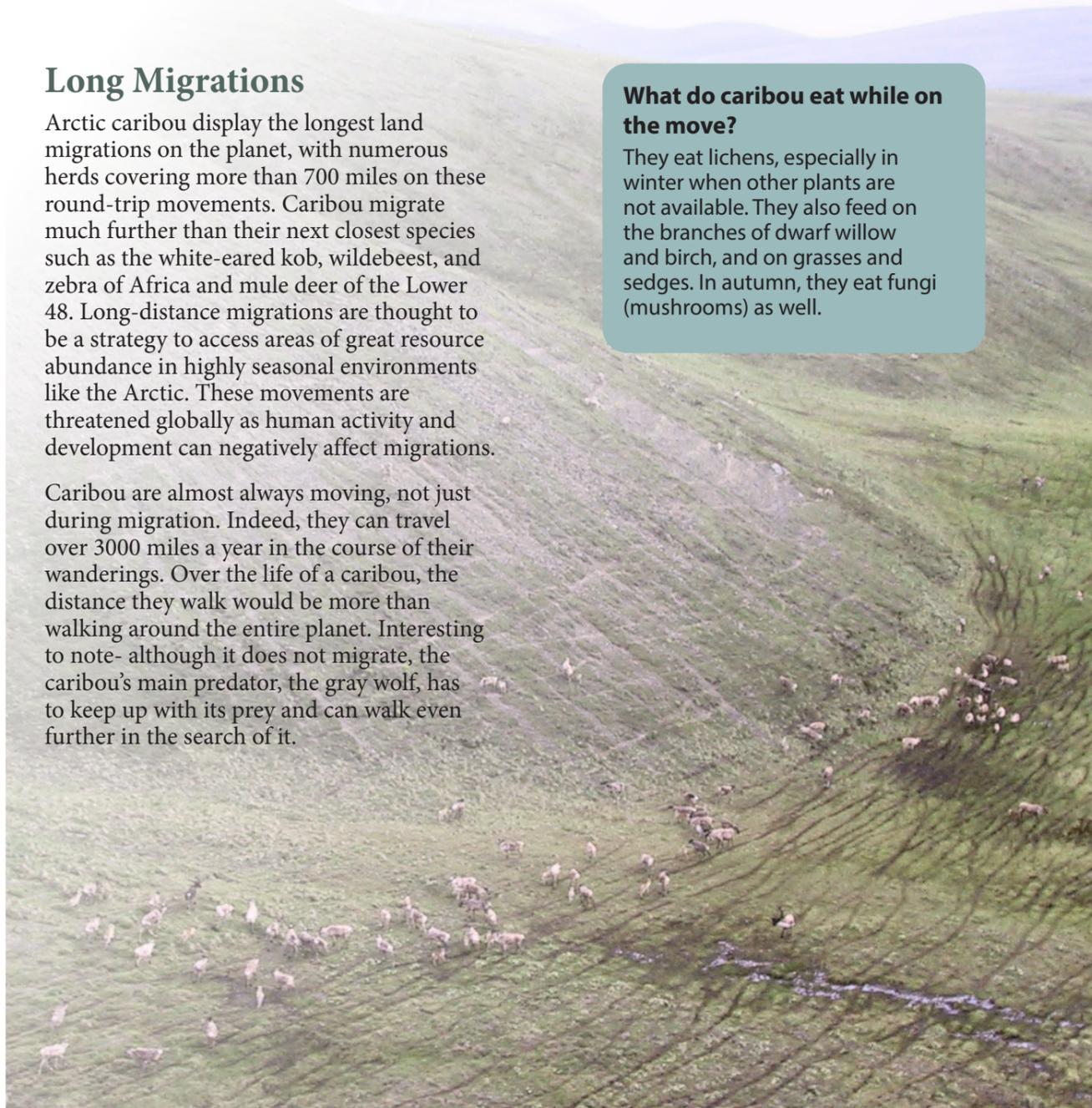


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Education Program Manager  
Katie Cullen  
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**Want to learn more? Follow us!**

- @ADFGWildlifeNorthwestAlaska
- @SelawikNationalWildlifeRefuge
- @KotzebueMuseum
- @GatesOfTheArcticNPS
- @BeringLandNPS



# Western Arctic Caribou Herd Working Group



Back Row L-R: Matt Moore (alt.), Bill Bernhardt, Elmer Seetot, Jr, Tom Gray, Tim Fullman, John Siegfried (alt.), Brad Saalsaa (alt.), Charlie Lean, Vern Cleveland, Sr, Front Row L-R: Ron Moto, Sr., Eli Nukapigak, Wanda Kippi, Willie Goodwin (alt.), Pollock Simon, Sr., Michael Stickman (alt.), Jake Jacobson, Morris Nassuk.

## Working for you and caribou!

Contact your local Working Group representative or one of the agencies to share comments, concerns or to get involved.

### Voting Chairs

- Anchorage Fish & Game Advisory Committee
- Buckland, Deering, Selawik
- Anaktuvuk Pass & Nuiqsut
- Elim, Golovin, White Mountain
- Fairbanks Hunters
- Hunting Guides
- Kivalina & Noatak
- Kotzebue
- Koyukuk River (Huslia, Hughes, Allakaket, Bettles, Wiseman)
- Lower Kobuk River (Noorvik & Kiana)
- Middle Yukon River (Galena, Koyukuk, Nulato, Kaltag)
- Point Hope & Point Lay
- Nome
- Conservationists
- N. Seward Peninsula (Teller, Brevig, Wales, Shishmaref)
- Reindeer Herders Association
- S. Seward Peninsula (Koyuk, Shaktoolik, Unalakleet, Stebbins, St. Michael, Kotlik)
- Transporters
- Upper Kobuk River (Ambler, Shungnak, Kobuk)
- Atqasuk, Utqiagvik & Wainwright

### Representatives

- Neil DeWitt
- Ron Moto, Sr.
- Eli Nukapigak
- Charles Saccheus
- David Kilbourn
- Jake Jacobson
- Enoch Mitchell
- Cyrus Harris (Vice-Chair)
- Pollock Simon, Sr.
- Vern Cleveland Sr. (Chairman)
- vacant
- Steve Oomittuk
- Charlie Lean
- Tim Fullman
- Elmer Seetot, Jr.
- Tom Gray
- Morris Nassuk
- Julie Owen
- Bill Bernhardt
- Wanda Kippi

### Alternates

- Matt Moore
- Percy Ballott
- Mary Hugo
- Morris Nakaruk
- John Siegfried
- John (Thor) Stacey
- Daniel Foster, Sr.
- Willie Goodwin
- Jack Reakoff
- Kirk Sampson
- Micky Stickman
- Caroline Cannon
- Jacob Martin
- David Krause
- vacant
- Harry Karmun
- Leo Charles, Sr.
- Brad Saalsaa
- Oscar Griest, Sr.
- vacant

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

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**US National Park Service, Western Arctic Parks, Kotzebue Superintendent- Maija Lukin**  
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**US Fish & Wildlife, Selawik National Wildlife Refuge, Kotzebue Refuge Manager -Susan Georgette**  
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### Please bring questions regarding the Working Group to:

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**Vice-Chair, Cyrus Harris**  
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**Facilitator**  
Jan Caulfield, (907) 523-4610, janc@gci.net

### Please send questions regarding Caribou Trails to:

**Alaska Dept. of Fish & Game Wildlife Education and Outreach Specialist -Heather Jameson**  
(907) 443-8196, heather.jameson@alaska.gov

To Report Violations call:  
**1-800-478-3377**



### Run on Down to the Next Caribou Meeting:

December 8-10, 2020  
Anchorage, AK  
Check the website soon for details!  
[www.westernarcticcaribou.net](http://www.westernarcticcaribou.net)



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