NORTHWEST ARCTIC SUBSISTENCE REGIONAL ADVISORY COUNCIL

Meeting Materials

November 1-2, 2021

via teleconference

What's Inside

On the cover...

The Selawik Science-Culture Camp participants are working on cribou. In this camp more than 150 kids from the Iñupiaq village of Selawik in northwest Alaska celebrate the natural history and cultural traditions of their homeland.

USFWS Selawik NWR photo

What's Inside

NORTHWEST ARCTIC SUBSISTENCE REGIONAL ADVISORY COUNCIL

by Teleconference only
November 1-2, 2021
convening at 9:00 am daily

TELECONFERENCE: call the toll free number: 1-866-801-9605, then when prompted enter the passcode: 29886091.

PUBLIC COMMENTS: Public comments are welcome for each agenda item and for regional concerns not included on the agenda. The Council appreciates hearing your concerns and knowledge. Time limits may be set to provide opportunity for all to testify and keep the meeting on schedule.

PLEASE NOTE: These are estimated times and the agenda is subject to change. Contact staff for the current schedule. Evening sessions are at the call of the chair.

AGENDA

*Asterisk identifies action item.

1. **Invocation**
2. **Call to Order** (*Chair*)
3. **Roll Call and Establish Quorum** (*Secretary*).....4
4. **Welcome and Introductions** (*Chair*)
5. **Review and Adopt Agenda*** (*Chair*) 1
6. **Review and Approve Previous Meeting Minutes*** (*Chair*) 5
7. **Reports**

   Council Member Reports

   Chair's Report
8. **Service Awards**

   Enoch Shiedt (20 year service ward)
9. **Public and Tribal Comment on Non-Agenda Items** (available each morning)
10. **Old Business** (*Chair*)

    805(c) Report – summary (*Council Coordinator*) 10
11. **New Business** (*Chair*)

    a. Wildlife Proposals and Closure Reviews* (OSM Wildlife/Anthropology)

    Note: The Council will receive wildlife updates prior to discussion on proposals

11. Future Meeting Dates*

12. Closing Comments

13. Adjourn (*Chair***)**

To teleconference into the meeting, call the toll free number: 1-866-801-9605, then when prompted enter the passcode: 29886091.

Reasonable Accommodations

The Federal Subsistence Board is committed to providing access to this meeting for all participants. Please direct all requests for special accommodation needs to Eva Patton, 907-444-4851, eva_patton@fws.gov, or 800-877-8339 (TTY), by close of business on October 22, 2021.

REGION 8
Northwest Arctic Subsistence Regional Advisory Council

Seat	Yr Apptd *Term Expires*	Member Name & Community	Represents
1	2019 ***2022***	**Enoch E. Shiedt, Sr.** Kotzebue	Subsistence
2	2019 ***2022***	**Thomas Christopher Baker** **Chair** Kotzebue	Subsistence
3	2020 ***2022***	**VACANT**	**VACANT**
4	2010 ***2022***	**Michael Chad Kramer** **Vice Chair** Kotzebue	Comm/Sport
5	2020 ***2023***	**Calvin Donald Moto II** Deering	Subsistence
6	2020 ***2023***	**Wilbur Monnuk Howarth, Sr.** Noorvik	Subsistence
7	2020 ***2023***	**Robert Joseph Schaeffer** Kotzebue	Subsistence
8	2020 ***2022***	**Elmer Armstrong, Jr.** **Secretary** Noorvik	Subsistence
9	***2020*** ***2021***	**Bryan Lee Jones** Ambler	Subsistence
10	2018 ***2021***	**Barbara M. Atoruk** Kiana	Subsistence

NORTHWEST ARCTIC SUBSISTENCE REGIONAL ADVISORY COUNCIL

Meeting Minutes

By teleconference due to travel restrictions during the COVID-19 pandemic.
February 18, 2021

Call to Order, Roll Call and Quorum Establishment

The meeting was called to order Thursday, February 18, 2021 at 9:00 am. Council members Thomas Baker, Elmer Armstrong, Jr., Wilbur Howarth, Sr., Michael Kramer, Calvin Moto II, Robert Schaeffer, and Enoch Shiedt, Sr. Council members Vida Coaltrain and Barbara Atoruk were not present and were excused. Council member Bryan Jones was not present and was not excused. A quorum was established with 7 of 10 seated Council members participating by phone.

Attendees:

Via teleconference

- Office of Subsistence Management (OSM): George Pappas, Robbin La Vine, Hannah Voorhees, Brent Vickers, Karen Hyer, Steve Fadden, Zach Stevenson.
- Bureau of Land Management (BLM): Tom Sparks, Nome.
- Fish and Wildlife Service (FWS): Brittany Sweeney, Kotzebue, Bill Carter, Kotzebue; Susan Georgette, Kotzebue.
- National Park Service (NPS): Carlos Fyie, Kotzebue; Raime Fronstin, Kotzebue; Marcy Okada, Fairbanks; Anchorage; Dr. Joshua Ream, Anchorage; Victoria Florey, Anchorage; Hannah Atkinson, Kotzebue; Martha Fronstin; Maija Lukin, Kotzebue; Scott Sample.
- Bureau of Indian Affairs: Pat Petrivelli, Anchorage.
- Alaska Department of Fish and Game (ADF&G): Alex Hanson, Kotzebue; Beth Mikow, Fairbanks; Carmen Daggett, Utqiagvik; Mark Burch, Palmer; Rick Merizon, Palmer.
- NANA Regional Corporation: Damon Schaeffer, Anchorage; Liz Cravalho, Kotzebue.
- Alaska Resident: Mark Richards, Fairbanks.

Review and Adopt Agenda

Motion by Mr. Baker, seconded by Mr. Howarth, to adopt the agenda as read. The motion passed unanimously.

Election of Officers

Mr. Thomas Baker was elected the Council's Chair.
Mr. Michael Kramer was elected the Council's Vice-Chair.
Mr. Elmer Armstrong was elected the Council's Secretary.

Review and Approve Previous Meeting Minutes

Motion by Vice-Chair Kramer, seconded by Mr. Shiedt, to approve the fall 2020 meeting minutes as presented. The motion passed unanimously.

Council Member and Chair Reports

Wilbur Howarth, Sr. of *Noorvik* didn't even see caribou until winter. Berries were hard to find last summer, but cranberries were good. His son brought him a caribou and had to go far up to get it. Moose are declining. The Life Below Zero folks were filming and shot about a dozen cow and calf caribou about two years ago.

Calvin Moto II of *Deering* had nothing to report.

Enoch Shiedt, Sr. of *Noatak* reported the late arrival of salmon and char following freeze up. Sheefish arrived late too. Caribou were late too with reduced numbers. Noatak residents were the only ones that hunted some. Some caribou were sighted near Buckland and Selawik and looked skinny, presumably because they were chased by wolves. Then some more were sighted between Selawik and Noorvik, and near Noatak. Mr. Shiedt also added that he is sure the caribou numbers are down. Mr. Shiedt thinks that there is a need for an emergency meeting.

Vice-Chair Michael Kramer of *Kotzebue* reported that caribou hunting in his area was poor. Ambler and Shungnak didn't get any caribou until very late, and only a few animals. Vice-Chair Kramer got only one caribou. The salmon run was poor, but Sheefish are now coming to Kotzebue area. Vice-Chair Kramer was really concerned that non-resident and non-local hunters were allowed to come and hunt during pandemic. The outside hunters were acting insultingly and disrespectfully towards other passengers and employees at the airport, where Vice-Chair Kramer works. He heard racial slurs directed at the local people. Vice-Chair Kramer said that he has a medical condition that makes him more susceptible to COVID-19, and he was really worried when he worked at the airport and saw that outside hunters were allowed to come in. Vice-Chair Kramer heard a lot of people in the Kotzebue and Noatak area are harvesting wolves.

Secretary Elmer Armstrong of *Noorvik* reported that hunting caribou was difficult this year and that a couple of boats that went hunting got stuck and the Coast Guard had to rescue them. Some hunter had success harvesting caribou on the Seward Peninsula towards Buckland. Secretary Armstrong had to pull his net because he was getting only a few Chum Salmon and mostly Pink Salmon. Thin ice conditions prevented fishing for whitefish. There were some cranberries, blueberries, and salmonberries. Secretary Armstrong was not successful in filling his RM880 (moose) tag. There was a big pack of wolves between Noorvik and Selawik, so wolves are having an impact on caribou and moose.

Chair Thomas Baker of *Kotzebue* reported the scarce harvest of caribou during the fall and winter in Kotzebue. Some were lucky to fill their RM880 (moose) tag, but he noted that he had not been able to fill his moose tag. Less than 10 people were lucky enough to get more than one caribou. Some caribou

crossed the ice from the Sisolik side over to Kotzebue in late October/November. The people had been successful jigging for Sheefish, sometimes right out of town and by Pike's Spit.

Old Business

Wildlife Special Action WSA21-01

Ms. Voorhees gave an update on WSA21-01, which requested a closure to caribou and moose hunting on Federal lands in Units 23 and 26A. The Council voted to submit this Special Action in November, 2020. Vice-Chair Kramer noted that they want to see the caribou herd count as soon as it is available. Ms. Voorhees explained that this is not an action item, but asked if the Council wanted to weigh in on the draft analysis for the Special Action Request. Mr. Sheidt reported the he had been hearing that the caribou numbers were down. Mr. Howarth noted that the caribou seemed to be staying up high in the mountains and up north near the calving grounds. Mr. Hanson noted that the 2019 caribou census was the most recent count and was 244,000 caribou. He noted that the herd numbered 495,000 animals in 2003 and had declined to 201,000 animals in 2016. They plan to do another count in summer 2021. He noted that female caribou mortality and calf recruitment are very important considerations. He noted that they do separate counts for the Western Arctic Herd and the Teshekpuk Herd. Chairman Baker noted that the flood of outside hunters, charter services and outside outfitters are a real concern. Ms. Voorhees noted that moose are declining in the area. Chairman Baker explained that both moose and caribou numbers seem to be declining. Mr. Hanson noted that brown bear predation seems to be one of the bigger challenges right now. Ms. Daggett noted that in Unit 26A you can't use an airplane during July, August, and September, and January, February and March to hunt moose. Mr. Hanson noted that there had been a steady decline between five and 12 percent in the Unit 23 moose population over the past decade. Mr. Howarth noted the high brown bear population in the Kotzebue to Noatak areas.

Individual C&T

Dr. Ream gave a report on the recent process used to make customary and traditional use determinations for individuals. This isn't an action item for the Council. Individual C&Ts are not a new thing, but they are very rare. Less than 10 people have applied for individual C&Ts over 40 years. The NPS incorporated the input from the 10 Councils and the 7 Subsistence Resource Commissions (SRC). The Federal Subsistence Board will retain the final decision making authority on individual C&Ts based on recommendations from the Council(s) and affected SRC. The process will be completed in a timely manner. Dr. Ream noted that the Federal Subsistence Board welcomes feedback.

New Business

Fisheries Resource Monitoring Program Update

Ms. Hyer gave the update. OSM took the priority information needs developed by this Council in fall 2020 and included them in an announcement seeking fisheries research proposals. The window for proposals closes on March 15. OSM will update the Councils at the fall 2021 meetings. Mr. Howarth requested that water temperature information be collected from the lower Kobuk River.

Call for Federal Wildlife Proposals

Mr. Stevenson and Mr. Pappas informed the Council that the Board is accepting proposals through April 20, 2020 to change Federal regulations for the subsistence harvest of wildlife on Federal public lands for the 2022-2024 regulatory years. The Board will consider proposals to change Federal subsistence wildlife seasons, harvest limits, methods, and means related to taking of wildlife for subsistence uses, as well as customary and traditional use determinations.

Mr. Howarth made a motion seconded by Mr. Schaeffer to work with staff to create a wildlife proposal on beaver, so at a later meeting, the Council could act on it. The motion passed unanimously, but the Council didn't have a quorum. The proposal would be crafted to match the State's harvest limits in Units 22 and 23.

Council Charter Review

Mr. Pappas informed the Council about Charter requirements. After discussion, Mr. Howarth made a motion, seconded by Mr. Armstrong that Council membership be increased from 10 to 12 members. The motion passed unanimously.

Enforcement

Mr. Scott Sample (NPS) provided a law enforcement update. They had 456 visitors to the Noatak Preserve with 366 caribou, 16 brown bear, one moose and one wolf taken last year. He noted that he is working together with NANA Trespass, the Alaska State Troopers, BLM and the FWS. Mr. Damon Schaeffer join to discussion to explain some of NANA's wildlife enforcement programs.

Agency Reports:

- Mr. Merizon (ADF&G) gave a report on Alaska hare and snowshoe hare.
- Ms. Susan Georgette, Refuge Manager for Selawik National Wildlife Refuge gave an overview of Selawik Refuge activities.
- Ms. Maija Lukin, Superintendent for the Western Arctic National Park Lands (Cape Krusenstern National Monument, Kobuk Valley National Park, Kobuk Valley National Park) gave an overview of park activities. Hannah Atkinson, Cultural Anthropologist talked about the Cape Krusenstern National Monument SRC and the Kobuk Valley National Park SRC. Ramie Fonstin, Wildlife Biologist, explained cooperative efforts with ADF&G and the FWS and wildlife surveys.
- Ms. Marcy Okada, Gates of the Arctic National Park and Preserve gave an overview of the SRC and other activities. Kyle Joly, Wildlife Biologist for Gates of the Arctic National Park and Preserve and lead NPS caribou biologist for the Western Arctic Herd gave an update on caribou and moose and responded to questions about the Ambler Road.
- Ms. Liz Cavalho with NANA gave an update related to Ambler Road litigation and asbestos issues.
- Ms. Brittany Sweeney with the FWS made comments concerning beaver regulations.

- Mr. Tom Sparks with BLM in Nome gave an update on BLM activities.
- Mr. Alex Hanson, Wildlife Biologist with ADF&G gave an update on activities.
- Mr. Ramie Fronstin, Wildlife Biologist with the NPS gave an update on seals.
- Mr. Steve Fadden, Wildlife Biologist gave the OSM report.

Future Meeting Dates:

The NWA Council is scheduled for their next meeting on November 1 and 2, 2020.

While the Council did not have a quorum, Vice-Chair Kramer made a motion to have the winter, 2022 NWA Council meeting on February 14 and 15. Chairman Baker and Mr. Howarth both agreed with these dates. Chairman Baker asked staff to poll the full Council and send information out to the full group.

_____

Tom Kron on behalf of the OSM, Council Coordination Division
USFWS Office of Subsistence Management

_____

Thomas Baker, Chair
Northwest Arctic Subsistence Regional Advisory Council

These minutes will be formally considered by the Northwest Arctic Subsistence Regional Advisory Council at its fall 2021 meeting, and any corrections or notations will be incorporated in the minutes at that meeting.

A more detailed report of this meeting, copies of the transcript, and meeting handouts are available upon request. Call Katerina Wessels at 1-800-478-1456 or 1-907-786-3885, email katerina_wessels@fws.gov.

Federal Subsistence Board

1011 East Tudor Road, MS 121
Anchorage, Alaska 99503 - 6199

FISH and WILDLIFE SERVICE
BUREAU of LAND MANAGEMENT
NATIONAL PARK SERVICE
BUREAU of INDIAN AFFAIRS

FOREST SERVICE

OSM 21049.KD

AUG 26 2021

Thomas Baker, Chair
Northwest Arctic Subsistence Regional Advisory Council
c/o Office of Subsistence Management
1011 E. Tudor Road, M/S 121
Anchorage, AK 99503-6199

Dear Chairman Baker:

The Federal Subsistence Board (Board) met on January 26-29, 2021 via teleconference to consider proposed changes to Federal subsistence management regulations for the harvest of fish and shellfish on Federal Public lands and waters in Alaska, fisheries closure reviews, and a nonrural determination proposal. This letter is to provide a report on the actions taken by the Board on proposals and closure reviews affecting Federally qualified subsistence users.

Section 805(c) of the Alaska National Interest Lands Conservation Act (ANILCA) provides that the Board will accept the recommendations of a Subsistence Regional Advisory Council (Council) regarding take unless, (1) the recommendation is not supported by substantial evidence, (2) the recommendation violates recognized principles of fish and wildlife management, or (3) adopting the recommendation would be detrimental to the satisfaction of subsistence needs. When a Council's recommendation is not adopted, the Board is required by Secretarial regulations to set forth the factual basis and reasons for the decision.

Out of 14 fisheries proposals submitted, one proposal (FP21-04) was withdrawn by the proponent. The Board agreed with the recommendations of the Regional Advisory Councils, in whole or with modifications, on 9 proposals. The Board deferred its decision on Proposal FP21-10 until the next fisheries cycle to allow conflicting user groups to meet and attempt to reach a compromise. The Board reviewed 12 fisheries closure reviews and accepted the recommendations of the Regional Advisory Councils on 10 of 12 fisheries closure reviews. The Board voted to maintain status quo on 2 of them (FCR21-01 and FCR21-22) and to eliminate one of the closures (FCR21-06). The Board deferred 7 of 12 fisheries closure reviews (FCR21-08, -09, -11, -13, -16, -18, and -19) until next fisheries cycle to allow the Council to meet with communities and discuss the closures. The Board deliberated one rural determination proposal RP19-01 and agreed with the Southcentral Alaska Subsistence Regional Advisory Council recommendation with modification.

Details of these actions and the Boards' deliberations are contained in the meeting transcriptions. Copies of the transcripts may be obtained by calling toll free number 1-800-478-1456 and are available online at the Federal Subsistence Management Program website, https://www.doi.gov/subsistence.

The Board uses a consensus agenda on those proposals and closure reviews where there is agreement among the affected Regional Advisory Council(s), a majority of the Interagency Staff Committee, and the Alaska Department of Fish and Game concerning a proposed regulatory action. These fisheries proposals and closure reviews were deemed non-controversial and did not require a separate discussion. The Board did not address any fisheries proposals on the consensus agenda affecting the Northwest Arctic Region. There were also no proposals on the non-consensus agenda affecting the Northwest Arctic Region.

The Federal Subsistence Board appreciates the Northwest Arctic Council's active involvement in, and diligence with the regulatory process. The ten Regional Advisory Councils continue to be the foundation of the Federal Subsistence Management Program, and the stewardship shown by the Regional Advisory Council chairs and their representatives at the Board meeting was noteworthy.

If you have any questions regarding the summary of the Board's actions, please contact Katerina Wessels, Council Coordination Division Supervisor, at 907-786-3885 or *katerina_wessels@fws.gov*.

Sincerely,

Anthony Christianson,
Chair

cc: Federal Subsistence Board
Northwest Arctic Alaska Subsistence Regional Advisory Council members
Sue Detwiler, Assistant Regional Director, Office of Subsistence Management
Amee Howard, Deputy Assistant Regional Director and Acting Fisheries Division Supervisor
Office of Subsistence Management
Robbin La Vine, Policy Coordinator, Office of Subsistence Management
George Pappas, State Subsistence Liaison, Office of Subsistence Management
Katerina Wessels, Council Coordination Division Supervisor
Office of Subsistence Management
Karen Deatherage, Subsistence Council Coordinator, Office of Subsistence Management
Interagency Staff Committee
Administrative Record

Presentation Procedure for Proposals and Closure Reviews

1. **Introduction and Presentation of Draft Staff Analysis**
2. **Report on Board Consultations:**
    a. Tribes
    b. ANCSA Corporations
3. **Agency Comments:**
    a. ADF&G
    b. Federal
    c. Tribal
4. **Advisory Group Comments**:
    a. Other Regional Advisory Council(s)
    b. Fish and Game Advisory Committees
    c. Subsistence Resource Commissions
5. **Summary of Written Public Comments**
6. **Public Testimony**
7. **Regional Council Recommendation (motion to support)**
8. **Discussion/Justification**
    - Is the recommendation consistent with established fish or wildlife management principles?
    - Is the recommendation supported by substantial evidence such as biological and traditional ecological knowledge?
    - Will the recommendation be beneficial or detrimental to subsistence needs and uses?
    - If a closure is involved, is closure necessary for conservation of healthy fish or wildlife populations, or is closure necessary to ensure continued subsistence uses?
    - Discuss what other relevant factors are mentioned in OSM Draft Staff Analysis
9. **Restate final motion for the record**
10. **Council's Vote**

WP22-45 Executive Summary	
General Description	Wildlife Proposal WP22-45 requests to create specific harvest regulations for Alaska hare (*Lepus othus*) in Units 18, 22, and 23. *Submitted by: Alaska Department of Fish and Game.*
Proposed Regulation	**Unit 18— Hare** *Hare (Snowshoe ~~and Tundra)~~: No limit* — *July 1 – June 30* ***Alaska Hare: 2 hare per day / 6 per season*** — ***Sept. 1 – April 15*** **Unit 22— Hare** *Hare (Snowshoe ~~and Tundra)~~: No limit* — *Sept. 1 – April 15* ***Alaska Hare: 2 hare per day / 6 per season*** — ***Sept. 1 – April 15*** **Unit 23— Hare** *Hare (Snowshoe ~~and Tundra)~~: No limit* — *July 1 – June 30* ***Alaska Hare: 2 hare per day / 6 per season*** — ***Sept. 1 – April 15***
OSM Preliminary Conclusion	**Support** Proposal WP22-45 **with modification** to shorten the season to Aug. 1 – May 31 and to modify the definition of hare in Federal regulations. The modified regulations should read: **§100.25(a) Definitions:** *Hare or hares collectively refers to all species of hares (commonly called rabbits) in Alaska and includes snowshoe hare and tundra **or Alaska** hare.* **Unit 18— Hare** *Hare (Snowshoe ~~and Tundra)~~: No limit* — *July 1 – June 30* ***Alaska Hare: 2 hare per day / 6 per season*** — ***Aug. 1 – May 31*** **Unit 22— Hare**

	Hare (Snowshoe ~~and Tundra)~~: No limit *Sept. 1 – April 15* ***Alaska Hare: 2 hare per day / 6 per season*** ***Aug. 1 – May 31*** **Unit 23— Hare** *Hare (Snowshoe ~~and Tundra)~~: No limit* *July 1 – June 30* ***Alaska Hare: 2 hare per day / 6 per season*** ***Aug. 1 – May 31***
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council	
Seward Peninsula Subsistence Regional Advisory Council	
Northwest Arctic Subsistence Regional Advisory Council	
North Slope Subsistence Regional Advisory Council	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

DRAFT STAFF ANALYSIS
WP22-45

ISSUES

Proposal WP22-45, submitted by Alaska Department of Fish and Game (ADF&G), requests to create specific harvest regulations for Alaska hare (*Lepus othus*) in Units 18, 22, and 23.

DISCUSSION

The proponent states that, the once (as recently as the 1980s) abundant Alaska hare in Units 18, 22, and 23 is now at a very low density and has a patchy distribution throughout the Yukon-Kuskokwim Delta (YKD), Seward Peninsula, and Northwestern Alaska region. In Alaska, the species resides only throughout the extreme western and southwestern portions of the state. Very little is known about the Alaska hare, but the apparent decrease in abundance may have been caused by changes in habitat, predation, human harvest, or other natural cyclical events. Although seemingly more abundant in Units 22 and 23, there are infrequent observations of Alaska hare throughout the YKD and Seward Peninsula. Alaska hares are not highly productive; they have only one, relatively small-sized litter of young per year. The proponent believes that the limited-management approach of the last 50 years no longer sufficiently addresses appropriate conservation of this species. This proposal would reduce hunting opportunity for this species both in terms of season duration and harvest limits. The reduction in harvest may assist Alaska hare populations to increase throughout Units 18, 22, and 23.

The proponent also requested establishing a human use salvage requirement for hare in Units 18, 22 and 23. However, this provision already exists under Federal regulations (see existing Federal regulations section) and is therefore not considered further in this analysis.

Note: The Alaska hare is sometimes called jack rabbits, tundra hare, or arctic hare (e.g. Anderson 1978; Klein 1995; Murray 2003; ADF&G 2019). Federal subsistence regulation uses the term tundra hare, but Alaska hare appears to be the dominate term in contemporary usage, including in State regulation. This analysis uses the terms Alaska hare and tundra hare synonymously. It should also be noted that the Alaska or tundra hare is a distinct species from the snowshoe hare, despite the inclusion of both species in the same Federal regulation.

Existing Federal Regulation

§100.25(j)(2) If you take wildlife for subsistence, you must salvage the following parts for human use:

(iv) The hide or meat of squirrels, hares, marmots, beaver, muskrats, or unclassified wildlife.

Unit 18 —Hare

Hare (Snowshoe and Tundra): No limit	*July 1-June 30*

Unit 22—Hare

Hare (Snowshoe and Tundra): No limit	*Sept. 1 – April 15*

Unit 23—Hare

Hare (Snowshoe and Tundra): No limit	*July 1- June 30*

Proposed Federal Regulation

§100.25(j)(2) If you take wildlife for subsistence, you must salvage the following parts for human use:

(iv) The hide or meat of squirrels, hares, marmots, beaver, muskrats, or unclassified wildlife.

Unit 18— Hare

Hare (Snowshoe ~~and Tundra)~~: No limit	*July 1 – June 30*
Alaska Hare: 2 hare per day / 6 per season	***Sept. 1 – April 15***

Unit 22— Hare

Hare (Snowshoe ~~and Tundra)~~: No limit	*Sept. 1 – April 15*
Alaska Hare: 2 hare per day / 6 per season	***Sept. 1 – April 15***

Unit 23— Hare

Hare (Snowshoe ~~and Tundra)~~: No limit	*July 1 – June 30*
Alaska Hare: 2 hare per day / 6 per season	***Sept. 1 – April 15***

Existing State Regulation

Unit 18, 22, 23— Hare

Snowshoe hare: no limit	*No closed season*
Alaska hare: two per day, six total	*Aug 1 – May 31*

Hunters must salvage the hide or meat of Alaska hares taken 18, 22, and 23

Relevant Federal Regulation

§100.25(a) Definitions:

Hare or hares collectively refers to all species of hares (commonly called rabbits) in Alaska and includes snowshoe hare and tundra hare.

Extent of Federal Public Lands

Unit 18 is comprised of 66.7% Federal public lands and consist of 64.0% U.S. Fish and Wildlife Service (USFWS) managed lands and 2.7% Bureau of Land Management (BLM) managed lands.

Unit 22 is comprised of 43.5% Federal public lands and consist of 28.1% BLM managed lands, 12.4% NPS managed lands, and 3.0% USFWS managed lands.

Unit 23 is comprised of 70.5% Federal public lands and consist of 39.6% NPS managed lands, 21.8% BLM managed lands, and 9.1% USFWS managed lands.

Customary and Traditional Use Determinations

The Federal Subsistence Board (Board) has not made a customary and traditional use determination for hare in Units 18, 22, and 23. Therefore, all rural residents of Alaska may harvest this species in these units.

Regulatory History

Federal subsistence regulations for hare in Units 18 and 23 have not changed since 1990, when the Federal subsistence management program began. At that time, a year-round season with no harvest limit was adopted from State regulation.

Federal subsistence regulations for hare in Unit 22 were established in 1990, when the Federal subsistence management program began. At that time, a year-round season with no harvest limit was adopted from State regulation.

In 1992, Proposal P92-098 was submitted by a member of the public requesting complete closure of muskrat trapping and hare harvest in Unit 23 until the population rebounded. The proposal was rejected by the Board.

In 1995, Proposal P95-46 was submitted by the Seward Peninsula Subsistence Regional Advisory Council to shorten the season for hares in Unit 22 from July 1 – June 30 to Sept. 1 – April 15. The intent of the proposal was to close the season for hares during the mating, breeding and birthing season. The proposal was adopted by the Board.

ADF&G submitted Proposals 15 and 43 for the Alaska Board of Game's (BOG) consideration during the January 2020 meeting in Nome. Both proposals consisted of two parts. The first part of each proposal was for customary and traditional use findings of Alaska hares in Units 18, 22, and 23. The BOG adopted a positive finding for these units. The second part, noting very low densities and patchy distribution of Alaska hares in the units, ADF&G requested the reduction of season and harvest limits in Units 18 and 22. For consistency the BOG adopted an identical management structure in Units 18, 22, and 23 for the Alaska hare. The State adopted a harvest limit of two per day with a total of six per season and an Aug 1 – May 31 season that required hunters to salvage the hide or meat for human usage (BOG 2020).

Current Events Involving the Species

The ADF&G also submitted Wildlife Proposal WP22-39 to create specific harvest regulations for Alaska hare in Units 9 and 17.

Biological Background

Taxonomy of the three species of northern hares remains unresolved, which almost certainly contributes to the confusion around common names. Current taxonomic descriptions rely on geographic distributions, rather than morphologic or molecular distinctions, which remain ambiguous. The arctic hare (*Lepus arcticus*) is widely distributed across tundra habitats of Greenland and northern Canada. The mountain hare (*L. timidus*) occurs in northern Eurasia, from eastern Russia to Scandinavia (Cason 2016). Alaska hares are limited to coastal western and southwestern Alaska, ranging from the Baldwin and Seward Peninsulas in the north, to the Alaska peninsula in the south (Merizon and Carroll 2019).

Alaska hares are among the largest of the *Lepus* genus, weighing approximately 8.5 – 10.5 pounds (Murray 2003). They occupy coastal lowlands, wet meadows, and willow and alder thickets (Merizon and Carroll 2019), and feed on willow buds, leaves, and crowberries (Murray 2003). They are typically solitary, except during breeding season. Alaska hares reproduce a single litter each year, breeding between April and June and giving birth approximately 6.5 weeks later. Litters contain 6.3 young on average, which are fully weaned within 5 – 9 weeks (Murray 2003). Alaska hares can be identified by the black-tipped ears and are significantly larger than the snowshoe hare (ADG&G 2019).

The Alaska hare is among the most poorly understood wildlife species in Alaska. Hunter

questionnaires have been the only source of information about the species and there has been no long-term population monitoring. Beginning in 2017, ADF&G began to evaluate capture techniques to better understand this species. They also embarked on a tour of rural communities throughout the range of the Alaska hare to discuss local observations, historical abundance, and harvest patterns. In 2018, a multi-year study was initiated to evaluate movement and mortality, as well as long-term capture techniques. Anecdotal observations suggest that Alaska hare abundance is well below that observed in the 1950s and 1960s, throughout its range. It is unknown whether the population has been in a long-term decline, or whether it experienced a crash and now exists as a low density but relatively stable population (Merizon and Carroll 2019).

Harvest History

Little is known about the harvest of Alaska hare, which is one of the least accessible small game species. However, it is harvested throughout the communities of western and southwestern Alaska as documented in household harvest surveys (Merizon and Carroll 2019, **Table 1**). Some insights into small game harvest are available in ADF&G's Statewide Small Game Hunter Survey, results for which were compiled for RY2011/12 and RY2013/14.

The most recent results, from RY2013/14, show that half of the hunters responding to the survey reported hunting small game in Units 13, 14 or 20, while only about 6% of respondents reported hunting small game in Unit 18, about 4% in Unit 22 and about 3% in Unit 23. While response rates of those receiving surveys were lower for the Western Rural area, which includes Units 18, 22, and 23 (16%) versus statewide (30%). Most Alaska resident respondents reported hunting within the geographic region where they reside, but only 3% of respondents statewide reported participating in Federal subsistence small game hunts. Respondents reported that they hunt small game opportunistically while engaging in other activities, but also target small game specifically. Statewide, ptarmigan and spruce grouse were targeted most frequently. Within the Western Rural geographical area, respondents reported hunting for Alaska hare for an average of 2.5 days each year (Merizon et al. 2015).

Table 1: Alaska hare harvest by community (Mikow et al. 2020)

Unit 18			Unit 22			Unit 23		
Community	Study Year	Estimated total Harvest	Community	Study Year	Estimated total Harvest	Community	Study Year	Estimated total Harvest
Akiachak	1998	0	Brevig Mission	1989	6	Ambler	2012	0
Akiak	2010	42	Golovin	1989	4	Buckland	2003	16
Alakanuk	1980	669		2012	0	Deering	1994	12
Bethel	2012	173	Shishmaref	1989	112		2013	3
Eek	2013	7		1995	62	Kiana	2006	0
Emmonak	1980	806		2014	16	Kivalina	1964	0
	2008	24	Stebbins	1980	110		1982	0
Kotlik	1980	552		2013	2		1983	0
Kwethluk	2010	52	Wales	1993	1		1992	0
Mountain Village	1980	66				Kobuk	2009	4
	2010	63					2012	0
Napakiak	2011	43				Kotzebue	1986	64
Napaskiak	2011	20					1991	97
Nunam Iqua (Sheldon Point)	1980	92					2014	0
Oscarville	2010	0				Noatak	1994	0
Pilot Station	2013	0				Noorvik	2008	0
							2012	31

Unit 18		
Quinhagak	1982	82
	2013	15
Russian Mission	2011	2
Scammon Bay	2013	165
Tuluksak	2010	20
Tuntutuliak	2013	0

Unit 23		
Selawik	2011	4
Shungnak	2002	0
	2012	0

*Note- Some Community/Study years not included in this table only showed harvest for "Hares, Jackrabbits, Unknown." Actual harvest maybe higher.

Effects of the Proposal

If this proposal is adopted, opportunity to harvest Alaska hares under Federal subsistence regulation would be reduced. Given that the State season has already been reduced for Units 18, 22, and 23, this represents an actual reduction of opportunity for Federally qualified subsistence users. This change would result in reduced harvest of Alaska hare, particularly since it includes both a daily and an annual harvest limit. Though neither harvest nor population size are quantified, harvest reduction has the potential to improve the conservation status of Alaska hare populations in Units 18, 22, and 23, which are reported to be well below historical size. Adoption of this proposal would also result in Federal regulations becoming more restrictive than State regulations.

OSM PRELIMINARY CONCLUSION

Support Proposal WP22-45 **with modification** to shorten the season to Aug. 1 – May 31 and to modify the definition of hare in Federal regulations.

The modified regulations should read:

§100.25(a) Definitions:

*Hare or hares collectively refers to all species of hares (commonly called rabbits) in Alaska and includes snowshoe hare and tundra **or Alaska** hare.*

Unit 18— Hare

Hare (Snowshoe ~~and Tundra)~~: No limit	*July 1 – June 30*
Alaska Hare: 2 hare per day / 6 per season	***Aug. 1 – May 31***

Unit 22— Hare

Hare (Snowshoe ~~and Tundra)~~: No limit	*Sept. 1 – April 15*
Alaska Hare: 2 hare per day / 6 per season	***Aug. 1 – May 31***

Unit 23— Hare

Hare (Snowshoe ~~and Tundra)~~: No limit	*July 1 – June 30*
Alaska Hare: 2 hare per day / 6 per season	***Aug. 1 – May 31***

Justification

Anecdotal information indicates that Alaska hares in Units 18, 22, and 23 are scarcer than they have been in the past. Biologically, it is appropriate to restrict harvest in such a situation. Reducing the season from Jul. 1 – Jun. 30 to Aug. 1 – May 31 reduces the season by approximately 16%, yet continues to offer subsistence users the opportunity to harvest Alaska hares during fall, winter, and spring when they are engaging in other subsistence or recreational activities. The proponent requested a season which would be more restrictive than existing State regulations. Additionally, Federal qualified subsistence users would still be able to harvest Alaska hare in August and May under the more liberal State regulations. This modification would align State and Federal seasons, reducing regulatory complexity and user confusion.

Imposing a harvest limit of 2 per day and 6 annually may have a greater effect on reducing overall harvest and promoting population recovery than shortening the season. Collectively, changes in season and harvest limit offer a balance between imposing conservation measures and allowing for the continuation of subsistence uses in the near term. Any positive effect these changes have on the Alaska hare population will benefit subsistence users in the long term.

LITERATURE CITED

ADF&G. 2019. Alaska hare (*Lepus othus*) species profile. Alaska Department of Fish and Game. Juneau, AK. http://www.adfg.alaska.gov/index.cfm?adfg=alaskahare.main. Retrieved May 24, 2021.

Anderson, H.L. 1974. Range of the tundra hare. The Murrelet. 59(2): 72-74

BOG. 2020. Meeting audio and Proposal 15 and 43 slide presentation of Alaska Board of Game proceedings. January 17-20, 2020. Mini Convention Center, Nome, AK.

Cason, M.M. 2016 Revised distribution of and Alaskan endemic, the Alaska Hare (*Lepus othus*), with implications for taxonomy, biogeography, and climate change. Arctic Science. 2:50 – 66.

Klein, D.R. 1995. Tundra or Arctic hare. Page 259 in E.T. LaRoe, G.S. Farris, C.E. Puckett, P.D. Doran and M.J. Mac, eds. Our living resources: A report to the nation of the distribution, abundance, and health of U.S. plants, animals, and ecosystems. U.S. Department of the Interior. National Biological Service. Washington, D.C. 530 pp.

Merizon, R.A., S.J. Carson and L.S. Honig. 2015. Statewide small game hunter survey, 2014. ADF&G. Juneau, AK

Merizon, R.A. and C.J. Carroll. 2019. Status of grouse, ptarmigan, and hare in Alaska, 2017 and 2018. ADF&G. Juneau, AK.

Mikow, E.H., D.M. Runfola, and L. Naaktgeboren. 2020. Customary and Traditional Use of Hares in Game Management Units 18, 22, and 26A. ADF&G, Division of Subsistence Technical Paper No. BOG 2020-01, Fairbanks, AK.

Murray, D.L. 2003. Snowshoe hares and other hares. Pages 147 – 175 in G.A Feldhamer, B.C. Thompson and J.A. Chapman, eds. Wild mammals of North America: Biology Management and Conservation. The Johns Hopkins University Press. Baltimore, MD. 1216 pp.

WP22-50 Executive Summary	
General Description	Wildlife Proposal WP22-50 requests the beaver harvest limit be changed from 50 and 30 beaver in Unit 23, Kobuk and Selawik River drainages and Unit 23 remainder, respectively, to no harvest limit in both trap areas. *Submitted by: Northwest Arctic Subsistence Regional Advisory Council*
Proposed Regulation	**Unit 23—Beaver Trapping** *Unit 23, the Kobuk and Selawik River drainages— July 1-June 30* *~~50 beaver~~* ***No limit*** *Unit 23, remainder— ~~30 beaver~~* ***No limit*** *July 1-June 30*
OSM Preliminary Conclusion	**Support** Proposal WP22-50 with **modification** to combine Unit 23 trap areas. The modified regulations should read: **Unit 23—Beaver Trapping** *Unit 23, ~~the Kobuk and Selawik River drainages— 50 beaver~~* ***No limit*** *July 1-June 30* *~~Unit 23, remainder— 30 beaver~~* *~~July 1-June 30~~*
Northwest Arctic Subsistence Regional Advisory Council	
North Slope Subsistence Regional Advisory Council	
Kodiak/Aleutians Subsistence Regional Advisory Council	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

DRAFT STAFF ANALYSIS
WP22-50

ISSUES

Proposal WP22-50, submitted by the Northwest Arctic Subsistence Regional Advisory Council, requests the beaver harvest limit be changed from 50 and 30 beaver in Unit 23, Kobuk and Selawik River drainages and Unit 23 remainder, respectively, to no harvest limit in both trap areas.

DISCUSSION

The proponent states that the proposed changes would align Federal beaver trapping regulations with the more liberal State regulations as well as provide increased harvest opportunity for Federally qualified subsistence users.

Existing Federal Regulation

Unit 23—Beaver Trapping

Unit 23, the Kobuk and Selawik River drainages—50 beaver	*July 1-June 30*
Unit 23, remainder—30 beaver	*July 1-June 30*

Proposed Federal Regulation

Unit 23—Beaver Trapping

Unit 23, the Kobuk and Selawik River drainages—~~50 beaver~~ ***No limit***	*July 1-June 30*
Unit 23, remainder—~~30 beaver~~ ***No limit***	*July 1-June 30*

Existing State Regulation

Unit 18, 22, and 23—Beaver Trapping

Residents and Non-residents: No Limit *No Closed Season*

Extent of Federal Public Lands

Federal public lands comprise approximately 70.53% of Unit 23 and consists of 9.14% U.S. Fish and Wildlife Service (FWS) managed lands, 21.77% Bureau of Land Management (BLM) managed lands, and 39.61% National Park Service (NPS) managed lands.

Customary and Traditional Use Determinations

The Federal Subsistence Board has not made a customary and traditional use determination for beaver in Unit 23. Therefore, all rural residents of Alaska may harvest this species in this unit.

Regulatory History

There has been a general trend for liberalize trapping and hunting regulation in Unit 23. Federal regulations for beaver trapping in Unit 23 Kobuk and Selawik River drainages (Unit 23 Kobuk/Selawik) and Unit 23 remainder were adopted from State regulations in 1990. The season for both trap areas ran from Nov. 1-June 10. The harvest limits for Unit 23 Kobuk/Selawik and Unit 23 remainder were 50 and 30 beaver per season, respectively.

In 1992, Proposal P92-096 was submitted requesting an increase of harvest limits for beaver in Unit 23 remainder from 50 beaver to a harvest limit of 75 beaver per season. The intent of the proposal was to reduce the number of beaver and the associated dams that were thought to be impacting whitefish. The proposal was not based on subsistence need, but on a desire to control one animal population for the benefit of another. Federal subsistence management regulations govern the take and use of wildlife for subsistence uses only and, as a result, the proposal was rejected as outside the authority of the Federal Subsistence Board (Board).

In 1993, the Federal Subsistence Board (Board) adopted Proposal P93-009 requesting to place the dates of all seasons in which beavers could be taken with firearms within the same sections to make the regulations easier to read. Adopting the proposal did not change subsistence seasons, harvest limits, or methods and means.

In 1999, the Alaska Board of Game (BOG) during their fall meeting adopted a year-round hunting season for beaver in Unit 23 with no harvest limit or sealing requirement. In addition, the trapping season was extended to year round with no harvest limit and no sealing requirement. At the spring 2000 BOG meeting beaver was defined as a ‘fur animal’ and adopted in regulation. The designation of beaver as a ‘fur animal’, as well as a ‘furbearer’, allows take under hunting and trapping regulations, respectively. These regulations went into effect July 1, 2000.

In 2007, the Board adopted Proposal WP07-51 requesting a hunting season for beaver in Unit 23 with no closed season, and no harvest limit. The intent of the proposal was to accommodate subsistence hunting during the spring, summer and fall for food and fur and to align Federal and State regulations.

Biological Background

State management goals and objectives for furbearers in Unit 23 are as follows (Harper and McCarthy 2013):

- Maintain viable numbers of furbearers to provide for subsistence, commercial and recreational uses of furbearers.
- Monitor harvest through the fur sealing program, annual hunter/trapper questionnaires and community-based harvest assessments
- Actively work to increase the number of license vendors and fur sealers in Unit 23
- Improve compliance with current sealing requirements through increased public communication and education.

Artic landscapes are in transition due to changes in the climate. Increased warmth in the summers and longer growing seasons are contributing to increasing tundra productivity and shrub-dominated vegetation. Beavers have increasingly moved into tundra areas during the past 20 years. The abundance of beaver colonization into the tundra is increasing beavers' influences on waterbodies (Jones et al 2020).

Beaver numbers remain high in Unit 23, particularly in the Selawik and Kobuk river drainages. In these drainages, beavers have fully occupied high quality habitat and now widely occur in marginal areas as well. Local residents are concerned about beavers damming streams important for subsistence fishing and about the threat of giardia in their drinking water (Harper and McCarthy 2013).

Harvest History

Current harvest data is limited because few people have sealed pelts since the Alaska Department of Fish and Game (ADF&G) made beaver sealing requirements voluntary for Unit 23 in 2000 (**Figure 1**). The most recent community harvest surveys in the ADF&G Community Subsistence Information System is 2014 (**Table 1,** ADF&G. 2021), which demonstrates that the reported harvest greatly underestimates actual harvest (ADF&G 2010, 2012, 2013a, 2013b, Parr 2016, 2017, 2018, Spivey 2019, 2020). The data suggests that beaver harvesting varies greatly by year and community.

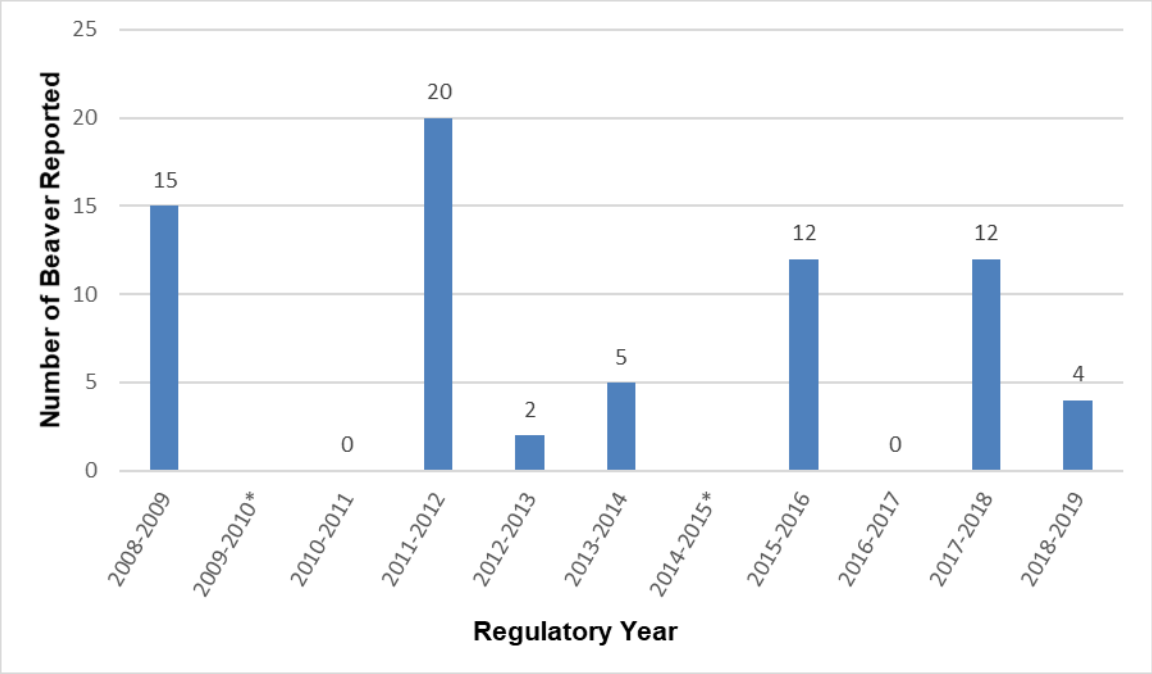


Figure 1. Number of beavers reported harvested in Unit 23 (ADF&G 2010, 2012, 2013a, 2013b, Parr 2016, 2017, 2018, Spivey 2019, 2020). *No report was written for 2009/10, 2014/2015.

Table 1. ADF&G Community subsistence harvest reported in Unit 23 (ADF&G 2021)

Year	Community	Reported Harvest
2010	Kivalina	0
2010	Noatak	4
2011	Selawik	120
2012	Ambler	116
2012	Kobuk	56
2012	Noovik	110
2012	Shungnak	68
2013	Deering	0
2014	Kotzebue	85
2014	Point Hope	0

Effects of the Proposal

If this proposal is adopted, the beaver harvest limit would be changed from 50 and 30 beaver per season in Unit 23 Kobuk/Selawik and Unit 23 remainder, respectively, to no harvest limit in both trap areas.

No impacts to the beaver population or user groups is expected as Federally qualified subsistence users can already trap an unlimited number of beavers on most (non-National Park) Federal lands under the more liberal State regulations. Additionally, adoption of this proposal would align Federal and State regulations, reducing the regulatory complexity for users.

OSM PRELIMINARY CONCLUSION

Support Proposal WP22-50 with **modification** to combine Unit 23 trap areas.

The modified regulations should read:

Unit 23—Beaver Trapping

Unit 23, ~~the Kobuk and Selawik River drainages—50 beaver~~ ***No limit***	*July 1-June 30*
~~*Unit 23, remainder—30 beaver*~~	~~*July 1-June 30*~~

Justification

Beaver populations appear stable at high levels (or even expanding) in Unit 23, and harvest levels do not appear to be having any negative impacts on beaver populations. Federally qualified subsistence users are already able to trap on most Federal public lands under the more liberal State regulations. Adopting this proposal would provide Federally qualified subsistence users with additional harvest opportunities for beaver trapping under Federal regulations. Combining Unit 23 Kobuk/Selawik and Unit 23 remainder trap areas would help simplify Federal regulations. Additionally, Federal and State regulations for beaver trapping in Unit 23 would be aligned, reducing regulatory complexity.

LITERATURE CITED

ADF&G. 2010. Trapper questionnaire; Statewide annual report: 1 July 2008 – 30 June 2009. ADF&G, Division of Wildlife Conservation, Juneau AK. Internet: http://www.adfg.alaska.gov/static/hunting/trapping/pdfs/trap2009.pdf.

ADF&G. 2012. Trapper questionnaire; Statewide annual report: 1 July 2010 – 30June 2011. ADF&G, Juneau AK. Internet: Wildlife Management Report, ADF&G/DWC/WMR-2012-2.

ADF&G 2013a. 2013. Trapper questionnaire; Statewide annual report: 1 July 2011 – 30June 2012. ADF&G, Juneau AK. Internet: Wildlife Management Report, ADF&G/DWC/WMR-2013-4.

ADF&G 2013b. 2013. Trapper questionnaire; Statewide annual report: 1 July 2012 – 30June 2013. ADF&G, Juneau AK. Internet: Wildlife Management Report, ADF&G/DWC/WMR-2013-5.

ADF&G. 2021. Community Subsistence Information System. http://www.adfg.alaska.gov/sb/CSIS/index.cfm?ADFG=main.GMUData&GMUSub=23&ResCatCD=220200000&CFTREEITEMKEY=Beaver. Retrieved: June 14, 2021.

Harper, P., and L. A. McCarthy, editors. 2013. Furbearer management report of survey-inventory activities 1 July 2009–30 June 2012. ADF&G, Species Management Report ADF&G/DWC/SMR-2013-5, Juneau. AK

Jones, Benjamin M., K.D. Tape, J.A. Clark I. Nitze, G. Grosse, and J. Disbrow. 2020. Increase in beaver dams controls surface water and thermokarst dynamics in an Arctic tundra region, Baldwin Peninsula, northwestern Alaska. Environ. Res. Lett. 15: 075005

Parr, B. L. 2016. 2015 Alaska trapper report: 1 July 2015–30 June 2016. ADF&G, Division of Wildlife Conservation, Wildlife Management Report ADF&G/DWC/WMR-2016-1, Juneau. AK

Parr, B. L. 2017. 2016 Alaska trapper report: 1 July 2016–30 June 2017. ADF&G, Division of Wildlife Conservation, Wildlife Management Report ADF&G/DWC/WMR-2017-3, Juneau. AK

Parr, B. L. 2018. 2013 Alaska trapper report: 1 July 2013–30 June 2014. ADF&G, Wildlife Management Report ADF&G/DWC/WMR-2018-1, Juneau. AK

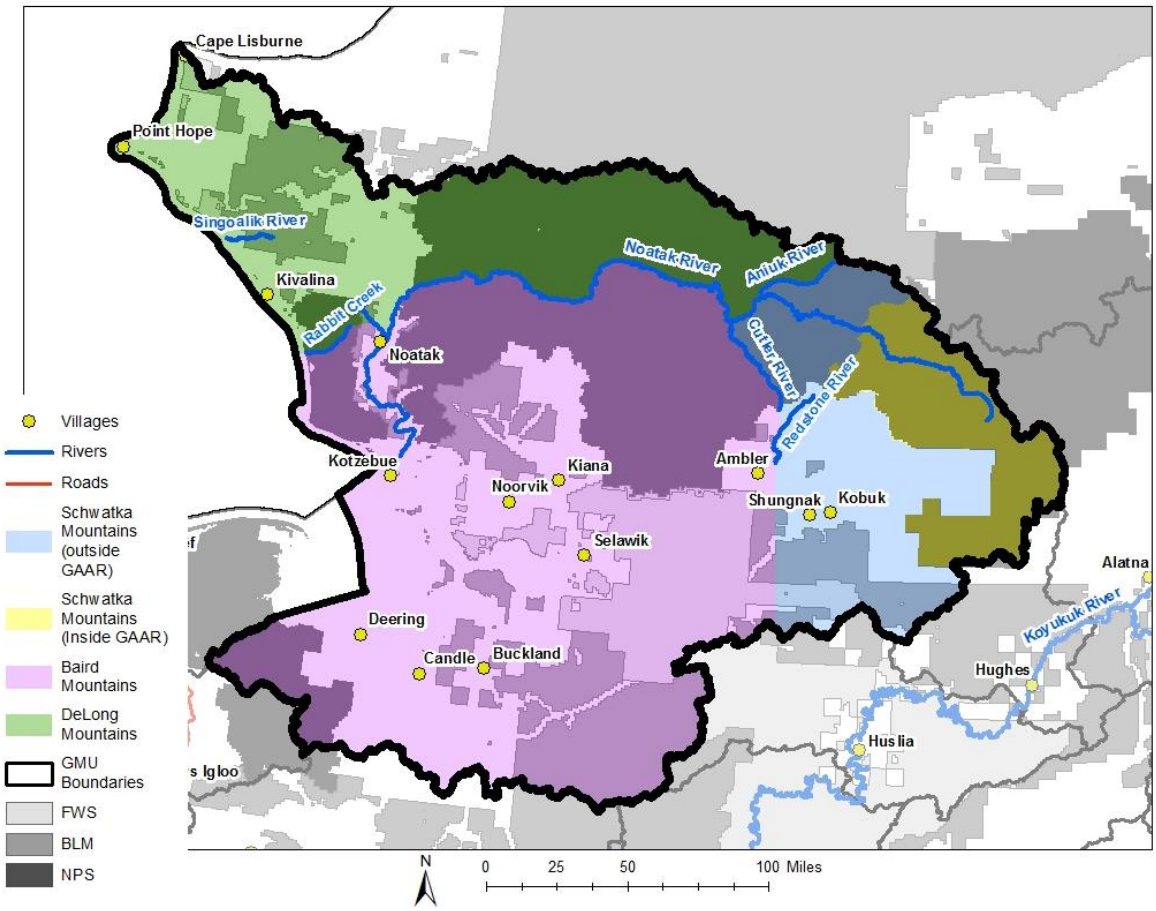
Spivey, T. J. 2019. 2017 Alaska trapper report: 1 July 2017–30 June 2018. ADF&G, Division of Wildlife Conservation, Wildlife Management Report ADF&G/DWC/WMR-2019-3, Juneau. AK

Spivey, T. J. 2020. 2018 Alaska trapper report: 1 July 2018–30 June 2019. ADF&G, Division of Wildlife Conservation, Wildlife Management Report ADF&G/DWC/WMR-2020-1, Juneau. AK

WCR22–18 Executive Summary	
Closure Location and Species	Unit 23 (Baird Mountains) - Sheep
Current Regulation	**Unit 23–Sheep** *Unit 23, south of Rabbit Creek, Kiyak Creek, and the Noatak River, and west of the Cutler and Redstone Rivers (Baird Mountains)—1 sheep by Federal registration permit.* *May be announced* *Federal public lands are closed to the taking of sheep except by federally qualified subsistence users hunting under these regulations*
OSM Preliminary Conclusion	**Maintain status quo**
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

FEDERAL WILDLIFE CLOSURE REVIEW
WCR22-18

Closure Location: Unit 23 (Baird Mountains) (**Map 1)**—Sheep



Map 1. Federal subsistence sheep hunt areas in Unit 23.

Current Federal Regulation

Unit 23−Sheep

Unit 23, south of Rabbit Creek, Kiyak Creek, and the Noatak River, and west of the Cutler and Redstone Rivers (Baird Mountains)—1 sheep by Federal registration permit.	*May be announced*
Federal public lands are closed to the taking of sheep except by federally qualified subsistence users hunting under these regulations	

Closure Dates: Year-round

Current State Regulation

Unit 23−Sheep

Unit 23, residents and non-residents	*No open season*

Regulatory Year Initiated: 1999

Extent of Federal Public Lands

Unit 23 is comprised of 71% Federal public lands and consists of 40% National Park Service (NPS) managed lands, 22% Bureau of Land Management (BLM) managed lands, and 9% US Fish and Wildlife Service (USFWS) managed lands.

Customary and Traditional Use Determination

Residents of Unit 23 north of the Arctic Circle and Point Lay have a customary and traditional use determination for sheep in Unit 23.

Regulatory History

Declining sheep populations during the late 1980s prompted a series of State harvest closures. The requirement for State registration permits for sheep hunting in the Baird Mountains was established in 1982. The initial Federal subsistence hunting regulations in 1991 were established by adopting the existing State harvest limit of one ram with 7/8 curl in the fall hunt and one sheep with a harvest quota of 30 animals in the winter hunt. However, in 1991, low sheep numbers in the Baird Mountains prompted State emergency hunt closures, which continued through 1997. In 1991 and 1992, special actions adopted by the Federal Subsistence Board (Board) closed the sheep harvest south and east of the Noatak River (Baird Mountains), which was repeated by Special Actions through 1997/98 (FWS 1991, 1992, 1993, 1994).

The Alaska Board of Game (BOG) met in November 1997 and revisited sheep regulations in Unit 23. The western portion was re-described, dividing it into the Baird and Delong Mountain ranges. The number of sheep needed for subsistence was investigated by the State and determined to be 1-9 sheep for the DeLong Mountains and 18-47 sheep for the Baird Mountains. Based on that information and the fact that the surveys showed the first increase in sheep numbers in several years, the BOG preliminarily decided not to close the 1998/99 State season by Emergency Order and proceed with a Tier I harvest of 20 sheep in the Baird Mountains, with the final decision based on the results of the 1998 sheep surveys. The State season was scheduled to run August 10-April 30.

In July 1998, the Board approved a Special Action S98-04 adopting the State's sheep harvest zones in Unit 23 (Baird, Delong, and Schwatka Mountains), closing Federal public lands to non-Federally qualified users in the Baird Mountains, and setting up an August-April season for one full-curl ram (maximum of 20 for each mountain range). In May 1999, the Board adopted Proposal P99-48, putting the special action changes into the permanent regulations with the addition of allowing the

Superintendent of the Western Arctic National Parklands (WEAR) to annually announce the harvest quota and to divide the harvest into two seasons (fall and winter).

In May 2002, the Board adopted Proposal WP02-39, which implemented regulations for sheep harvest in Units 23 and 26A, including the requirement for trophy destruction of the harvested sheep horns. In 2004, the Board adopted Proposal WP04-72/73 with modification to eliminate the trophy destruction requirement and adopt a mixed-sex hunt with fixed quotas.

On August 8, 2014, ADF&G issued an Emergency Order closing sheep seasons in Units 23 and 26A for all resident and nonresident hunters. This was done in response to severe declines in sheep numbers in the Delong and Schwatka Mountains. The State initially issued no permits for its drawing hunt (DS384) in 2014, and the hunt was closed by Emergency Order later that year (Saito 2014, pers. comm.).

On August 25, 2014, the Board approved Temporary Special Action WSA14-03, which closed the sheep season on Federal public lands in Unit 23 and in Unit 26A, that portion west of Howard Pass and the Etivluk River for the 2014/15 season. This was done due to the same conservation concerns detailed in the State's Emergency Order.

In March of 2015, the BOG adopted Proposal 203, which closed all sheep seasons in Unit 23 and in Unit 26A, west of Howard Pass and the Etivluk River in response to the drastic population declines in the area. Hunt areas and hunt types were retained so that similar hunt regimes could be restored once the population recovered. Sheep seasons in Unit 23 have remained closed under State regulations.

In 2016, the Board adopted Proposal WP16-53 with modification to establish may-be-announced sheep seasons in the Baird and DeLong Mountain hunt areas of Unit 23 and to delegate authority to open and close the season, determine annual harvest quotas and limits to the Superintendent of WEAR.

Designated Hunter Permit System

In 1999, the Board adopted Proposal P99-48, which instituted a designated hunter permit system for sheep in the Baird and DeLong Mountain hunt areas of Units 23 and 26A. In 2002, Proposal WP02-38, submitted by the Northwest Arctic Subsistence Regional Advisory Council, requested that the designated hunter permit system be discontinued due to hunters abusing the system. The Board denied this request, but adopted Proposal WP02-39, which implemented the destruction of the horns for trophy value as a way to address the problems of one hunter taking too many sheep. The Board felt that removing the designated hunter permit system would have a detrimental effect on subsistence users.

Designated hunter permits are distributed by the NPS in their Kotzebue office to anyone who qualifies. To qualify, the person must be a rural resident of Unit 23 from any of the communities north of the Arctic Circle (all communities in Unit 23 except Deering and Buckland). In addition, the person must have a hunting license and a permit to hunt sheep. There is no limit to the number of sheep permits distributed. The hunt is closed once the quota has been reached.

Closure last reviewed: 2016 – WP16-53

Justification for Original Closure (ANILCA Section 815 (3) criteria):

> *Nothing in this title shall be construed as – (3) authorizing a restriction on the taking of fish and wildlife for nonsubsistence uses on public lands (other than national parks and monuments) unless necessary for the conservation of healthy populations of fish and wildlife, for the reasons set forth in section 816, to continue subsistence uses of such populations, or pursuant to other applicable law…*

The Board adopted the closure to allow for continued subsistence uses of a sheep population that was recovering from a severe decline associated with severe winters. The population was increasing, but was associated with a weak cohort of 4- to 8-year old sheep and a surplus of older rams (at least 9 years old and generally full-curl). It was determined that a small surplus of older rams was available in the Baird Mountains for a limited subsistence hunt (FSB 1999, FWS 1999).

Council Recommendation for Original Closure:

The Northwest Arctic Subsistence Regional Advisory Council supported Proposal P99-48 with modification to include a designated hunter system, to change the language from "up to 20 permits" to "up to 20 full-curl rams" and to change the phrase "Northwest Areas Parks Superintendent" to "Superintendent of Western Arctic National Parklands."

The North Slope Subsistence Regional Advisory Council supported Proposal P99-48 with modification to change the language from "up to 20 permits" to "up to 20 full curl rams" and to change the phrase "Northwest Area Park Superintendent" to "Superintendent of Western Arctic National Parklands."

State Recommendation for Original Closure:

The State did not support the portion of Proposal P99-48 pertaining to the DeLong Mountains, stating it was premature to make the temporary regulations permanent. ADF&G recommended the Board reevaluate the regulations after one or two years to determine if the subsistence harvest would justify the retention of the closure to Federal public land in the DeLong Mountains. ADF&G commented that since the Baird Mountains are virtually all Federal land, adjusting the Federal quota in this hunt area to allow for some harvest under State regulations is a not an issue.

Biological Background

The Dall's sheep in the Baird Mountains of Unit 23 are at the northwestern margin of their range in Alaska and because of this, stochastic weather events affect their populations more than sheep populations in areas with more abundant habitat and stable range conditions (Shults 2004, Westing 2011). In addition, declines in the presence and/or population of the Western Arctic caribou herd may also impact the Unit 23 sheep population as wolves prey more on sheep than caribou.

Sheep densities in Units 23 are low compared to other areas of the State (Singer 1984). Severe winters in the 1990s resulted in high natural mortality, dramatically reduced sheep numbers in the area, and caused the closure of the general and subsistence hunts between 1991 and 1995 (Shults 2004). Sheep

hunting in the Baird Mountains has been administered by the NPS since 1995.

ADF&G management objectives for sheep in Units 23 and western 26A are to monitor sheep with the NPS within each area at least once every 3 years to detect changes in population status. In addition, harvest is also monitored through harvest tickets, permits, and community-based harvest surveys (Westing 2011).

NPS management objectives for Dall's sheep include monitoring sheep abundance and sex-age composition across WEAR and Gates of the Arctic National Park and Preserve (GAAR) by conducting surveys every five years across these parklands and every other year in the western Baird Mountains subarea of WEAR (Lawler et al. 2009). The NPS now intends to try and monitor sheep on an annual basis, when funding and weather conditions allow.

Aerial surveys for sheep in the western Baird Mountains are conducted during July, following the formation of post-lambing aggregations (Shults 2004; Rattenbury 2015, pers. comm.). The survey area encompasses habitat that has the highest density of sheep in the Baird Mountains. However, the population is not closed and sheep are distributed, albeit at lower densities, throughout the Baird and Schwatka Mountains to the east (FWS 2004). During surveys, sheep are counted and classified as ewes, lambs, and rams (by horn size). The "ewe" class includes small rams that are indistinguishable from ewes during aerial surveys. A new survey methodology, using distance sampling (Schmidt et al. 2013) to estimate total abundance and sex and age composition, was implemented in the Western Baird Mountains in 2011. Consequently, the estimate from 2011 is not directly comparable to earlier minimum population counts and herd composition data (Rattenbury 2015, pers. comm.).

The NPS, in coordination with ADF&G, completed sheep surveys in the Western Baird Mountains in 2011 and from 2014-2019. Between 2011 and 2019, the sheep population ranged from 174-643 sheep The highest and lowest estimates occurred in 2011 and 2019, respectively, representing a 73% population decline (**Figure 1**) (Deacy 2020, pers. comm.).

Between 2011 and 2019, the lamb:100 ewe-like sheep ratio ranged from 1-52 lambs:100 ewe-like sheep with the highest ratio occurring in 2019 (**Figure 2**) (Deacy 2020, pers. comm.). Low lamb productivity in 2013 was partially attributed to the long and cold 2012-2013 winter, late spring and record cold temperatures in May 2013 (NPS 2014, unpublished data; Rattenbury et al. 2018).

Over the same time period, the total number of rams:100 ewe-like sheep ranged from 17-29 rams:100 ewe-like sheep (**Figure 2**). Between 2011 and 2018, the full curl ram:ewe-like sheep ratio ranged from 1-9 full curl rams:100 ewe-like (Deacy 2020, pers. comm.). These low ratios indicate there are very few to no large rams available for harvest (NPS 2014, unpublished data).

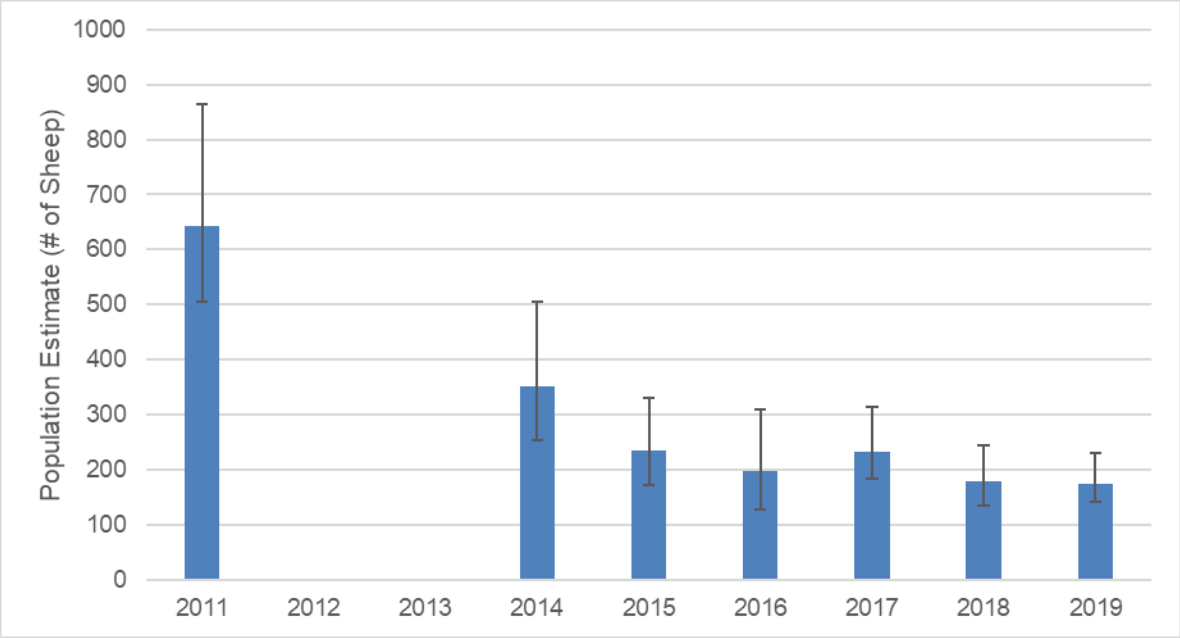


Figure 1. Sheep population estimates in the Western Baird Mountains. Error bars represent 95% confidence intervals (Deacy 2020, pers. comm.).

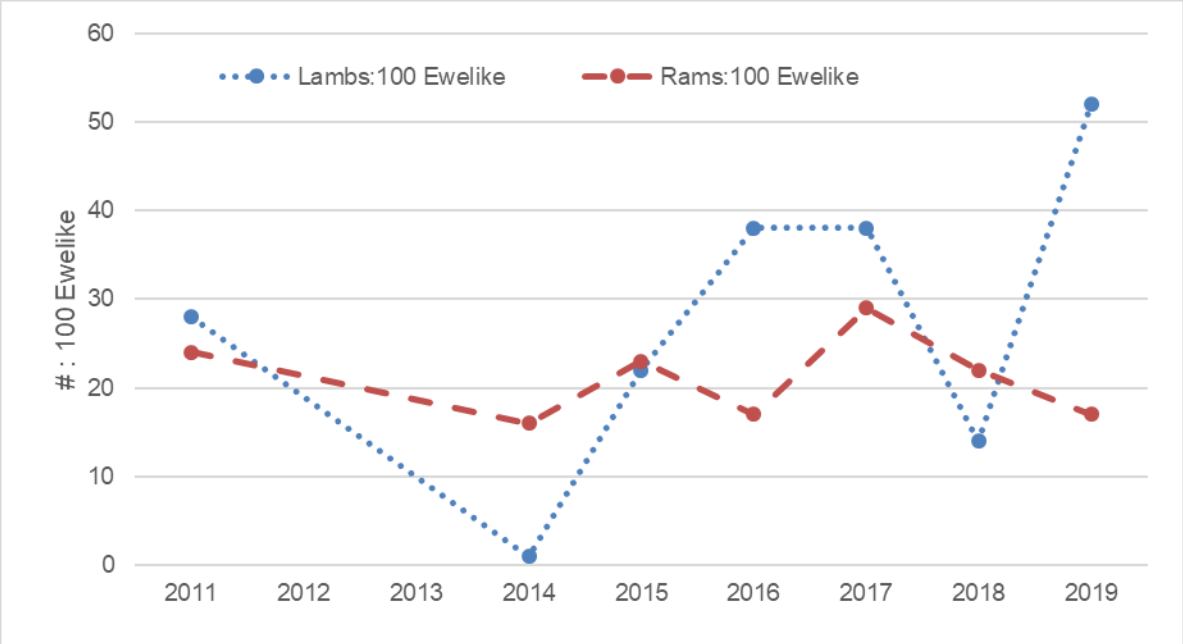


Figure 2. Number of lambs:100 ewe-like sheep and number of rams:100 ewe-like sheep in the Western Baird Mountains (Deacy 2020, pers. comm.).

Harvest History

Low sheep abundance resulted in closures for both the State and Federal hunting seasons in the Baird Mountains from 1991–1994. The Federal subsistence hunt was opened in the 1998/99 regulatory year and harvest occurred each year through 2014 except 1999/00 and 2000/01, when low numbers of full-curl rams were observed during surveys and the hunt was closed. In the Baird Mountains, only Federally qualified subsistence users have been able to harvest sheep since the hunt reopened in 1998; whereas, harvest quotas in the DeLong Mountains are divided between State and Federal permits. Only full-curl rams were allowed to be harvested until 2004/05, when harvest was open to any sheep and quotas were set at 15 rams and 6 ewes. Harvest reports show that the sheep harvest in the Baird Mountains portion of Unit 23 remained under the quota each year that a hunt occurred since 1998, except for 2005/06 when the harvest went over quota by one ram. No sheep harvest has occurred in the Baird Mountains under State or Federal regulations since 2014 when seasons were closed due to conservation concerns.

Between 2004 and 2014, the annual reported sheep harvest in Units 23 and 26A averaged 23 animals under both State hunting and Federal subsistence regulations, ranging from 17-31 sheep. The majority of harvest came from Federal subsistence registration hunts in Unit 23.

Other Alternatives Considered

A considered alternative was to modify the closure by removing the closure language from unit specific regulations and enacting closures to non-Federally qualified users via an existing delegation of authority only. Currently, the WEAR Superintendent has delegated authority to close and reopen Federal public lands in the Baird Mountains hunt area to sheep hunting by non-Federally qualified users if necessary to conserve sheep populations, to continue subsistence uses, or for reasons of public safety (**Appendix 1**). This delegated authority provides flexibility in hunt management and renders the current closure in regulation unnecessary. Additionally, the State sheep season in Unit 23 has been closed to residents and non-residents since 2015.

However, this sort of modification requires adequate public notice and opportunity for public input. As the Federal register notice for the proposed rule did not specify such possible Board actions, this modification is beyond the current scope of this closure review.

Effects

The sheep population in the Baird Mountains remains low, declining 73% since 2011 with few large rams and no harvestable surplus. If this closure were lifted, non-Federally qualified subsistence users would be allowed to sheep hunt on Federal public lands in the Baird Mountains. However, the State sheep season has been closed since 2014, and the WEAR superintendent currently has delegated authority to close sheep hunting to non-Federally qualified users if necessary (**Appendix 1**). Therefore, rescinding the closure would likely have little effect on the sheep population as hunting by non-Federally qualified users could be curtailed by other means.

The WEAR Superintendent also has delegated authority to announce a Federal sheep season. A season has not been announced since 2015 due to conservation concerns. Therefore, extending the closure to all Federally qualified subsistence users would also not have any effect on the sheep population.

However, maintaining the may be announced season and delegated authority allows for hunt flexibility and harvest opportunity in the event that the sheep population recovers and a harvest surplus exists.

OSM PRELIMINARY CONCLUSION:

x maintain status quo
_ modify or eliminate the closure

Justification

The sheep population in the Baird Mountains remains very low. The population cannot withstand any harvest. The closure should be maintained because of conservation concerns.

LITERATURE CITED

Adkisson, K. 2014. Personal communication: email. Subsistence Specialist. National Park Service. Nome, AK.

Braem, N.M., E.H. Mikow, S.J. Wilson, and M.L. Kostick. 2015. Wild Food Harvests in 3 Upper Kobuk River Communities: Ambler, Shungnak, and Kobuk, 2012-2013. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 402, Fairbanks.

Deacy, W.W. 2020. Biologist. Personal communication: e-mail. Arctic Network. Inventory and Monitoring Program. National Park Service. Fairbanks, AK.

FWS. 1991. Special Action 91-01 administrative record. Office of Subsistence Management, FWS, Anchorage AK.

FWS. 1992. Special Action 92-08 administrative record. Office of Subsistence Management, FWS, Anchorage AK.

FWS. 1993. Special Action 93-02 administrative record. Office of Subsistence Management, FWS, Anchorage AK.

FWS. 1994. Special Action 94-06 administrative record. Office of Subsistence Management, FWS, Anchorage AK.

Lawler, J. P., S. D. Miller, D. M. Sanzone, J. M. Ver Hoef, and S. B. Young. 2009. Arctic Network vital signs monitoring plan. Natural Resource Report NPS/ARCN/NRR-2009/088. National Park Service, Fort Collins, Colorado, USA. Link, W. A., and R. J. Barker.

OSM. 2014. Alaska Federal Subsistence Program Harvest Database. Office of Subsistence Management.

NPS. 2014. Unpublished data, 2014 sheep surveys in Units 23 and 26A. Nome, AK.

Rattenbury, K. 2015. Wildlife Biologist. Gates of the Arctic National Park and Preserve. Unpublished data. Personal communication: e-mail. December 1, 2015.

Rattenbury, K.L., J.H. Schmidt, D.K. Swanson, B.L. Borg, B.A. Mangipane, and P.J. Sousanes. 2018. Delayed

spring onset drives declines in abundance and recruitment in a mountain ungulate. Ecosphere. 9(11): 1-15.

Saito, B. 2014. Personal communication: email. Wildlife Biologist. Alaska Department of Fish and Game. Kotzebue, AK.

Schmidt, J.S., and K.L. Rattenbury. 2013. Reducing Effort While Improving Inference: Estimating Dall's Sheep Abundance and Composition in Small Areas. The Journal of Wildlife Management 77:1048–1058.

Shults, B. 2004. Abundance survey of Dall's sheep in the western Baird Mountains, Alaska, July 2004. Technical Report NPS/AR/NRTR-2004- 46. U.S. Department of the Interior, National Park Service, Kotzebue, Alaska, USA.

Singer, F.J. 1984. Aerial Dall sheep count, 1982, 1983, and 1984. Gates of the Arctic National Park and Preserve. Natural resources survey and inventory report. AR/84-2. National Park Service. Anchorage, AK.

Westing, C. 2011. Units 23 and 26A Dall sheep management report. Pages 134-147 *in* P. Harper, editor. Dall sheep management report of survey and inventory activities 1 July 2007 – 30 June 2010. ADF&G. Project 6.0. Juneau, AK.

Appendix 1

Federal Subsistence Board

1011 East Tudor Road, MS121
Anchorage, Alaska 99503-6199

FISH and WILDLIFE SERVICE
BUREAU of LAND MANAGEMENT
NATIONAL PARK SERVICE
BUREAU of INDIAN AFFAIRS

FOREST SERVICE

OCT 2 6 2018

OSM 180111.CM

Superintendent
Western Arctic National Parklands
PO Box 1029
Kotzebue, Alaska 99752

Dear Superintendent:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the Superintendent of the Western Arctic National Parklands to issue emergency or temporary special actions if necessary to ensure the conservation of a healthy wildlife population, to continue subsistence uses of wildlife, for reasons of public safety, or to assure the continued viability of a wildlife population. This delegation only applies to the Federal public lands subject to Alaska National Interest Lands Conservation Act (ANILCA) Title VIII jurisdiction within Unit 23, except for that portion of Unit 23 remainder (Schwatka Mountains) within Gates of the Arctic National Park; and in that portion of Unit 26A west of Howard Pass and the Etivluk River (DeLong Mountains) for the management of sheep on these lands.

It is the intent of the Board that actions related to management of sheep by Federal officials be coordinated, prior to implementation, with the Alaska Department of Fish and Game (ADF&G), representatives of the Office of Subsistence Management (OSM), the National Park Service (Superintendent for Gates of the Arctic National Park), the Bureau of Land Management, and the Chair of the affected Council(s) to the extent possible. The Office of Subsistence Management will be used by managers to facilitate communication of actions and to ensure proposed actions are technically and administratively aligned with legal mandates and policies. Federal managers are expected to work with managers from the State and other Federal agencies, the Council Chair or alternate, local tribes, and Alaska Native Corporations to minimize disruption to subsistence resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

1. Delegation: The Superintendent of Western Arctic National Parklands is hereby delegated authority to issue emergency or temporary special actions affecting sheep on Federal lands as

outlined under the **Scope of Delegation**. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by Federal regulation at 36 CFR 242.19 and 50 CFR 100.19.

2. Authority: This delegation of authority is established pursuant to 36 CFR 242.10(d)(6) and 50 CFR 100.10(d)(6), which state: "The Board may delegate to agency field officials the authority to set harvest and possession limits, define harvest areas, specify methods or means of harvest, specify permit requirements, and open or close specific fish or wildlife harvest seasons within frameworks established by the Board."

3. Scope of Delegation: The regulatory authority hereby delegated is limited to the following authorities within the limits set by regulation at 36 CFR 242.26 and 50 CFR 100.26:

- To set opening and closing dates for the sheep season on Federal public lands in Unit 23, except for that portion of Unit 23 remainder (Schwatka Mountains) within Gates of the Arctic National Park and Preserve; and in that portion of Unit 26A west of Howard Pass and the Etivluk River (DeLong Mountains).

- As needed, set or adjust the annual harvest quotas and limits for sheep on Federal public lands in Unit 23, except for that portion of Unit 23 remainder (Schwatka Mountains) within Gates of the Arctic National Park; and in that portion of Unit 26A west of Howard Pass and the Etivluk River (DeLong Mountains).

This delegation also permits you to close and reopen Federal public lands to nonsubsistence hunting, but does not permit you to specify methods and means, permit requirements, or harvest and possession limits for State-managed hunts.

This delegation may be exercised only when it is necessary to conserve sheep populations, to continue subsistence uses, for reasons of public safety, or to assure the continued viability of the populations. All other proposed changes to codified regulations, such as customary and traditional use determinations or adjustments to methods and means of take, shall be directed to the Board.

The Federal public lands subject to this delegated authority are those within Unit 23, except for that portion of Unit 23 remainder (Schwatka Mountains) within Gates of the Arctic National Park; and in that portion of Unit 26A west of Howard Pass and the Etivluk River (DeLong Mountains).

4. Effective Period: This delegation of authority is effective from the date of this letter and continues until superseded or rescinded.

5. Guidelines for Delegation: You will become familiar with the management history of the wildlife species relevant to this delegation in the region, with current State and Federal regulations and management plans, and be up-to-date on population and harvest status

information. You will provide subsistence users in the region a local point of contact about Federal subsistence issues and regulations and facilitate a local liaison with State managers and other user groups.

You will review special action requests or situations that may require a special action and all supporting information to determine (1) consistency with 50 CFR 100.19 and 36 CFR 242.19, (2) if the request/situation falls within the scope of authority, (3) if significant conservation problems or subsistence harvest concerns are indicated, and (4) what the consequences of taking an action or no action may be on potentially affected Federally qualified subsistence users and non-Federally qualified users. Requests not within your delegated authority will be forwarded to the Board for consideration. You will maintain a record of all special action requests and rationale for your decision. A copy of this record will be provided to the Administrative Records Specialist in OSM no later than sixty days after development of the document.

For management decisions on special actions, consultation is not always possible, but to the extent practicable, two-way communication will take place before decisions are implemented. You will also establish meaningful and timely opportunities for government-to-government consultation related to pre-season and post-season management actions as established in the Board's Government-to-Government Tribal Consultation Policy (Federal Subsistence Board Government-to-Government Tribal Consultation Policy 2012 and Federal Subsistence Board Policy on Consultation with Alaska Native Claim Settlement Act Corporations 2015).

You will immediately notify the Board through the Assistant Regional Director for OSM, and coordinate with the Chair(s) or alternate of the affected Council(s), local ADF&G managers, and other affected Federal conservation unit managers concerning emergency and temporary special actions being considered. You will ensure that you have communicated with OSM to ensure the special action is aligned with ANILCA Title VIII, Federal Subsistence regulations and policy, and that the perspectives of the Chair(s) or alternate of the affected Council(s), OSM, and affected State and Federal managers have been fully considered in the review of the proposed special action.

If the timing of a regularly scheduled meeting of the affected Council(s) permits without incurring undue delay, you will seek Council recommendations on the proposed temporary special action(s). If the affected Council(s) provided a recommendation, and your action differs from that recommendation, you will provide an explanation in writing in accordance with 50 CFR 100.10(e)(1) and 36 CFR 242.10(e)(1).

You will issue decisions in a timely manner. Before the effective date of any decision, reasonable efforts will be made to notify the public, OSM, affected State and Federal managers, law enforcement personnel, and Council members. If an action is to supersede a State action not yet in effect, the decision will be communicated to the public, OSM, affected State and Federal managers, and the local Council members at least 24 hours before the State action would be effective. If a decision to take no action is made, you will notify the proponent of the request immediately. A summary of special action requests and your resultant actions must be provided

to the coordinator of the appropriate Council(s) at the end of each calendar year for presentation to the Council(s).

You may defer a special action request, otherwise covered by this delegation of authority, to the Board in instances when the proposed management action will have a significant impact on a large number of Federal subsistence users or is particularly controversial. This option should be exercised judiciously and may be initiated only when sufficient time allows for it. Such deferrals should not be considered when immediate management actions are necessary for conservation purposes. The Board may determine that a special action request may best be handled by the Board, subsequently rescinding the delegated regulatory authority for the specific action only.

6. Support Services: Administrative support for regulatory actions will be provided by the Office of Subsistence Management.

Sincerely,

Anthony Christianson
Chair

Enclosures

cc: Federal Subsistence Board
Assistant Regional Director, Office of Subsistence Management
Deputy Assistant Regional Director, Office of Subsistence Management
Subsistence Policy Coordinator, Office of Subsistence Management
Wildlife Division Supervisor, Office of Subsistence Management
Subsistence Council Coordinators, Office of Subsistence Management
Chair, Northwest Arctic Subsistence Regional Advisory Council
Chair, North Slope Subsistence Regional Advisory Council
Superintendent, Gates of the Arctic National Park and Preserve
Manager, BLM Arctic Field Office
Manager, BLM Anchorage Field Office
Commissioner, Alaska Department of Fish and Game
Special Assistant to the Commissioner, Alaska Department of Fish and Game
Interagency Staff Committee
Administrative Record

WCR22–27 Executive Summary	
Closure Location and Species	Unit 23, Cape Krusenstern National Monument - Muskox
Current Regulation	**Unit 23–Muskox** *Unit 23, Cape Krusenstern National Monument—1 bull by Federal permit. Cape Krusenstern National Monument is closed to the taking of musk oxen except by federally qualified subsistence users but not residents of Point Hope* *Aug. 1-Mar. 15.*
OSM Preliminary Conclusion	**Modify or eliminate the closure**
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

FEDERAL WILDLIFE CLOSURE REVIEW
WCR22-27

Closure Location: Unit 23, Cape Krusenstern National Monument (CAKR) - Muskox

Current Federal Regulation

Unit 23−Muskox

Unit 23, Cape Krusenstern National Monument—1 bull by Federal permit. Cape Krusenstern National Monument is closed to the taking of musk oxen except by federally qualified subsistence users but not residents of Point Hope	*Aug. 1-Mar. 15.*

Closure Dates: Year-round

Current State Regulation

Not applicable. National monuments are not open to hunting under State regulations.

Regulatory Year Initiated: 2005

Extent of Federal Public Lands

CAKR is comprised 100% of Federal public lands and consists of 100% National Park Service (NPS) managed lands.

Customary and Traditional Use Determination

Residents of Unit 23 east and north of the Buckland River drainage have a customary and traditional use determination for muskox in Unit 23 remainder (which includes CAKR).

Residents of the NANA region are considered resident zone communities of CAKR. These communities include Kotzebue, Selawik, Noorvik, Kiana, Shungnak, Ambler, Kobuk, Noatak, Kivalina, Buckland, and Deering.

Regulatory History

In 2003, the National Park Service prepared an Environmental Assessment under the National Environmental Policy Act, and its Regional Director signed a Finding of No Significant Impact, designating all lands within the Northwest Alaska Native Association (NANA) Region as the resident zone for Cape Krusenstern National Monument (36 C.F.R. § 13.802 [2015]). With this 2003 decision, the current resident zone communities are Kotzebue, Selawik, Noorvik, Kiana, Shungnak, Ambler, Kobuk, Noatak, Kivalina, Buckland, and Deering.

Prior to 2005, CAKR did not have an open muskox season. In 2005, Proposal WP05-19, submitted by the Cape Krusenstern Subsistence Resource Commission and NPS, requested the establishment of a

season and allocation of muskox within CAKR to provide opportunity for families with "permanent subsistence camps" within CAKR. The Federal Subsistence Board adopted Proposal WP05-19 with modification, limiting the hunt to resident zone community members with permanent residence within CAKR or the immediately adjacent Napaktuktuk Mountain area, south of latitude 67°05' N and west of longitude 162°30' W and delegating authority to the Western Arctic National Parklands (WEAR) superintendent to set the season closing date and annual harvest quotas. This action included a Section 804 prioritization, resulting in closure of the muskox hunt to some Federally qualified subsistence users.

In 2011, The Northwest Arctic Subsistence Regional Advisory Council (Council) supported maintaining the closure to non-Federally qualified users based on population concerns at its March 2011 meeting (WCR10-27). The Council agreed to revisit the closure when further data regarding the population became available.

In 2016, the Board adopted Proposal WP16-50 as modified by OSM as part of the consensus agenda. Proposal WP16-50 removed the 804 restriction, expanding the pool of users eligible to hunt muskox within CAKR to all resident zone community members who are also Federally qualified subsistence users. This regulatory change provided more opportunity for Federally qualified subsistence users, while maintaining the permit and harvest quota, resulting in no biological effects to the muskox population.

Closure last reviewed: 2016 – WP16-50

Justification for Original Closure (ANILCA Section 815 (3) criteria):

> *Nothing in this title shall be construed as – (3) authorizing a restriction on the taking of fish and wildlife for nonsubsistence uses on public lands (other than national parks and monuments) unless necessary for the conservation of healthy populations of fish and wildlife, for the reasons set forth in section 816, to continue subsistence uses of such populations, or pursuant to other applicable law…*

Because of the small allowable harvest, and the resident zone community requirements for parklands which restrict subsistence use of resources to local residents in national monuments and parks, the Board used Section 804 criteria to limit users to those with permanent residence within CAKR or the adjacent Napaktuktuk Mountain area. This criterion narrowed the eligibility for Federal permits to three families and an allocation of two Federal permits.

Council Recommendation for Original Closure:

The Council recommended supporting Proposal WP05-19 with modification to provide permits only to resident zone community members with permanent residence within CAKR or immediately adjacent to the Napaktuktuk Mountain area, south of latitude 67º05'N and west of longitude 162º 30'W.

State Recommendation for Original Closure:

The State supported WP05-19 as modified to provide permits to only permanent residents who lived year-round in the Monument or the immediately adjacent Napaktuktuk Mountain Area.

Biological Background

The Alaska Department of Fish and Game (ADF&G) translocated 36 muskoxen near Cape Thompson in 1970, with an additional 34 animals released in the same area in 1977 (Westing 2011). Muskox have occupied CAKR since at least 1979 and occupy habitat from the mouth of the Noatak River north to Cape Lisburne (NPS 2014). Muskox in the Cape Thompson area appear to occupy relatively discrete, "core areas" separate from the muskox population on the Seward Peninsula, although muskox are also widely scattered throughout the remainder of Unit 23 in groups of 1-4 individuals (Westing 2011).

ADF&G management objectives for muskoxen within Unit 23 (Hughes 2016) include:

1. Survey the Cape Thompson population at least once every 3 years.
2. Assess population level range expansion.
3. Monitor the sex and age composition of the Cape Thompson muskoxen population.
4. Minimize the effects of development (e.g., mines and roads), hunting, and tourism on muskoxen and their habitat.

Additionally, the NPS has the following management objectives for muskoxen within their lands (NPS 2014):

1. Maintain a viable population of muskoxen in Cape Krusenstern National Monument and Noatak National Preserve in perpetuity.
2. Provide subsistence opportunity for harvesting muskoxen when sustainable.
3. Defer to state harvest regulations when sustainable and not in conflict with NPS regulations.

Muskox in CAKR are part of the Cape Thompson muskox population. Since 1987, aerial population surveys have occurred in the "core count area" which extends from the mouth of the Noatak River to Cape Lisburne within about 20 miles of the Chukchi Sea coast. However, muskox have expanded their range since reintroduction and have increasingly been observed outside of the core count area. In 2011, 2016, and 2020 ADF&G and NPS completed a population-wide survey that included the core count areas as well as potential habitat in Unit 26A and Unit 23 north of the Kobuk River (Hughes 2016, 2020 pers. comm., NPS 2017) (**Figure 1**).

From 1970-1998, the Cape Thompson muskox population grew 8% annually, while between 1998 and 2005, the population grew 2% annually. Since 2005, the population within the core count area has declined, although this is likely due to range expansion into other areas (Hughes 2016, NPS 2017). Between 2011 and 2020, the population within the core count area stabilized, averaging 234 muskoxen. In 2020, the population estimate was 226 muskoxen (**Figure 1**).

The recruitment rate (measured as the proportion of short yearlings in the population) and proportion of mature bulls in the core count area has been stable since 2015 further indicating no population growth. In spring 2019, short yearlings and mature bulls comprised 13% and 16% of the population, respectively. No spring composition survey occurred in 2020 due to constraints from weather, time, and the COVID-19 pandemic (Hughes 2020, pers. comm.).

Given the gregarious nature of muskox, mature bulls are important for predator defense, foraging, and group cohesion in addition to breeding (Schmidt and Gorn 2013). For example, mature bulls may protect groups of females with calves against predators, effectively increasing calf survival and recruitment. Therefore, muskox may be more sensitive to selective harvest of mature males than other species (Schmidt and Gorn 2013).

Muskox reduce movements during the winter to conserve energy. Muskox depend on areas with low snow cover as they cannot forage in deep, hard-packed snow, using body-fat reserves and conservative behavior to survive winters. Therefore, disturbance to muskox groups during the winter by hunters or predators could decrease survival through increased energetic requirements and movement to unsuitable habitat (Nelson 1994, Hughes 2016).

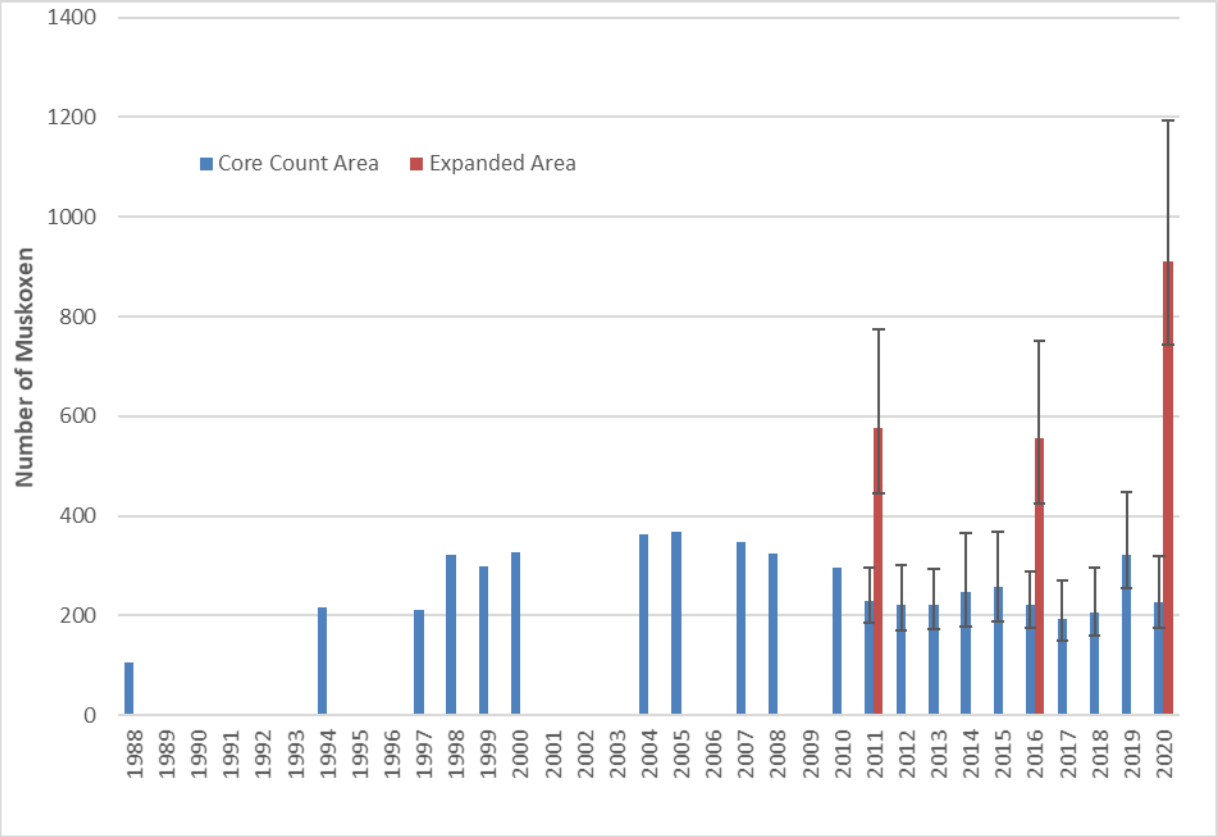


Figure 1. Number of Cape Thompson muskoxen counted in the core count area and expanded survey area (Hughes 2016, 2020 pers. comm., NPS 2017). Prior to 2011, minimum count methods were used. In 2011 minimum counts were replaced with distance sampling methods and error bars represent the 95% credible intervals surrounding those estimates.

Cultural Knowledge and Traditional Practices

The present-day human population in Unit 23 includes 11 regional Iñupiaq nations (Burch 1998). The estimated population of the Northwest Arctic Borough was 7,523 in 2019 (ADLWD 2020). In Iñupiaq, muskoxen are called *umingmak*, "the one with hair like a beard" (Lent 1999). The earliest archaeological evidence for use of muskoxen in arctic Alaska dates to Birnuk culture, beginning in approximately 600 A.D. (Lent 1999).

Muskoxen were likely always present at relatively low numbers, and their use was limited but continuous over approximately 1500 years (Lent 1998). Muskoxen provided fat when caribou were lean in late winter and early spring and provided an alternative food source in years when caribou were scarce.

Muskox horn tools have been uncovered at archaeological sites within their pre-extirpation range, such as Ogotoruk Creek south of Point Hope, and were also collected from residents of the region during the contact period. Hides were used for shelter and robes (Lent 1999). Muskoxen were heavily used by whalers, trappers, and traders in the 1800s, and were extirpated from Northwestern Alaska by the 1850s, although they persisted in the eastern Brooks Range until the 1890s (Lent 1999).

Harvest History

Harvest within CAKR occurs only by Federal registration permit (FX2303). No more than two permits have been issued per year since the hunt was established in 2005. Harvest has ranged from 0-2 muskox per year between 2005 and 2019 (**Table 1**).

Harvest from the Cape Thompson muskox population also occurs outside of CAKR in northwestern Unit 23 under State (TX107) and Federal (FX2312) regulations. Between 2005 and 2019, the State Tier II (TX107) muskox harvest averaged 3.7 muskoxen with an annual harvest quota of six bull muskoxen (ADF&G 2020, Hughes 2016). In 2016, one muskox was harvested by Federal permit FX2312 (OSM 2020). ADF&G considers a 2-3% harvest rate to be sustainable for the Cape Thompson muskox population (Hughes 2016).

Illegal harvest likely occurs, although the magnitude is not known. Between 2003 and 2014, ADF&G received reports of at least 16 muskoxen that were illegally killed in the northern portion of Unit 23. In 2013, five cow muskoxen from the Cape Thompson population were illegally shot and not salvaged. Because of this, ADF&G issued an emergency order in June of 2013, closing the State Tier II hunt prior to the 2013/14 season opening date (Hughes 2016).

Table 1. Federal permits issued and muskox harvested for the CAKR muskox hunt (FX2303). Only years with data are shown. Harvest in other years is presumed to be zero (OSM 2020).

Year	FX2303 Permits Issued	FX2303 Harvest
2005	1	1
2006	1	0
2007	2	1
2010	2	1
2016	1	1
2017	1	1
2018	2	2
2019	2	1

Effects

The current regulations read, "CAKR is closed to the taking of musk oxen except by Federally qualified subsistence users, but not residents of Point Hope." However, Point Hope is not a resident zone community of CAKR, so Point Hope residents would never be eligible to harvest muskoxen within CAKR. While Deering and Buckland are resident zone communities, they are not Federally qualified subsistence users for CAKR. Therefore, the CAKR muskox hunt is open to all users who could possibly be eligible, and no closure is functionally in effect.

As the harvest limit, season, permit number, and harvest quota would not be affected by any changes to this "closure," no impacts to the muskox population are expected.

OSM PRELIMINARY CONCLUSION:

_ maintain status quo
x modify or eliminate the closure

The modified regulation would read:

Unit 23−Muskox

Unit 23, Cape Krusenstern National Monument—1 bull by Federal permit. *~~Cape Krusenstern National Monument is closed to the taking of musk oxen except by federally qualified subsistence users but not residents of Point Hope~~*	*Aug. 1-Mar. 15.*

Justification

Currently, the CAKR muskox hunt is open to all resident zone community members who are also Federally qualified subsistence users. As this does not represent a closure, there is no need for the additional regulatory language. Functionally, no change to the CAKR muskox hunt would occur. OSM considers this recommendation as a housekeeping change to clarify regulations.

LITERATURE CITED

ADF&G. 2020. General Harvest Reports. https://secure.wildlife.alaska.gov/index.cfm?fuseaction=harvestreports.main. Accessed December 15, 2020.

ADLWD (Alaska Department of Labor and Workforce Development). 2020. Alaska population overview: 2019 estimates. https://live.laborstats.alaska.gov/pop/estimates/pub/19popover.pdf. Retrieved: March 16, 2020.

Burch, Jr., E.S. 1998. The Inupiaq Eskimo nations of Northwest Alaska. University of Alaska Press. Fairbanks, AK.

Hughes, L.J. 2016. Units 23 and 26A muskox. Chapter 3, Pages 3-1 through 3-19 [*In*] Harper, P., and L.A. McCarthy, editors. 2015. Muskox management report of survey-inventory activities 1 July 2012-30 June 2014. Alaska Department of Fish and Game. Species Management Report ADF&G/DWC/SMR-2015-2, Juneau, AK.

Hughes, L.J. 2020. Wildlife biologist. Personal communication: e-mail. Arctic Inventory and Monitoring Network. National Park Service. Nome, AK.

Lent, Peter C. 1998. Alaska's indigenous muskoxen: a history. Rangifer 18 (5): 133.

Lent, Peter C. 1999. Muskoxen and Their Hunters. University of Oklahoma Press. Norman, OK.

Nelson, R. 1994. Seward Peninsula Cooperative Muskox Management Plan. Alaska Department of Fish and Game, Division of Wildlife Conservation, Nome, AK.

NPS. 2014. Cape Krusenstern/Noatak muskoxen management recommendations and synthesis 2014.

NPS. 2017. State of the park report for Cape Krusenstern National Monument. State of the Park Series No. 44. National Park Service, Washington, DC.

OSM. 2020. Harvest management database. U.S. Fish and Wildlife Service, Office of Subsistence Management. Accessed on December 15, 2020.

Schmidt, J.H., and T.S. Gorn. 2013. Possible secondary population-level effects of selective harvest of adult male muskoxen. PLoS ONE 8:e67493.

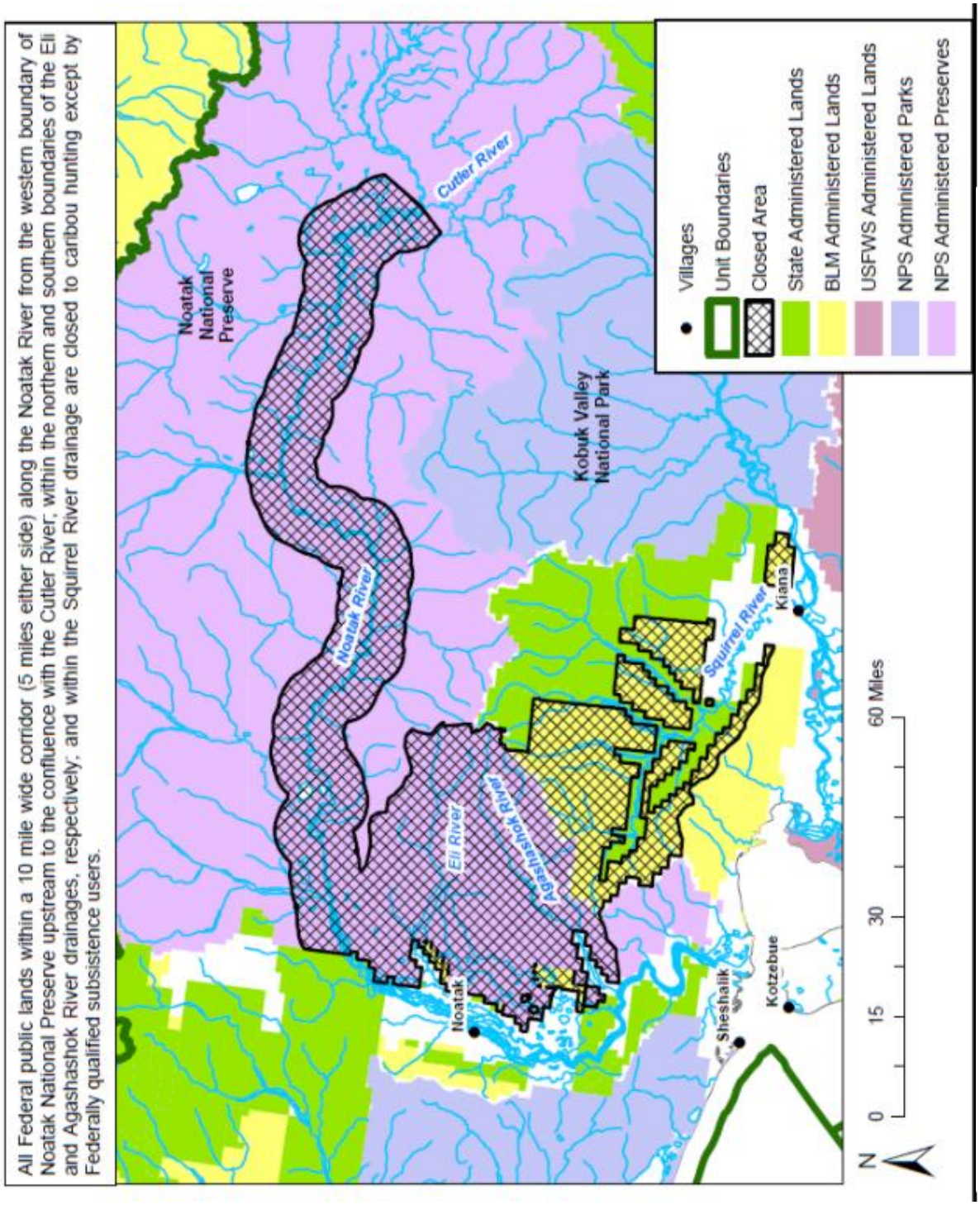
Westing, C. 2011. Unit 23 muskox. Pages 48-62 *in* P. Harper, editor. Muskox management report of survey and inventory activities 1 July 2008-June 2010. Alaska Department of Fish and Game. Project 16.0. Juneau, AK.

WCR22–45 Executive Summary	
Closure Location and Species	Unit 23—Caribou
Current Regulation	**Unit 23—Caribou** *Unit 23, remainder—5 caribou per day by State registration permit, as follows:* *Bulls may be harvested* — *Jul. 1-Jun. 30.* *Cows may be harvested. However, cows accompanied by calves may not be taken July 31-Oct. 14* — *Jul. 31-Mar. 31.* *Federal public lands within a 10-mile-wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage are closed to caribou hunting except by federally qualified subsistence users hunting under these regulations.*
OSM Preliminary Conclusion	**Maintain status quo**
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	

WCR22–45 Executive Summary	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
Written Public Comments	**1 Eliminate closure**

FEDERAL WILDLIFE CLOSURE REVIEW
WCR22-45

Closure Location: Unit 23 (**Map 1**)—Caribou



Map 1. Closure to caribou hunting by non-Federally qualified users in Unit 23.

Current Federal Regulation

Unit 23—Caribou

Unit 23, remainder—5 caribou per day by State registration permit, as follows:

Bulls may be harvested	*Jul. 1-Jun. 30.*
Cows may be harvested. However, cows accompanied by calves may not be taken July 31-Oct. 14	*Jul. 31-Mar. 31.*

Federal public lands within a 10-mile-wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage are closed to caribou hunting except by federally qualified subsistence users hunting under these regulations.

Closure Dates: Year-round

Current State Regulation

Unit 23—Caribou

23, north of and including Singoalik River drainage	*Residents—Five caribou per day by permit available online at http://hunt.alaska.gov or in person in Kotzebue, Utqiagvik, and at license vendors in Units 23 and 26A beginning June 22.*	*Bulls*	*RC907*	*No closed season*
		Cows	*RC907*	*July 15-Apr 30*
	Nonresidents—One bull		*HT*	*Aug. 1- Sept 30*
23 remainder	*Residents—Five caribou per day by permit available online at http://hunt.alaska.gov or in person in Kotzebue, Utqiagvik, and at license vendors in Units 23 and 26A beginning June 22.*	*Bulls*	*RC907*	*No closed season*
		Cows	*RC907*	*Sept 1- Mar 31*
	Nonresidents—One bull		*HT*	*Aug 1-Sept 30*

Regulatory Year Initiated: 2018

Extent of Federal Public Lands

Federal public lands comprise approximately 71% of Unit 23 and consist of 40% National Park Service (NPS) managed lands, 22% Bureau of Land Management (BLM) managed lands, and 9% U.S. Fish and Wildlife Service (USFWS) managed lands.

Customary and Traditional Use Determination

Residents of Unit 21D west of the Koyukuk and Yukon Rivers, Galena, 22, 23, 24 including residents of Wiseman but not including other residents of the Dalton Highway Corridor Management Area, and 26A have a customary and traditional use determination for caribou in Unit 23.

Regulatory History

In 2013, an aerial photocensus indicated significant declines in the Teshekpuk Caribou herd (TCH), WACH, and possibly the Central Arctic Caribou Herd (CACH) populations (Caribou Trails 2014). In response, the Alaska Board of Game (BOG) adopted modified Proposal 202 (RC76) in March 2015 to reduce harvest opportunities for both Alaska residents and nonresidents within the range of the WACH and the TCH. These regulation changes – which included lowering harvest limits for nonresidents from two caribou to one bull, reductions in bull and cow season lengths, the establishment of new hunt areas, and prohibiting calf harvest – were adopted to slow or reverse the population decline. The regulatory changes took effect on July 1, 2015.

In 2015, four temporary special actions, WSA15-03/04/05/06, requesting changes to caribou regulations in Units 23, 24, and 26, were submitted by the North Slope Subsistence Regional Advisory Council (North Slope Council) and approved with modification by the Board, effective July 1, 2015. Temporary Special Action WSA15-03 requested designation of a new hunt area for caribou in the northwest corner of Unit 23 where the harvest limit would be reduced from 15 to 5 caribou per day, the harvest season would be shortened for bulls and cows, and the take of calves would be prohibited. The Board did not establish a new hunt area, applying the restrictions to all of Unit 23 and also prohibited the take of cows with calves. These State and Federal regulatory changes were the first time that harvest restrictions had been implemented for the WACH in over 30 years.

Five proposals (WP16-37, WP16-48, WP16-49/52, and WP16-61) concerning caribou regulations in Unit 23 were submitted to the Board for the 2016-2018 wildlife regulatory cycle. The Board adopted WP16-48 with modification to allow the positioning of a caribou, wolf, or wolverine for harvest on BLM lands only. Proposal WP16-37 requested that Federal caribou regulations mirror the new State regulations across the ranges of the WACH and TCH (Units 21D, 22, 23, 24, 26A, and 26B). The Board adopted Proposal WP16-37 with modification to reduce the harvest limit to 5 caribou per day, restrict bull season during rut and cow season around calving, prohibit the harvest of calves and the harvest of cows with calves before weaning (mid-Oct.), and to create a new hunt area in the northwest corner of Unit 23. The Board took no action on the remaining proposals (WP16-49/52, and WP16-61) because of action taken on WP16-37.

In 2015, the Northwest Arctic Subsistence Regional Advisory Council (Northwest Arctic Council) submitted a temporary special action request (WSA16-01) to close caribou hunting on Federal public lands in Unit 23 to NFQU for the 2016/17 regulatory year. The Council stated that their request was necessary for conservation purposes but also needed because nonlocal hunting activities were negatively affecting subsistence harvests. In April 2016, the Board approved WSA16-01, basing its decision on the strong support of the Northwest Arctic and North Slope Councils, public testimony in favor of the request, as well as concerns over conservation and continuation of subsistence uses (FSB 2016).

In June 2016, the State submitted a special action request (WSA16-03) to reopen caribou hunting on Federal public lands in Unit 23 to NFQU, providing new biological information (e.g. calf recruitment, weight, body condition) on the WACH. The State specified that there was no biological reason for the closure and that it could increase user conflicts. In January 2017, the Board rejected WSA16-03 due to the position of all four affected Councils (Northwest Arctic, North Slope, Seward Peninsula, and Western Interior) as well as public testimony and Tribal consultation comments opposing the request. Additionally, the Board found the new information provided by the State to be insufficient to rescind the closure.

In January 2017, the BOG adopted Proposal 2, requiring registration permits for residents hunting caribou within the range of the Western Arctic and Teshekpuk herds in Units 23 and 26A (a similar proposal was passed for Unit 22 in 2016). The Alaska Department of Fish and Game (ADF&G) submitted the proposal in order to better monitor harvest and improve management flexibility. Also in January 2017, the BOG rejected Proposal 45, which proposed requiring big game hunting camps to be spaced at least three miles apart along the Noatak, Agashashok, Eli, and Squirrel Rivers. The Noatak/Kivalina & Kotzebue Fish and Game Advisory Committee (AC) submitted the proposal to allow caribou to migrate through those areas with less disruption and barriers. The proposal failed as it would be difficult to enforce.

In March 2017, the Northwest Arctic and North Slope Councils submitted temporary special action requests (WSA17-03 and -04, respectively) to close caribou hunting on Federal public lands in Unit 23 and in Units 26A and 26B, respectively to NFQU for the 2017/18 regulatory year. Both Councils stated that the intent of the proposed closures was to ensure subsistence use in the 2017/18 regulatory year, to protect declining caribou populations, and to reduce user conflicts. The Board approved WSA17-03 with modification to close all Federal public lands within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage to caribou hunting except by FQSU for the 2017/18 regulatory year. The Board considered the modification a reasonable compromise for all users and that closure of the specified area was warranted in order to continue subsistence uses. The Board rejected WSA17-04 stating that recent changes to State regulations aimed at reducing caribou harvest should be given time to determine if they are effective before additional restrictions are enacted.

Four proposals (WP18-32, WP18-45, WP18-46/47, and WP18-48/49) pertaining to caribou regulations in Unit 23 were submitted to the Board for the 2018-2020 wildlife regulatory cycle. In April 2018, the Board rejected Proposal WP18-32, submitted by the Western Interior Alaska Subsistence Regional Advisory Council, which requested changes to the caribou season dates on Federal public lands in in multiple Units, including Unit 23. The Board also rejected WP18-45, submitted by Northwest Arctic Council, which requested that the caribou harvest limit in Unit 23 be reduced from 5 caribou per day to 3 caribou per day.

During the same regulatory meeting, the Board adopted Proposal WP18-46 with modification and took no action on WP18-47. Proposal WP18-46, submitted by the Western Arctic Caribou Herd Working Group, requested closing caribou hunting on Federal public lands in Unit 23 to non-Federally qualified users (similar to WSA16-01 and WSA17-03). The Board adopted WP18-46 with the same modification to geographical scope as WSA17-03 (see above) as the Northwest Arctic, Western Interior, and Seward Peninsula Councils as well as the village of Noatak supported this modification and viewed the targeted closure as effectively addressing user conflicts and the continuation of subsistence uses. The Board also took no action on WP18-49 and adopted WP18-48 to require State registration permits for caribou hunting in Units 22, 23, and 26A to improve harvest reporting and herd management, and to align with State regulations.

In January 2020, the BOG adopted Proposal 20 to open a year-round resident season for caribou bull harvest in Unit 23 under State regulations. The BOG also adopted Proposal 24 as amended to remove the restriction on caribou calf harvest in Units 22, 23, and 26A.

In April 2020, the Board adopted Proposal WP20-46 to open a year-round bull season and permit calf harvest for caribou in Unit 23. Creating a year-round season for bulls was intended to allow for harvest of bulls when caribou migration had been delayed, alleviating harvest pressure on cows. The prohibition on calf harvest was lifted in order to permit taking of calves that had been orphaned or injured. The Board took no action on Proposals WP20-43, -44, and -45 due to action taken on Proposal WP20-46.

In June 2021, the Board deferred Wildlife Special Action WSA21-01. WSA21-01 requested closing Federal public lands in Units 23 and 26A to caribou and moose hunting by non-Federally qualified users from August 1 to September 30, 2021. The Northwest Arctic Council submitted the request due to concern over the late migration of caribou into and through Unit 23, which has hindered the ability of subsistence users in the area to harvest caribou and meet their subsistence needs. The Board deferred action on the request, directing OSM to seek additional input on concerns related to caribou from various stakeholders and to fine tune their analysis of moose harvests and populations. The Board will reconsider this request prior to the 2022 hunting season.

Noatak National Preserve Delayed Entry Controlled Use Area

In 2012, the NPS established a Special Commercial Use Area or “delayed entry zone” in the western portion of the Noatak NP (Halas 2015, Fix and Ackerman 2015). The purpose of this zone is to allow a sufficient number of caribou to cross the Noatak River and establish migration routes, to limit

interactions between local and nonlocal hunters, and to allow local hunters the first opportunity to harvest caribou in that area (FWS 2014, Halas 2015). Within this zone, transporters can only transport nonlocal caribou hunters after a pre-determined date unless otherwise specified by the Western Arctic Parklands (WEAR) superintendent in consultation with commercial operators, other agencies and local villages (Halas 2015).

In 2020, the delayed entry date was changed from Sep. 15 to Sep. 22 (NPS 2020) in response to requests from the Cape Krusenstern National Monument and Kobuk Valley National Park SRCs and the Native Village of Noatak (Atkinson 2021, pers. comm.).

Noatak Controlled Use Area

In 1988, the Traditional Council of Noatak submitted a proposal to the BOG to create the Noatak Controlled Use Area (CUA) in order to restrict the use of aircraft in any manner for big game hunting Aug. 15-Sept. 20 due to user conflicts (Fall 1990). The proposed CUA extended five miles on either side of the Noatak River, from the mouth of the Eli River upstream to the mouth of the Nimiuktuk River, including the north side of Kivivik Creek (ADF&G 1988). The BOG adopted the proposal with modification to close a much smaller area extending from the Kugururok River to Sapun Creek from Aug. 20-Sept. 20.

In 1990, the Noatak CUA was adopted under Federal regulations. In 1995, the Board adopted Proposal P95-50 to expand the time period and area of the CUA to Aug. 25-Sept. 15 and the mouth of the Noatak River upstream to the mouth of Sapun Creek, respectively, which aligned with State regulations as they existed at that time.

In 2008, Proposals WP08-50 and 51 requested modifications to the Noatak CUA dates. These proposals were submitted in response to caribou migration occurring later in the season, to improve caribou harvest for subsistence users, and to decrease conflicts between local and nonlocal hunters. The Board deferred these proposals to the next regulatory cycle. In 2010, Proposals WP10-82, 83, and 85 requested similar date changes. The Board adopted WP10-85 to expand the time period during which aircraft are restricted in the Noatak CUA to Aug. 15-Sept. 30, which aligned with the current State regulations.

Closure last reviewed: N/A. This closure was adopted in 2018 and has not been reviewed since.

Justification for Original Closure (ANILCA Section 815 (3) criteria):

> *Nothing in this title shall be construed as – (3) authorizing a restriction on the taking of fish and wildlife for nonsubsistence uses on public lands (other than national parks and monuments) unless necessary for the conservation of healthy populations of fish and wildlife, for the reasons set forth in section 816, to continue subsistence uses of such populations, or pursuant to other applicable law…*

The Board adopted Proposal WP18-46 with modification consistent with the recommendations of the Northwest Arctic and Seward Peninsula Councils, as well as the WACH Working Group. The Board viewed the targeted closure as a reasonable compromise to a complex problem. While the OSM

conclusion proposed closing lands north of the Noatak River between and including the Kelly and Nimiuktuk Rivers, the Board stated that the western part of the proposed area is part of the NPS delayed entry zone, which already limits dates of access into the area by commercial big game transporters operating under NPS commercial use authorization permits (FSB 2018).

Council Recommendation for Original Closure:

Western Interior Alaska Subsistence Regional Advisory Council
Support WP18-46 **with modification** to close all Federal public lands: within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage to caribou hunting except by Federally qualified subsistence users for the 2018/2019 and 2019/2020 regulatory years. The closure would extend through September 21st of each calendar year only. The Council indicated that a closure through September 21st would allow ample time for lead cow caribou to establish migration routes through Unit 23 while providing some hunting opportunity for non-Federally qualified users.

Seward Peninsula Subsistence Regional Advisory Council
Support WP18-46 **with modification** to close all Federal public lands: within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage to caribou hunting except by Federally qualified subsistence users. The Council noted support for the Northwest Arctic Council and their recommendation.

Northwest Arctic Subsistence Regional Advisory Council
Support WP18-46 **with modification** to close all Federal public lands: within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage to caribou hunting except by Federally qualified subsistence users. The Council indicated that recent closures seem to have alleviated many of the user conflicts in the region and that as a result of the closures, caribou appear to be establishing migration routes unimpeded by non-Federally qualified users. They recognized that hunting opportunities and experiences have improved for residents of Noatak as a result of the closures and that targeted closures, rather than a full closure of Unit 23, help to avoid the concentration and displacement of hunters to state managed lands, particularly along the Kobuk River and into Unit 26 and Unit 22. The Council noted that the targeted closure coupled with the National Park Service's Special Commercial Use Area in Noatak National Preserve would help to further alleviate threats to the continuation of subsistence uses in the region. Additionally, the Council recognized recent positive biological indices for the herd but noted concern regarding population trajectories given a recent change in herd census technology.

North Slope Subsistence Regional Advisory Council

Support WP18-46**.** As with comments on Proposal WP18-57, it was noted that the impact from aircraft used to bring in non-local hunters affects the migration and ability of locals to hunt. The Council feels aircraft operators desire to place paying clients in the path of caribou are diverting caribou and preventing local communities from being able to get caribou. The Council stressed that even though closure may deflect non-federally qualified subsistence users to state lands, it is important to take steps to provide for opportunity for subsistence users on Federal lands. The Council noted that this conflict has been ongoing in this area for many years but it seems up until this point, transporters and guides have not shown any inclination to self-regulate, to work with local users to resolve the conflict. It was noted that the Western Arctic Caribou Herd Working Group represents a broad variety of communities and user groups, and that this proposal is the voice of the people from the region. As such, the Council supports this request.

The Council recognized the work that went into evaluating the most areas of most importance to local communities for harvest of caribou and are the site of the most intense user conflicts in this area but did not support the OSM modification because the full closure is the more dramatic effort needed in order to maximize subsistence opportunity. The Council feels that that the local harvest is already consuming the harvestable surplus, communities are growing, and that it perhaps is time to go into preservation mode. It was noted however, that it appeared that the OSM modification reflected that those areas were the real "problem area" for user conflicts. Chair Gordon Brower commended the work that went into identifying the area that is most critical for subsistence hunters in the area and that has been at the heart of the user conflicts in the region for so many years. He recognized the effort to find a solution that could be supported by all.

State Recommendation for Original Closure:

ADF&G **OPPOSES** these proposals (WP18-46 and WP18-47) at this time because they will not improve the caribou herd's population status. Harvest by non-federally qualified users is minimal. Recent actions by the BOG were intended to reduce user conflicts in Unit 23 by modifying the Noatak Controlled Use area and by collecting additional harvest information by establishing a new registration permit requirement in Unit 22, 23 and 26A. Both of these changes were adopted following an extensive public process that included the input of Regional Advisory Councils, the Western Arctic Herd working group, Fish and Game Advisory Committees, and the BOG. Additional restrictions are not needed until the effects of these changes are better understood.

If changes are deemed to be necessary, then targeted closures would be preferred so non-federally qualified users are not concentrated on state and private lands. The Western Arctic Caribou Herd Working Group supported a 2-year partial closure that mirrors the WSA 17-03 and would be preferable to the alternate options proposed.

ADF&G has documented the reports of migration deflection due to harvest of animals leading migrations, changes in migration patterns, and other user conflict issues. Although caribou may be temporarily affected by hunters, deflections of herd migration have not been detected to date (Fullman

et.al., 2017). Further research on these issues would be needed to quantify their effects on caribou populations and subsistence opportunity.

Biological Background

Caribou abundance naturally fluctuates over decades (Gunn 2003, WACH Working Group 2011). Gunn (2003) reports the mean doubling rate for Alaskan caribou as 10 ± 2.3 years. Although the underlying mechanisms causing these fluctuations are uncertain, climatic oscillations (i.e. Arctic and Pacific Decadal Oscillations) may play an important role (Gunn 2003, Joly et al. 2011). Climatic oscillations can influence factors such as snow depth, icing, forage quality and growth, wildfire occurrence, insect levels, and predation, which all contribute to caribou population dynamics (Joly et al. 2011). Density-dependent reduction in forage availability, resulting in poorer body condition may exacerbate caribou population fluctuations (Gunn 2003).

Caribou calving generally occurs from late May to mid-June (Dau 2013). Weaning generally occurs in late October and early November before the breeding season (Taillon et al. 2011). Calves stay with their mothers through their first winter, which improves calves' access to food and body condition (Holand et al. 2012). Calves orphaned after weaning (October) have greater chances of survival than calves orphaned before weaning (Holand et al. 2012, Joly 2000, Russell et al. 1991, Rughetti and Festa-Bianchet 2014).

The WACH has historically been the largest caribou herd in Alaska and has a home range of approximately 157,000 square miles in northwestern Alaska (**Map 2**). In the spring, most mature cows move north to calving grounds in the Utukok Hills, while bulls and immature cows lag behind and move toward summer range in the Wulik Peaks and Lisburne Hills (Dau 2011, WACH Working Group 2011, 2019). After calving, cows and calves move west toward the Lisburne Hills where they mix with the bulls and non-maternal cows. During the summer, the herd moves rapidly to the Brooks Range. In the fall, the majority of the herd generally moves south toward wintering grounds south of the Brooks Range (Joly 2021, pers. comm.). Rut occurs during fall migration (Dau 2011, WACH Working Group 2011).

In recent years, the timing of fall migration has been less predictable. From 2010-2019, the average dates that GPS collared caribou crossed the Noatak River ranged from Sep. 6 – Oct. 13; the Kobuk River ranged from Sep. 24 – Nov. 3; and the Selawik River ranged from Oct. 2 – Nov. 10 (Joly and Cameron 2020). From 2010-2016, caribou migration was trending to occur earlier in the year. However, from 2017-2019, caribou crossed the Noatak River, but then there was substantial delay before caribou crossed the Kobuk and Selawik Rivers. This appears to have been the case for 2020 as well. During the fall 2020 Northwest Arctic Council meeting in early November, Council members stated that only Noatak had harvested caribou in the fall and that caribou had not yet passed through the Southern portions of Unit 23. While data has yet to be analyzed, the first GPS collared caribou did not cross the Kobuk River until November, which is the latest first crossing since data collection began in 2010 (Joly 2021, pers. comm.). Reasons for changes in migration phenology are unknown.

The proportion of caribou using certain migration paths also varies each year (Joly and Cameron 2020). Changes in migration paths are likely influenced by multiple factors including food availability, snow depth, rugged terrain, and dense vegetation (Fullman et al. 2017, Nicholson et al. 2016). If caribou travelled the same migration routes every year, their food resources would likely be depleted (NWARAC 2016).

The WACH population declined rapidly in the early 1970s, bottoming out at about 75,000 animals in 1976. Aerial photocensuses have been used since 1986 to estimate population size. The WACH population increased throughout the 1980s and 1990s, peaking at 490,000 animals in 2003. Beginning in 2003, the herd declined at an average annual rate of 7.1% from approximately 490,000 caribou to 200,928 caribou in 2016 (Caribou Trails 2014; Dau 2011, 2014, Parrett 2016). In 2017, the herd increased to an estimated 259,000 caribou (Parrett 2017a). However, part of this increase may have been due to improved photographic technology as ADF&G switched from film to higher resolution digital cameras. The 2019 population estimate was 244,000 caribou (Hansen 2019a). No photocensus was completed in 2020, but ADF&G plans to conduct a census in 2021 (WACH Working Group 2020).

Between 1982 and 2011, the WACH population was within the liberal management level prescribed by the WACH Working Group. In 2013, the herd population estimate fell below the population threshold for liberal management of a decreasing population (265,000), slipping into the conservative management level where it has remained. In 2020, no photocensus was completed, and the WACH Working Group voted to maintain the herd's status at the conservative declining level (WACH Working Group 2020).

Between 1970 and 2017, the bull:cow ratio exceeded Critical Management levels identified in the 2019 WACH Management Plan. However, the average annual number of bulls:100 cows was greater during the period of population growth (54:100 between 1976–2001) than during the recent period of decline (44:100 between 2004–2016). Additionally, Dau (2015) states that while trends in bull:cow ratios are accurate, actual values should be interpreted with caution due to sexual segregation during sampling and the inability to sample the entire population, which likely account for more annual variability than actual changes in composition.

Although factors contributing to the 2003-2016 decline are not known with certainty, increased adult cow mortality, and decreased calf recruitment and survival played a role (Dau 2011). Since the mid-1980s, adult mortality has slowly increased while recruitment has slowly decreased (Dau 2013). Prichard (2009) developed a population model specifically for the WACH using various demographic parameters and found adult survival to have the largest impact on population size, followed by calf survival and then parturition rates.

Calf production has likely had little influence on the population trajectory (Dau 2013, 2015). Between 1990 and 2003, the June calf:cow ratio averaged 66 calves:100 cows/year. Between 2004 and 2016, the June calf:cow ratio averaged 71 calves:100 cows/year (Dau 2016a). The average June calf:cow ratio increased to 79 calves:100 cows between 2017 and 2020. In June 2018 86 calves:100 cows were

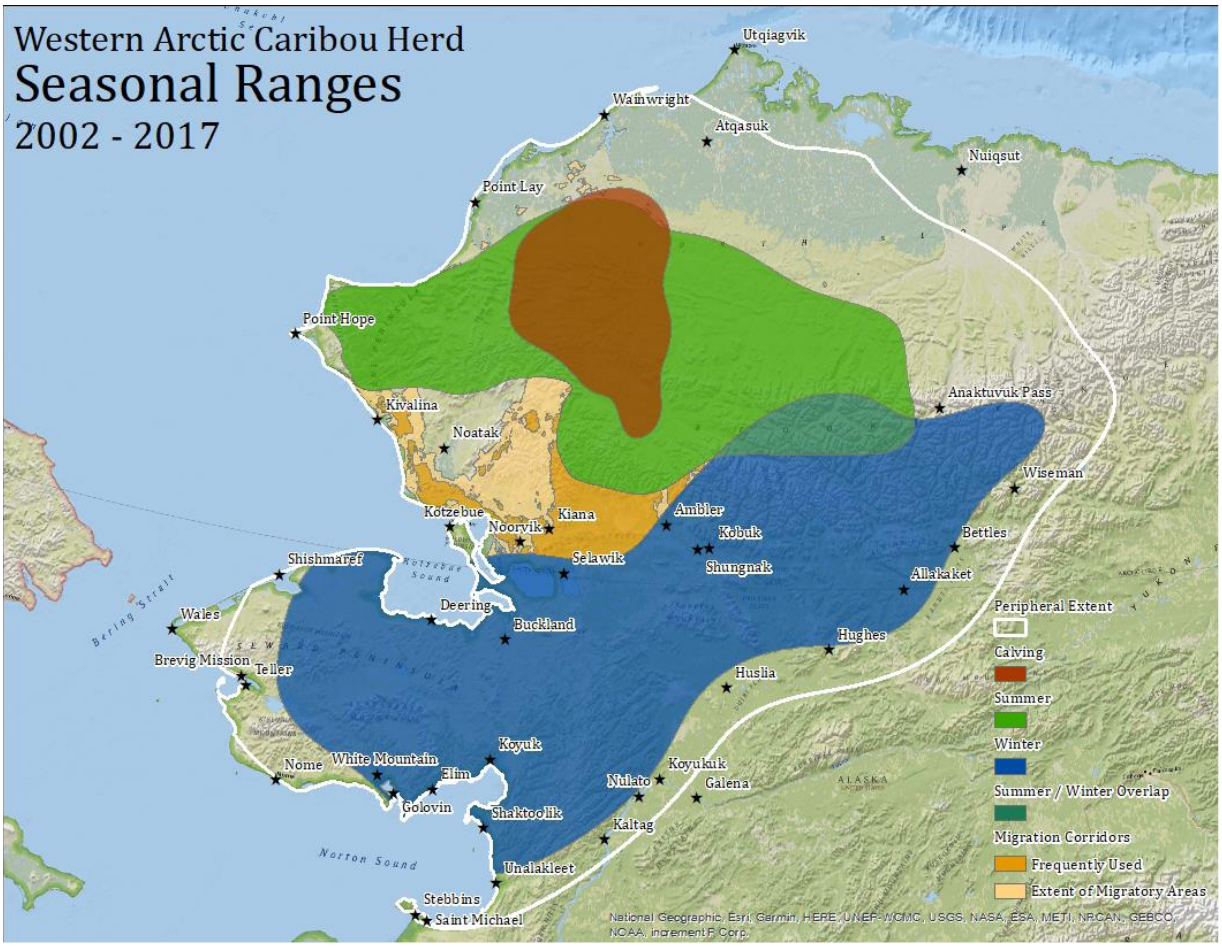
observed, which approximates the highest parturition level ever recorded for the herd (86 calves:100 cows in 1992). However, in 2020 the June calf:cow ratio dropped to 67 calves:100 cows (WACH Working Group 2020).

Decreased calf survival through summer and fall and recruitment into the herd likely contributed to the recent population decline (Dau 2013, 2015). Fall calf:cow ratios indicate calf survival over summer. Between 1976 and 2017, the fall calf:cow ratio ranged from 35 to 59 calves:100 cows/year, averaging 47 calves:100 cows/year.

Similarly, the ratio of short yearlings (SY, 10-11 months old caribou) to adults provides a measure of overwintering calf survival and recruitment. Between 1990 and 2020, SY:adult ratios ranged from 9-26 and averaged 18 SY:100 adults/year. SY:100 adult ratios were high from 2016-2018, ranging from 22-23 SY:100 adults (Dau 2016b, NWARAC 2019a). The 2020 SY:adult ratio was 17 SY:100 adults (WACH Working Group 2020).

Cow mortality affects the trajectory of the herd (Dau 2011, 2013, Prichard 2009, NWARAC 2019a). The annual mortality rate of radio-collared adult cows increased from an average of 15% between 1987 and 2003 to 23% from 2004–2014 (Dau 2011, 2013, 2014, 2015). Mortality rates declined in 2015 and 2016, but then increased sharply in 2017. However, the increased mortality rate in 2017 may be due to a low and aging sample size as few caribou have been collared in the past two years (Prichard et al. 2012, NWARAC 2019a) and/or difficult weather conditions (Gurarie et al. 2020). Estimated mortality includes all causes of death including hunting (Dau 2011). Dau (2015) states that cow mortality estimates are conservative due to exclusion of unhealthy (i.e. diseased) and yearling cows. These estimates are also susceptible to collar sample size and how long the collars have been on individuals (Prichard et al. 2012).

Far more caribou died from natural causes than from hunting between 1992 and 2012 (Dau 2013). Cow mortality remained constant throughout the year, but natural and harvest mortality for bulls spiked during the fall. However, as the WACH has declined and estimated harvest has remained relatively stable, the percentage of mortality due to hunting has increased relative to natural mortality. For example, during the period October 1, 2013 to September 30, 2014, estimated hunting mortality was approximately 42% and estimated natural mortality about 56% (Dau 2014). In previous years (1983–2013), the estimated hunting mortality exceeded 30% only once in 1997-1998 (Dau 2013). Additionally, Prichard (2009) and Dau (2015) suggest that harvest levels and rates of cows can greatly impact population trajectory. If bull:cow ratios continue to decline, harvest of cows may increase, exacerbating the current population decline.



Map 2. Western Arctic Caribou Herd seasonal range map, 2002-2017 (WACH Working Group 2019).

Cultural Knowledge and Traditional Practices

Caribou have been a primary resource for the Iñupiat of the Northwest Arctic region for thousands of years; caribou bones dating from 8,000 to 10,000 years ago have been excavated from archeological sites on the Kobuk River (Anderson 1968, 1988). Caribou were traditionally harvested any month of the year they were available in the Northwest Arctic region. Hunt timing changed—and continues to change—from year to year according to the availability of caribou and their migration paths (Burch 2012; ADF&G 1991). Iñupiaq hunting values are based on the belief that hunter behavior can prevent a successful harvest or alter the caribou migration (Anderson 1998).

Caribou continue to dominate the subsistence harvest in most communities in the region (Braem et al. 2015, Braem 2017). In household harvest surveys conducted between 1964 and 2017, caribou were often the most harvested species, more than any other wild resource, in pounds of edible weight. Based on these surveys, the per capita harvest of caribou has been as high as 430 pounds per year in communities in Unit 23 (ADF&G 2021).

The objective of the fall hunt has historically been to acquire large quantities of high quality meat to freeze for winter (Burch 1984). Ideally, caribou harvesting occurs when the weather is cool enough to

prevent spoilage of meat, but before freeze-up. Hunters search for caribou and attempt to intercept them at known river crossings, making the Kobuk and Noatak Rivers central to traditional hunt areas. But because of the variable range of the herd, the critical hunting sites changed each year. Noatak National Preserve was not only the hunting grounds of the people of the Noatak, it was also an alternative hunting site for people living on the Kobuk River, Selawik, and Kotzebue Sound" (Deur et al. 2019). At River crossings, caribou can be selectively harvested with small caliber rifles.

Communities in Unit 23 harvest caribou in the spring, fall, and winter, but fall is the preferred season for harvest. Prior to freeze-up, bulls have traditionally been preferred because they are fatter than cows (Georgette and Loon 1993). Caribou can be harvested in large numbers, when available, and transported back to villages by boat before freeze-up. After freeze-up, cows are preferred, because bulls are typically skinnier and in rut by then; the meat smells bad and is of poor quality (Braem et al. 2015).

User Conflicts

While residents of Unit 23 rely on caribou for the majority of their subsistence harvest, non-locals are attracted to the region because of its extensive public lands and abundant wildlife. User conflict is defined as "persons competing for consumptive or non-consumptive uses of a finite resource" (Braem et al. 2015). User conflicts are likely to intensify when resources are scarce and when food security is threatened (Cohen and Pinstrup-Andersen 1999).

Conflicts between local and nonlocal hunters have been well documented in Unit 23, specifically in the Noatak NP, the Squirrel River area, and along the upper Kobuk River (Georgette and Loon 1988, Jacobson 2008, Harrington and Fix 2009, Halas 2015, NWARAC 2015, Braem et al. 2015), even during times of high caribou abundance. Braem at el. (2015:177) note that "The roots of [this] conflict are varied, but they involve displacement of local hunters from traditional hunting sites, hunt disruption (largely by aircraft traffic), and differences in hunting practices and culture."

A long-held cultural practice in the region requires that lead adult female caribou be allowed to establish migratory paths unhindered by human activity. Local hunters have expressed concerns over aircraft and nonlocal hunters disrupting caribou migration by scaring caribou away from river crossings, landing and camping along migration routes, and shooting lead caribou (Halas 2015, Fix and Ackerman 2015, NWARAC 2015). According to a review of grey literature on aircraft-subsistence user conflict, "Specific reports or observations about aircraft activity harassing wildlife, changing caribou…migration routes, and frustrating harvesters have been increasing [in the Alaskan Arctic] since the early 2000s" (Stinchcomb et al. 2019:132).

Incomplete geographical information regarding air traffic and hunting camp information has prevented a full quantitative assessment of caribou deflection or displacement associated with commercial operators and their hunting clients (Dau 2015). Some studies and local observations of WACH caribou response to aircraft have suggested that animal response is limited in temporal and spatial scale (Fullman et al. 2017) and that many factors contribute to larger scale shifts in migration.

The timing of hunting has caused conflicts between user groups because 85–95% of all caribou taken by nonlocal hunters are harvested between August 25 and October 7, the same period as intense subsistence hunting (Dau 2015:31). While hunt timing often aligns among these user groups, methods of access do not. Most local hunters harvest caribou with snowmachines, boats, and 4-wheelers, and few use aircraft. In contrast, 76% of nonlocal hunters accessed hunt areas by plane in regulatory years 2012 and 2013 (Dau 2015:31). This mode of access can provide nonlocal users with a greater range of access and speed in reaching ideal hunting locations, and also place them in front of a migrating herd.

Local WACH harvest has been relatively stable in Unit 23 since the 1990s, but residents of some communities have had to "greatly increase their expenditure of money and effort to maintain these harvest levels" (Dau 2015:14-30). This is due in part to having to travel farther, more frequently, and for longer durations to find caribou (Halas 2015). Halas (2015) and Stinchcomb et al. (2019) note that even when the question of whether or not migration patterns are affected by aircraft in the long term is put aside, aircraft activity can lead to changes in harvesting behavior. Subsistence hunters avoid areas with air traffic; this displacement in turn prevents continued use of traditional areas and can even accelerate loss of place-based traditional knowledge. The authors also found that avoidance of high air-traffic areas results in longer trips and higher fuel costs for harvesters (Stinchcomb et al. 2019).

In a 2014 survey of 19 Noatak hunters, 78% and 92% of respondents perceived "nonlocals" and planes to impact caribou migration, respectively. Similarly, 63% and 81% of respondents reported that "nonlocal" hunters and planes reduced hunting success, respectively (Halas 2015). Noatak respondents did differentiate between commercial transporter operators and "nonlocal" hunters, attributing a decrease in harvest success primarily to aircraft associated with commercial transporters (Halas 2015). Negative encounters between local and nonlocal hunters identified by respondents primarily focused on river crossings of migrating caribou (Halas 2015).

Effects of the closure to date

The most recent subsistence survey of caribou harvest in Noatak dates to 2016-2017 (Gonzalez at al. 2018); there is no new data available that would allow for a comparison of household caribou harvest before and after implementation of the closure. However, following implementation of the closure, first as a temporary special action (WSA17-03) and then in permanent regulation (WP18-46), members of the Northwest Arctic Council have given feedback on its effects at their meetings. For example, in 2018, the Council member from Noatak stated: "This proposal helped Noatak get our caribou and decreased a lot of conflict on the Noatak River. We've been able to get our quota of caribou that we didn't get for a while and it really did make a difference for our subsistence for the people of Noatak." He continued:

> Some [residents] say…they got—just like a long time ago, peace and quiet, we can take our kids now, we don't have to worry about someone shooting over our heads. That's been happening when there's too [many] sport hunters on the river, they were shooting from behind us and from over our heads and while we're in the water and that was getting dangerous. So this closure pretty much helped Noatak big time (NWARAC 2018a).

Additional testimony reflecting the success of the closure for Noatak has been given by Council members every year since the closure was implemented (NWARAC 2019a, NWARAC 2020, NWARAC 2021). Simultaneously, Council members representing other communities in Unit 23—where no closure is in place—have expressed ongoing and growing concern about the role of nonlocal hunters, transporters, and guides in preventing the continuation of subsistence hunting for caribou in the region (e.g. NWARAC 2018a, 2018b, 2019a, 2019b, 2020, 2021).

Harvest History

The State manages the WACH on a sustained yield basis (i.e. managing current harvests to ensure future harvests). The harvestable surplus when the WACH population trend is declining is calculated as 6% of the estimated population (WACH working group 2011, Parrett 2017b, pers. comm.). In 2019, the WACH harvestable surplus was 14,640 caribou (6% of 244,000 caribou). Assuming the herd population remained stable in 2020 and 2021, the harvestable surplus remains 14,640 caribou. This is a notable increase from the 2016 harvestable surplus of 12,056 caribou when harvest likely exceeded sustainable levels. However, there is substantial uncertainty in harvestable surplus estimates (Parrett 2015, Dau 2015). Of particular concern is the overharvest of cows, which has probably occurred since 2010/11 (Dau 2015). Dau (2015a:14-29) states, "even modest increases in the cow harvest above sustainable levels could have a significant effect on the population trajectory of the WACH."

Caribou harvest by local hunters is estimated from community harvest surveys, if available, and from models developed by A. Craig with ADF&G's Division of Wildlife Conservation Region V. These models incorporate factors such as community size, availability of caribou, and per capita harvests for each community, which are based on mean values from multiple community harvest surveys (Dau 2015). In 2015, Craig's models replaced models developed by Sutherland (2005), resulting in changes to local caribou harvest estimates from past years. While Craig's models accurately reflect harvest trends, they do not accurately reflect actual harvest numbers (Dau 2015). (Note: no model accurately reflects harvest numbers). This analysis only considers the updated harvest estimates using Craig's new model as cited in Dau (2015). Caribou harvest by nonlocal residents and nonresidents are based on harvest ticket reports (Dau 2015). Hunters considered local by ADF&G are functionally identical to Federally qualified subsistence users (e.g. Residents of St. Lawrence Island are technically Federally qualified subsistence users, but do not frequently harvest Western Arctic caribou).

From 1999–2018, the average estimated total harvest from the WACH was 14,103 caribou/year, ranging from 11,729-16,219 caribou/year (Hansen 2020 and 2021, pers. comm.). These harvest levels are within and above the conservative harvest level specified in the WACH Management Plan. In 2015 and 2016, total local harvest estimates were 14,360 caribou and 14,971 caribou, respectively (Hansen 2019, pers. comm.). While these harvest estimates approximate the 2019-2021 harvestable surpluses, they exceed the 2016 harvestable surplus. In 2017 and 2018, the estimated local harvest was 14,218 and 13,818, respectively (Hansen 2021, pers. comm.). Of note, harvest estimates do not include wounding loss, which may be hundreds of caribou (Dau 2015).

Local hunters account for approximately 95% of the total WACH harvest and residents of Unit 23 account for approximately 58% of the total harvest on average (ADF&G 2017). Local community harvests parallel WACH availability rather than population trends. For example, Ambler only harvested 325 caribou when the WACH population peaked in 2003 but harvested 685 caribou in 2012 when most of the WACH migrated through eastern Unit 23. Similarly, Noatak only harvested 66 caribou in 2010 when no GPS-collared caribou migrated through western Unit 23. Harvest increased substantially (360 caribou) the following year when 37% of the GPS-collared caribou (and thus, a greater proportion of the WACH) migrated through western Unit 23.

Between 1998 and 2019, annual reported caribou harvest in Unit 23 ranged from 168-814 caribou (Hansen 2021, pers. comm.). Over the same time period, reported harvest by non-Federally qualified users ranged from 131-657 caribou. The lowest reported harvest occurred in 2016 when all Federal public lands in Unit 23 were closed to non-Federally qualified users, but before harvest reporting was required for Federally qualified subsistence users living locally. Regardless, local compliance with reporting mandates is considered low but increasing. In 2017, the BOG began requiring registration permits, which is reflected in the greater number of reported caribou harvest by Federally qualified subsistence users. On average, 76% of WACH caribou harvested by nonlocals are harvested in Unit 23 (Dau 2015).

From 1999-2013, 72% of nonlocal hunters on average accessed the WACH by plane. Most nonlocal harvest (85-90%) occurs between Aug. 25 and Oct. 7. In contrast, most local, subsistence hunters harvest WACH caribou whenever they are available using boats, 4-wheelers, and snowmachines (Dau 2015, Fix and Ackerman 2015). In Unit 23, caribou have historically been available during fall migration, but this has no longer been the case in recent years; caribou migration has occurred later in fall, resulting in subsistence harvest also occurring later, which in turn contributes to food insecurity.

Effects

The Board enacted the current closure because it was necessary to continue subsistence uses of the WACH per §815(3) of ANILCA. Continued complaints about conflicts surrounding the Noatak and Squirrel River drainage and the apparent benefit of the 2016/17 Federal closure to Noatak residents evidenced by letters and public testimony supported the closure of Federal public lands along the Noatak, Eli, Agashashok and Squirrel Rivers. Additionally, the short-term effects of aircraft on caribou behavior can negatively affect hunting success and harvest.

If the closure is lifted, non-Federally qualified users would be able to hunt caribou on Federal public lands along the Noatak River and within the Squirrel, Eli, and Agashashok River drainages. This could result in more user conflicts and interfere with caribou harvest by Federally qualified subsistence users. Feedback from Noatak residents indicate that the current closure has reduced user conflicts, resulting in more successful caribou hunts and allowing for the continuation of subsistence uses (NWARAC 2018a, 2019, 2020, 2021).

OSM CONCLUSION:

x maintain status quo
_ modify or eliminate the closure

Justification

The current closure is still necessary to continue subsistence uses of the WACH for Federally qualified subsistence users, specifically Noatak residents. The underlying factor leading to the closure in 2018—user conflict—has persisted overall in Unit 23 but has been mitigated in the closure area. The WACH continues to be managed at the conservative declining level. Since the closure has been enacted, user conflicts within the closure area have been reduced, and the hunt experiences and harvest success of Federally qualified subsistence users have improved.

LITERATURE CITED

ADF&G. 1988. Regulatory proposals submitted to the Alaska Board of Game, March 1988. Division of Boards, Juneau, Alaska.

ADF&G. 1991. Customary and traditional worksheets. Arctic Region: North Slope Area: GMU's 23, 24, 26. Division of Subsistence, Juneau, Alaska.

ADF&G. 2016. GMU 23 Working Group. http://www.adfg.alaska.gov/index.cfm?adfg=plans.unit23. Retrieved August 3rd, 2016.

ADF&G. 2017. Region V Caribou Overview. Alaska Board of Game. Arctic and Western Region. Jan. 6-9, 2017. Bethel, AK. http://www.adfg.alaska.gov/static/regulations/regprocess/gameboard/pdfs/2016-2017/aw/Tab_1.3_RegionV_Caribou_Overview.pdf. Accessed January 20, 2017.

ADF&G. 2021. CSIS: Community subsistence information system. http://www.adfg.alaska.gov/sb/CSIS/. Retrieved: April 8, 2021.

Anderson, D. D. 1968. A stone age campsite at the gateway to America. Scientific American 218(6): 24–33.

Anderson, D. D. 1988. Onion Portage: the archaeology of a stratified site from the Kobuk River, Northwest Alaska. Anthropological papers of the University of Alaska. 22 (1-2): 1-163.

Anderson, D.D. 1998. Kuuvanmiut subsistence: traditional Eskimo life in the latter twentieth century. National Park Service, Department of the Interior.

Atkinson, H. 2021. Anthropologist: Personal communication: email. Western Artic National Parklands. National Park Service. Kotzebue, AK.

Braem, N.M., E.H. Mikow, S.J. Wilson, M.L. Kostick. 2015. Wild food harvests in three upper Kobuk River communities: Ambler, Shungnak, and Kobuk, 2012-2013. ADF&G Division of Subsistence, Technical Paper No. 402. Fairbanks, AK.

Braem, N. 2017. Cultural anthropologist. Personal communication: e-mail. Bering Land Bridge National Preserve. National Park Service. Nome, AK.

Burch, Jr., E. S. 1984. The Kotzebue Sound Eskimo. In handbook of North American Indians--Arctic. Volume 5. Edited by David Damas. Smithsonian Institution, Washington, D.C.

Burch, E.S. 2012. Caribou herds of Northwest Alaska. University of Alaska Press. Fairbanks, AK.

Caribou Trails 2014. News from the Western Arctic Caribou Herd Working Group. Western Arctic Caribou Herd Working Group, Nome, AK. Issue 14. http://westernarcticcaribou.org/wp-content/uploads/2014/07/CT2014_FINAL_lowres.pdf. Retrieved: June 23, 2015.

Cohen, M.J. and P. Pinstrup-Andersen. 1999. Food security and conflict. *Social Research*, pp.375-416.

Dau, J. 2011. Units 21D, 22A, 22B, 22C, 22D, 22E, 23, 24, and 26A caribou management report. Pages 187-250 *in* P. Harper, editor. Caribou management report of survey and inventory activities July 1, 2008–30 June 30, 2010. ADF&G. Juneau, AK.

Dau, J. 2013. Units 21D, 22A, 22B, 22C, 22D, 22E, 23, 24, and 26A caribou management report. Pages 201-280 *in* P. Harper, editor. Caribou management report of survey and inventory activities July 1, 2010–30 June 30, 2012. ADF&G. Juneau, AK.

Dau, J. 2014. Wildlife Biologist. Western Arctic Caribou herd presentation. Western Arctic Caribou Herd (WACH) Working Group Meeting, December 17-18, 2014. Anchorage, Alaska. ADF&G. Nome, AK.

Dau, J. 2015. Units 21D, 22A, 22B, 22C, 22D, 22E, 23, 24 and 26A. Chapter 14, pages 14-1 through 14-89. *In* P. Harper, and Laura A. McCarthy, editors. Caribou management report of survey and inventory activities 1 July 2012–30 June 2014. Alaska Department of Fish and Game, Species Management Report ADF&G/DWC/SMR-2015-4, Juneau.

Dau, J. 2016a. Memorandum to S. Machida dated June 21, 2016. 2016 Western Arctic Caribou Herd calving survey: 4-12 June. ADF&G Division of Wildlife Conservation, Fairbanks, AK. 1 page.

Dau, J. 2016b. Memorandum to S. Machida dated April 26, 2016. 2016 Western Arctic Caribou Herd recruitment survey: 31 March and 5, 19, and 21 April. ADF&G Division of Wildlife Conservation, Fairbanks, AK. 1 page.

Deur, D.D., J. Hebert and H. Atkinson. 2019. Noatak National Preserve: traditional use study. Draft phase I report (unpublished). Portland State University Department of Anthropology and the National Park Service.

Fall, J.A. 1990. The Division of Subsistence of the Alaska Department of Fish and Game: an overview of its research program and findings: 1980-1990. Arctic Anthropology 27(2): 68-92.

Fix, P.J. and A. Ackerman. 2015. Noatak National Preserve sport hunter survey. Caribou hunters from 2010-2013. Natural resources report. National Park Service.

FSB. 2016. Transcripts of Federal Subsistence Board proceedings. April 13, 2016. Office of Subsistence Management, USFWS. Anchorage, AK.

FSB. 2018. Transcripts of Federal Subsistence Board proceedings. April 13, 2018. Office of Subsistence Management, USFWS. Anchorage, AK.

Fullman, T.J., K. Joly, A. Ackerman. 2017. Effects of environmental features and sport hunting on caribou migration in northwestern Alaska. Movement Ecology 5:4

FWS. 2014. FY2014 annual report reply to the Norwest Arctic Subsistence Regional Advisory Council. Office of Subsistence Management, USFWS. Anchorage, AK.

Georgette, S. and H. Loon. 1988. The Noatak River: Fall caribou hunting and airplane use. Technical Paper No. 162. ADF&G, Division of Subsistence. Kotzebue, AK.

Georgette, S. and H. Loon. 1993. Subsistence use of fish and wildlife in Kotzebue, a Northwest Alaska regional center. ADF&G, Division of Subsistence, Technical Paper No. 167. Fairbanks, AK.

Gonzalez, D., E.H. Mikow, and M. L Kostick. 2018. Subsistence wildlife harvests in Buckland, Koyuk, and Noatak, Alaska 2016-2017. ADF&G, Division of Subsistence, Special Publication No. 2018-05. Fairbanks, AK.

Gunn, A. 2003. Voles, lemmings and caribou – population cycles revisited? Rangifer, Special Issue. 14: 105-111.

Gurarie, E., P.R. Thompson, A.P. Kelly, N.C. Larter, W.F. Fagan, and K. Joly. 2020. For everything there is a season: estimating periodic hazard functions with the cyclomort R package. Methods in Ecology and Evolution 11 (1): 129-138.

Halas, G. 2015. Caribou migration, subsistence hunting, and user group conflicts in Northwest Alaska: a traditional knowledge perspective. University of Fairbanks-Alaska. Fairbanks, AK.

Hansen, D.A. 2019a. 2019 Western Arctic Caribou Herd – herd population status, other metrics. Presentation to Western Arctic Caribou Herd Working Group Technical Committee. December 10, 2019. https://westernarcticcaribou.net/.

Hansen, D.A. 2019b. Wildlife Biologist. Personal communication: e-mail. Alaska Department of Fish and Game. Kotzebue, AK.

Hansen, D.A. 2020. Wildlife Biologist. Personal communication: e-mail. Alaska Department of Fish and Game. Kotzebue, AK.

Hansen, D.A. 2021. Wildlife Biologist. Personal communication: e-mail. Alaska Department of Fish and Game. Kotzebue, AK.

Harrington, A.M. and P.J. Fix. 2009. Benefits based management study for the Squirrel River area. Project report for USDI Bureau of Land Management. Department of Resources management. University of Alaska-Fairbanks. Fairbanks, AK.

Holand, O., R.B. Weladji, A. Mysterud, K. Roed, E. Reimers, M. Nieminen. 2012. Induced orphaning reveals post-weaning maternal care in reindeer. European Journal of Wildlife Research. 58: 589-596.

Jacobson, C. 2008. Fall hunting in game management unit 23: assessment of issues and proposals for a planning process. ADF&G. Unpublished report. Juneau, AK.

Joly, K. 2000. Orphan caribou, *Rangifer tarandus*, calves: a re-evaluation of overwinter survival data. The Canadian Field Naturalist. 114: 322-323.

Joly, K. 2021. Wildlife Biologist, Gates of the Arctic National Park and Preserve. Personal communication: e-mail NPS. Fairbanks, A.K.Joly, K., R.R. Jandt, C.R. Meyers, and J.M. Cole. 2007. Changes in vegetative cover on the Western Arctic herd winter range from 1981–2005: potential effects of grazing and climate change. Rangifer Special Issue 17:199-207.

Joly, K., and M.D. Cameron. 2020. Caribou vital sign annual report for the Arctic Network Inventory and Monitoring Program, September 2019-August 2020. Natural resource report. National Park Service.

Joly, K., D.R. Klein, D.L. Verbyla, T.S. Rupp, and F.S. Chapin, III. 2011. Linkages between large-scale climate patterns and the dynamics of Arctic caribou populations. Ecography 34:345-352.

Nicholson, K.L., S.M. Arthur, J.S. Horne, E.O. Garton, P.A. Del Vecchio. 2016. Modeling caribou movements: seasonal ranges and migration routes of the Central Arctic Herd. Plos One. April 5, 2016.

NWARAC. 2015. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, October 7, 2015 in Buckland, AK. Office of Subsistence Management, FWS. Anchorage, AK.

NWARAC. 2016. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, October 5, 2016 in Selawik, AK. Office of Subsistence Management, FWS. Anchorage, AK.

NWARAC and NSRAC. 2016. Transcripts of the joint meeting of Northwest Arctic and North Slope Subsistence Regional Advisory Council proceedings. March 11, 2016 in Anchorage, AK. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2018a. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, February 28-March 1, 2018 in Kotzebue, AK. Office of Subsistence Management, FWS. Anchorage, AK.

NWARAC. 2018a. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, February 28-March 1, 2018 in Kotzebue, AK. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2019a. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, April 9-10, 2019 in Kotzebue, AK. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2019b. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, October 28-29, 2019 in Kotzebue, AK. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2020. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, November 3, 2020. Teleconference. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2021. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, February 18, 2021. Teleconference. Office of Subsistence Management, USFWS. Anchorage, AK.

Parrett, L.S. 2015. Western Arctic Caribou Herd Overview presentation. Presented at the Western Arctic Caribou Herd Working Group meeting. Dec. 16-17. Anchorage, AK.

Parrett, L.S. 2016. Memorandum for distribution, dated August 25, 2016. Summary of Western Arctic Caribou Herd photocensus conducted July 1, 2016. ADF&G Division of Wildlife Conservation, Fairbanks, AK.

Parrett, L.S. 2017a. WAH Caribou Overview. Western Arctic Caribou Herd Working Group meeting. December 2017. https://westernarcticcaribounet.files.wordpress.com/2017/12/2017-complete-wg-meeting-binder-dec-13-14-2017-for-webpost.pdf. Accessed December 20, 2017.

Parrett, L.S. 2017b. Wildlife Biologist IV. Personal communication: phone and e-mail. Alaska Department of Fish and Game. Fairbanks, AK.

Prichard, A.K. 2009. Development of a preliminary model for the Western Arctic Caribou Herd. ABR, Inc. – Environmental Research and Services. Fairbanks, AK.

Prichard, A.K., K. Joly and J. Dau. 2012. Quantifying telemetry collar bias when age is unknown: a simulation study with a long-lived ungulate. Journal of Wildlife Management 76 (7): 1441-1449. DOI: 10.1002/jwmg.394.

Rughetti, M., M. Festa-Bianchet. 2014. Effects of selective harvest of non-lactating females on chamois population dynamics. Journal of Applied Ecology. 51: 1075-1084.

Russell, D.E., S.G. Fancy, K.R. Whitten, R.G. White. 1991. Overwinter survival of orphan caribou, *Rangifer tarandus*, calves. Canadian Field Naturalist. 105: 103-105.

Stinchcomb, T. R., T. J. Brinkman, and S.A. Fritz. 2019. A review of aircraft-subsistence harvester conflict in arctic Alaska." Arctic 72(2): 131–50.

Sutherland, R. 2005. Harvest estimates of the Western Arctic Caribou Herd, Alaska. Proceedings of the 10th North American Caribou Workshop. Girdwood, AK. 4-6 May 2004. Rangifer Special Issue No. 16: 177-184.

Taillon, J., V. Brodeur, M. Festa-Bianchet, S.D. Cote. 2011. Variation in body condition of migratory caribou at calving and weaning: which measures should we use? Ecoscience. 18(3): 295-303.

Vistnes, I. and C. Nellemann. 2008. The matter of spatial and temporal scales: a review of reindeer and caribou response to human activity. Polar Biology 31(4):399-407.

WACH (Western Arctic Caribou Herd) Working Group. 2011. Western Arctic Caribou Herd Cooperative Management Plan – Revised December 2011. Nome, AK.

WACH (Western Arctic Caribou Herd) Working Group. 2019. Western Arctic Caribou Herd Working Group meeting. December 10-12, 2019. Anchorage, AK.

WACH (Western Arctic Caribou Herd) Working Group. 2020. Western Arctic Caribou Herd Working Group meeting December 9, 2020. Teleconference.

RHAK
Resident Hunters of Alaska

unapologetically **FOR ALASKAN RESIDENTS**

PO Box 60095, Fairbanks, Alaska 99706 (907) 371-7436
email info@residenthuntersofalaska.org web www.residenthuntersofalaska.org

July 19, 2021

To: Federal Subsistence Board
Office of Subsistence Management
(Attn: Theo Matuskowitz)
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199

Re: Federal Subsistence Board 2022-2024 Wildlife Proposals and Existing Closures

Dear Federal Subsistence Board Members,

Resident Hunters of Alaska (RHAK) represents several thousand members from across the state, rural and urban, who advocate for sustainable wildlife management policies and a resident hunting priority according to Article 8 of our state constitution.

RHAK participates in Regional Advisory Council (RAC) meetings and Federal Subsistence Board (FSB) meetings, and we have become alarmed at the continuing wildlife proposals and special action requests that are not based on actual biological emergencies or conditions that would prevent federally qualified subsistence users (FQU) from meeting their subsistence needs.

What makes any FSB closures and restrictions especially problematic is that there is no differentiation in the federal system between Alaska residents and nonresidents from another state or country; both Alaska residents and nonresidents are deemed the same under federal regulations by definition of a who is a FQU. A prime example of why this is so problematic is that often complaints about competition from non-local non-federally qualified subsistence users (NFQU) center on the nonresident component, which can often comprise the majority of NFQ hunters participating in these hunts. So, when any restrictions or closures on federal lands happen, Alaskans who used to live in a designated rural area but for whatever reason have moved to more urban areas of the state, can't return home to hunt and carry on their traditional hunting activities on federal lands, nor can other Alaskans participate in these hunts.

It has always been RHAK's position that when and where we have wildlife conservation concerns or subsistence opportunities are not being met, that the ***nonresident component should always be the first group of hunters***

restricted. If other restrictions are still necessary, only then can we support restrictions on resident hunters.

We have always advised RACs to first use the Board of Game (BOG) process when and where there are concerns with too much competition from non-local NFQ hunters, as the BOG can differentiate between Alaska residents and nonresidents.

Comments on Individual Proposals and Existing Closures

WP22-07 Federal public lands of Admiralty Island draining into Chatham Strait between Point Marsden and Point Gardner are closed to deer hunting Sept. 15 – Nov. 30, except by Federally qualified subsistence users hunting under these regulations.

OPPOSE

The rationale of WP22-07 is not based on any biological data or harvest statistics that show a conservation concern for the deer population on Admiralty Island or that subsistence needs are not being met.

According to Alaska Department of Fish & Game (ADF&G) data, over the last decade we have had mild winters in Game Management Unit 4 and the deer population is "*high and stable*." The deer population on western Admiralty Island is ***not*** depleted, as the proposal states. Nor are there any conservation concerns for the deer population under the current hunting regulations.

The proposal also states that there has been increased "*hunting pressure*" from NFQ hunters and it has "*become more challenging for subsistence hunters in Angoon to harvest sufficient deer for their needs.*" But according to ADF&G data, over the last two decades there has been a ***decrease*** in both the number of FQU and NFQU.

The FSB operates under ANILCA guidelines and the federal code of regulations that govern when and why any closures to NFQU can happen: "*With respect to subsistence uses of a particular fish or wildlife population, the Board may only approve a proposed closure if necessary for reasons of public safety, administration, or to assure the continued viability of such population (ANILCA §816(b), 36 CFR 242.10(d)(4)(vii) and 50 CFR 100.10(d)(4)(vii)).* ***Meanwhile, the Board may approve a proposed closure of nonsubsistence uses of a particular fish or wildlife population for any of these same reasons, or if necessary for the conservation of healthy populations of fish and wildlife,***

or to continue subsistence uses of such population (ANILCA §815(3), 36 CFR 242.10(d)(4)(vi) and 50 CFR 100.10(d)(4)(vi))." [1]

The Board should vote down this proposal based on the above guidelines of when any restrictions or closures on federal lands for NFQU are allowed to happen.

WP22-09 Federal public lands draining into Lisianski Inlet, Lisianski Strait, and Stag Bay south of the latitude of Mite Cove (58° 4' N) and north of the latitude of Lost Cove (57° 52' N) are closed to deer hunting Oct. 15 – Dec. 31, except by Federally qualified subsistence users hunting under these regulations.

OPPOSE

Refer to our comments on WP22-07

WCR22-01 Deer Prince of Wales closed Aug. 1-15, except by Federally qualified subsistence users; non- Federally qualified users may only harvest 2 bucks

Rescind closure to NFQU on Price of Wales Island

WCR22-45 Caribou Unit 23 - Portions of Unit 23 - closed to non- Federally qualified users

Rescind closure to NFQU in those portions of Unit 23

Thank you for the opportunity to comment.

Sincerely,

Mark Richards
Executive Director Resident Hunters of Alaska

[1] https://www.doi.gov/sites/doi.gov/files/uploads/closure-policy-revised-2020-08-04.pdf

WP22–47 Executive Summary	
General Description	Proposal WP22-47 requests that calf harvest be permitted for caribou in Unit 22. *Submitted by: Western Arctic Caribou Herd Working Group*
Proposed Regulation	See page 81
OSM Preliminary Conclusion	**Support**
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	**None**

DRAFT STAFF ANALYSIS
WP22-47

ISSUES

Proposal WP22-47 submitted by the Western Arctic Caribou Herd (WACH) Working Group requests that calf harvest be permitted for caribou in Unit 22.

DISCUSSION

The proponent states that the intent of this proposal is to allow for the harvest of orphaned calves, and that this regulation change would align Federal and State regulations.

Existing Federal Regulation

Unit 22—Caribou

Unit 22B, that portion west of Golovnin Bay and west of a line along the west bank of the Fish and Niukluk Rivers to the mouth of the Libby River, and excluding all portions of the Niukluk River drainage upstream from and including the Libby River drainage—5 caribou per day by State registration permit. Calves may not be taken	*Oct. 1-Apr. 30.* *May 1-Sep. 30, a season may be announced*
Units 22A, that portion north of the Golsovia River drainage, 22B remainder, that portion of Unit 22D in the Kuzitrin River drainage (excluding the Pilgrim River drainage), and the Agiapuk River drainages, including the tributaries, and Unit 22E, that portion east of and including the Tin Creek drainage—5 caribou per day by State registration permit. Calves may not be taken	*July 1-June 30*
Unit 22A, remainder—5 caribou per day by State registration permit. Calves may not be taken	*July 1-June 30, season may be announced*
Unit 22D, that portion in the Pilgrim River drainage—5 caribou per day by State registration permit. Calves may not be taken	*Oct. 1-Apr. 30.* *May 1-Sep. 30, season may be announced*
Units 22C, 22D remainder, 22E remainder—5 caribou per day by State registration permit. Calves may not be taken	*July 1-June 30, season may be announced*

Proposed Federal Regulation

Unit 22—Caribou

Unit 22B, that portion west of Golovnin Bay and west of a line along the west bank of the Fish and Niukluk Rivers to the mouth of the Libby River, and excluding all portions of the Niukluk River drainage upstream from and including the Libby River drainage—5 caribou per day by State registration permit. ~~Calves may not be taken~~	*Oct. 1-Apr. 30.* *May 1-Sep. 30, a season may be announced*
Units 22A, that portion north of the Golsovia River drainage, 22B remainder, that portion of Unit 22D in the Kuzitrin River drainage (excluding the Pilgrim River drainage), and the Agiapuk River drainages, including the tributaries, and Unit 22E, that portion east of and including the Tin Creek drainage—5 caribou per day by State registration permit. ~~Calves may not be taken~~	*July 1-June 30*
Unit 22A, remainder—5 caribou per day by State registration permit. ~~Calves may not be taken~~	*July 1-June 30, season may be announced*
Unit 22D, that portion in the Pilgrim River drainage—5 caribou per day by State registration permit. ~~Calves may not be taken~~	*Oct. 1-Apr. 30.* *May 1-Sep. 30, season may be announced*
Units 22C, 22D remainder, 22E remainder—5 caribou per day by State registration permit. ~~Calves may not be taken~~	*July 1-June 30, season may be announced*

Existing State Regulation

Unit 22—Caribou

22A, north of the Golsovia River drainage	*Residents—Twenty caribou total, up to 5 per day. Permit available online at http://hunt.alaska.gov or in person in Nome and license vendors within Unit 22 beginning June 22*	*Bulls*	*RC800*	*no closed season*
		Cows	*RC800*	*July 1-Mar. 31*
	Nonresidents—one bull		*HT*	*Aug. 1-Sept. 30*

Unit 22—Caribou

22A remainder	*Residents—Twenty caribou total, up to 5 per day. Bulls may not be taken Oct 15-Jan 31, and cows may not be taken Apr 1-Aug 31. Permit available online at http://hunt.alaska.gov or in person in Nome and license vendors within Unit 22 beginning June 22*		*RC800*	*May be announced*
	Nonresidents—one bull		*HT*	*May be announced*
Unit 22B, west of Golovnin Bay, west of the west banks of Fish and Niukluk rivers below the Libby river (excluding the Libby River drainage and Niukluk River drainage above the mouth of the Libby River)	*Residents—Twenty caribou total, up to 5 per day. Permit available online at http://hunt.alaska.gov or in person in Nome and license vendors within Unit 22 beginning June 22*	*Bulls*	*RC800*	*Oct. 1-Apr. 30*
		Cows	*RC800*	*Oct. 1-Mar. 31*
	Residents- Twenty caribou total, up to 5 per day. Cows may not be taken Apr 1-Aug 31. Permit available online at http://hunt.alaska.gov or in person in Nome and license vendors within Unit 22 beginning June 22		*RC800*	*may be announced*
	Nonresidents: one bull		*HT*	*may be announced*
22B remainder	*Residents—Twenty caribou total, up to 5 per day. Permit available online at http://hunt.alaska.gov or in person in Nome and license vendors within Unit 22 beginning June 22*	*Bulls*	*RC800*	*no closed season*
		Cows	*RC800*	*July 1-Mar. 31*
	Nonresidents—one bull		*HT*	*Aug. 1-Sept. 30*

Unit 22—Caribou

22C	*Residents—Twenty caribou total, up to 5 per day. Bulls may not be taken Oct 15-Jan 31, and cows may not be taken Apr 1-Aug 31. Permit available online at http://hunt.alaska.gov or in person in Nome and license vendors within Unit 22 beginning June 22*		*RC800*	*May be announced*
	Nonresidents—one bull		*HT*	*May be announced*
22D Pilgrim River drainage	*Residents—Twenty caribou total, up to 5 per day. Permit available online at http://hunt.alaska.gov or in person in Nome and license vendors within Unit 22 beginning June 22*	*Bulls*	*RC800*	*Oct. 1-Apr. 30*
		Cows	*RC800*	*Oct. 1-Mar. 31*
	Residents- Twenty caribou total, up to 5 per day. Cows may not be taken Apr 1-Aug 31. Permit available online at http://hunt.alaska.gov or in person in Nome and license vendors within Unit 22 beginning June 22		*RC800*	*may be announced*
	Nonresidents: one bull		*HT*	*may be announced*
22D, in the Kuzitrin River drainage (excluding the Pilgrim River drainage) and the Agiapuk river drainage	*Residents—Twenty caribou total, up to 5 per day. Permit available online at http://hunt.alaska.gov or in person in Nome and license vendors within Unit 22 beginning June 22*	*Bulls*	*RC800*	*no closed season*
		Cows	*RC800*	*July 1-Mar. 31*
	Nonresidents—one bull		*HT*	*Aug. 1-Sept. 30*

Unit 22—Caribou

22D remainder	*Residents—Twenty caribou total, up to 5 per day. Bulls may not be taken Oct 15-Jan 31, and cows may not be taken Apr 1-Aug 31. Permit available online at http://hunt.alaska.gov or in person in Nome and license vendors within Unit 22 beginning June 22*		*RC800*	*May be announced*
	Nonresidents—one bull		*HT*	*May be announced*
22E, east of and including the Sanaguich River drainage	*Residents—Twenty caribou total, up to 5 per day. Permit available online at http://hunt.alaska.gov or in person in Nome and license vendors within Unit 22 beginning June 22*	*Bulls*	*RC800*	*no closed season*
		Cows	*RC800*	*July 1-Mar. 31*
	Nonresidents—one bull		*HT*	*Aug. 1-Sept. 30*
22E remainder	*Residents—Twenty caribou total, up to 5 per day. Bulls may not be taken Oct 15-Jan 31, and cows may not be taken Apr 1-Aug 31. Permit available online at http://hunt.alaska.gov or in person in Nome and license vendors within Unit 22 beginning June 22*		*RC800*	*May be announced*
	Nonresidents—one bull		*HT*	*May be announced*

Extent of Federal Public Lands/Waters

Unit 22 is comprised of 43% Federal public lands and consist of 28% Bureau of Land Management (BLM) managed lands, 12% National Park Service (NPS) managed lands and 3% U.S. Fish and Wildlife Service (USFWS) managed lands.

Customary and Traditional Use Determinations

Residents of Units 21D west of the Koyukuk and Yukon Rivers, 22 (except residents of St. Lawrence Island), 23, 24, Kotlik, Emmonak, Hooper Bay, Scammon Bay, Chevak, Marshall, Mountain Village,

Pilot Station, Pitka's Point, Russian Mission, St. Marys, Nunam Iqua, and Alakanuk have a customary and traditional use determination for caribou in Unit 22A.

Residents of Units 21D west of the Koyukuk and Yukon Rivers, 22 (excluding residents of St. Lawrence Island), 23, and 24 have a customary and traditional use determination for caribou in Unit 22 remainder.

Regulatory History

In 1990, the Federal caribou hunting seasons in Units 22A and 22B were open year-round with a 5 caribou/day harvest limit and a restriction on the take of cows May 16 ─ June 30. There was no open caribou season in Units 22C, 22D and 22E.

In 2000, the Board adopted Proposal WP00-53 with modification allowing the use of snowmachines to position a hunter to select individual caribou for harvest in Units 22 and 23. This was done to recognize a customary and traditional practice in the region.

In 2003, the Board adopted Proposal WP03-40 with modification to establish a harvest season of July 1 ─ June 30 and a 5 caribou per day harvest limit in portions of Units 22D and 22E. This was done because caribou had expanded their range into these subunits and harvest was not expected to impact the caribou or reindeer herds, to provide additional subsistence hunting opportunities and to align State and Federal regulations.

In 2006, the Board adopted Proposal WP06-37 with modification, which designated a new hunt area in Unit 22B with an open season of Oct. 1 ─ Apr. 30 and a closed season from May 1 ─ Sept. 30 unless opened by a Federal land manager. This was done to prevent incidental take of privately-owned reindeer and to reduce user conflicts.

In 2013, an aerial photo census indicated significant declines in the WACH population (Caribou Trails 2014). In response, the Alaska Board of Game (BOG) adopted modified Proposal 202 (RC76) in March 2015 to reduce harvest opportunities for both Alaska residents and nonresidents within the range of the WACH, including Units 22, 23, and 26A. These regulation changes – which included lowering bag limits for nonresidents from two caribou to one bull, reductions in bull and cow season lengths, the establishment of new hunt areas and prohibiting calf harvest – were adopted to slow or reverse the population decline.

In 2016, the Board considered Proposal WP16-37, which requested that Federal caribou regulations mirror the new State regulations across the range of the WACH (Units 21D, 22, 23, 24 and 26A). The Board adopted Proposal WP16-37 with modification to reduce the harvest limit to 5 caribou per day, restrict bull season during rut and cow season around calving, prohibit the harvest of calves and the harvest of cows with calves before weaning (mid-Oct.) in some areas, to create new hunt areas and to establish new seasons in Unit 22.

In 2016, the BOG adopted Proposal 140 as amended to make the following changes to Unit 22 caribou regulations: establish a registration permit hunt (RC800), set an annual harvest limit of 20 caribou total and lengthen cow and bull seasons in several hunt areas.

In 2018, the Board adopted WP18-48 to require State registration permits for caribou hunting in Units 22, 23 and 26A to improve harvest reporting and herd management, and to align with State regulations.

In January 2020, the BOG adopted Proposal 24 as amended to remove the restriction on caribou calf harvest in Units 22, 23 and 26A.

In April 2020, the Board adopted Proposal WP20-46 to open a year-round bull season and permit calf harvest for caribou in Unit 23. Creating a year-round season for bulls was intended to allow for harvest of bulls when caribou migration had been delayed, alleviating harvest pressure on cows. The prohibition on calf harvest was lifted in order to permit taking of calves that had been orphaned or injured.

Biological Background

Caribou abundance naturally fluctuates over decades (Gunn 2001, WACH Working Group 2011). Gunn (2001) reports the mean doubling rate for Alaskan caribou as 10 ± 2.3 years. Although the underlying mechanisms causing these fluctuations are uncertain, climatic oscillations (i.e. Arctic and Pacific Decadal Oscillations) may play an important role (Gunn 2001, Joly et al. 2011). Climatic oscillations can influence factors such as snow depth, icing, forage quality and growth, wildfire occurrence, insect levels and predation, which all contribute to caribou population dynamics (Joly et al. 2011). Density-dependent reduction in forage availability, resulting in poorer body condition may exacerbate caribou population fluctuations (Gunn 2001).

Caribou calving generally occurs from late May to mid-June (Dau 2013). Weaning generally occurs in late October and early November before the breeding season (Taillon et al. 2011). Calves stay with their mothers through their first winter, which improves calves' access to food and body condition (Holand et al. 2012). Calves orphaned after weaning (October) have greater chances of survival than calves orphaned before weaning (Holand et al. 2012, Joly 2000, Russell et al. 1991, Rughetti and Fest-Bianchet 2014).

The WACH has historically been the largest caribou herd in Alaska and has a home range of approximately 157,000 square miles in northwestern Alaska. In the spring, most mature cows move north to calving grounds in the Utukok Hills, while bulls and immature cows lag behind and move toward summer range in the Wulik Peaks and Lisburne Hills (**Map 1**, Dau 2011, WACH Working Group 2011, 2019). After calving, cows and calves move west toward the Lisburne Hills where they mix with the bulls and non-maternal cows. During the summer, the herd moves rapidly to the Brooks Range. In the fall, the majority of the herd generally moves south toward wintering grounds south of the Brooks Range (Joly 2021, pers. comm.). Rut occurs during fall migration (Dau 2011, WACH Working Group 2011).

In recent years, the timing of fall migration has been less predictable. From 2010-2019, the average dates that GPS collared caribou crossed the Noatak River ranged from Sep. 6 – Oct. 13; the Kobuk River ranged from Sep. 24 – Nov. 3; and the Selawik River ranged from Oct. 2 – Nov. 10 (Joly and Cameron 2020). From 2010-2016, caribou migration was trending to occur earlier in the year. However, from 2017-2019, caribou crossed the Noatak River, but then there was substantial delay before caribou crossed the Kobuk and Selawik Rivers. This appears to have been the case for 2020 as well. During the fall 2020 Northwest Arctic Regional Advisory Council meeting in early November, Council members stated that only Noatak had harvested caribou in the fall and that caribou had not yet passed through the Southern portions of Unit 23. While data has yet to be analyzed, the first GPS collared caribou did not cross the Kobuk River until November, which is the latest first crossing since data collection began in 2010 (Joly 2021, pers. comm.). Reasons for changes in migration phenology are unknown.

The proportion of caribou using certain migration paths also varies each year (Joly and Cameron 2020). Changes in migration paths are likely influenced by multiple factors including food availability, snow depth, rugged terrain and dense vegetation (Fullman et al. 2017, Nicholson et al. 2016). If caribou travelled the same migration routes every year, their food resources would likely be depleted (NWARAC 2016).

The WACH Working Group consists of a broad spectrum of stakeholders, including subsistence users, sport hunters, conservationists, hunting guides, reindeer herders and transporters. The Group is also technically supported by the National Park Service (NPS), USFWS, BLM and the Alaska Department of Fish and Game (ADF&G) personnel. The WACH Working Group developed a WACH Cooperative Management Plan in 2003 and revised it in 2011 and 2019 (WACH Working Group 2011, 2019). The WACH Management Plan identifies nine plan elements: cooperation, population management, habitat, regulations, reindeer, knowledge, education, human activities and changing climate, as well as associated goals, strategies and management actions. As part of the population management element the WACH Working Group developed a guide to herd management determined by population size, population trend and harvest rate. Population sizes guiding management level determinations were based on recent (since 1970) historical data for the WACH (WACH Working Group 2011, 2019). Revisions to recommended harvest levels under liberal and conservative management were made in 2015 (WACH Working Group 2015) and 2019 (WACH Working Group 2019, **Table 1**).

The WACH population declined rapidly in the early 1970s, reaching a low estimate of about 75,000 animals in 1976. Aerial photocensuses have been used since 1986 to estimate population size. The WACH population increased throughout the 1980s and 1990s, peaking at 490,000 animals in 2003 (**Figure 1**). Beginning in 2003, the herd declined at an average annual rate of 7.1% from approximately 490,000 caribou to 200,928 caribou in 2016 (Caribou Trails 2014; Dau 2011, 2014, Parrett 2016). In 2017, the herd increased to an estimated 259,000 caribou (Parrett 2017a). However, part of this increase may have been due to improved photographic technology as ADF&G switched from film to higher resolution digital cameras. The 2019 population estimate was 244,000 caribou (Hansen 2019a). No photocensus was completed in 2020, but ADF&G plans to conduct a census in 2021 (WACH Working Group 2020).

Between 1982 and 2011, the WACH population was within the liberal management level prescribed by the WACH Working Group (**Figure 1, Table 1**). In 2013, the herd population estimate fell below the population threshold for liberal management of a decreasing population (265,000), slipping into the conservative management level where it has remained. In 2020, no photocensus was completed, and the WACH Working Group voted to maintain the herd's status at the conservative declining level (WACH Working Group 2020).

Between 1970 and 2017, the bull:cow ratio exceeded Critical Management levels identified in the 2019 WACH Management Plan (**Figure 2**). However, the average annual number of bulls:100 cows was greater during the period of population growth (54:100 between 1976–2001) than during the recent period of decline (44:100 between 2004–2016). Additionally, Dau (2015) states that while trends in bull:cow ratios are accurate, actual values should be interpreted with caution due to sexual segregation during sampling and the inability to sample the entire population, which likely account for more annual variability than actual changes in composition.

Although factors contributing to the 2003-2016 decline are not known with certainty, increased adult cow mortality and decreased calf recruitment and survival played a role (Dau 2011). Since the mid-1980s, adult mortality has slowly increased while recruitment has slowly decreased (**Figure 3**, Dau 2013). Prichard (2009) developed a population model specifically for the WACH using various demographic parameters and found adult survival to have the largest impact on population size, followed by calf survival and then parturition rates.

Calf production has likely had little influence on the population trajectory (Dau 2013, 2015). Between 1990 and 2003, the June calf:cow ratio averaged 66 calves:100 cows/year. Between 2004 and 2016, the June calf:cow ratio averaged 71 calves:100 cows/year (**Figure 4,** Dau 2016a). The average June calf:cow ratio increased to 79 calves:100 cows between 2017 and 2020. In June 2018 86 calves:100 cows were observed, which approximates the highest parturition level ever recorded for the herd (86 calves:100 cows in 1992). However, in 2020 the June calf:cow ratio dropped to 67 calves:100 cows (WACH Working Group 2020).

Decreased calf survival through summer and fall and recruitment into the herd likely contributed to the recent population decline (Dau 2013, 2015). Fall calf:cow ratios indicate calf survival over summer. Between 1976 and 2017, the fall calf:cow ratio ranged from 35 to 59 calves:100 cows/year, averaging 47 calves:100 cows/year (**Figure 4**). Since 2008, ADF&G has recorded calf weights at Onion Portage as an index of herd nutritional status. In September 2015, calf weights averaged 100 lbs., the highest average ever recorded (Parrett 2015b).

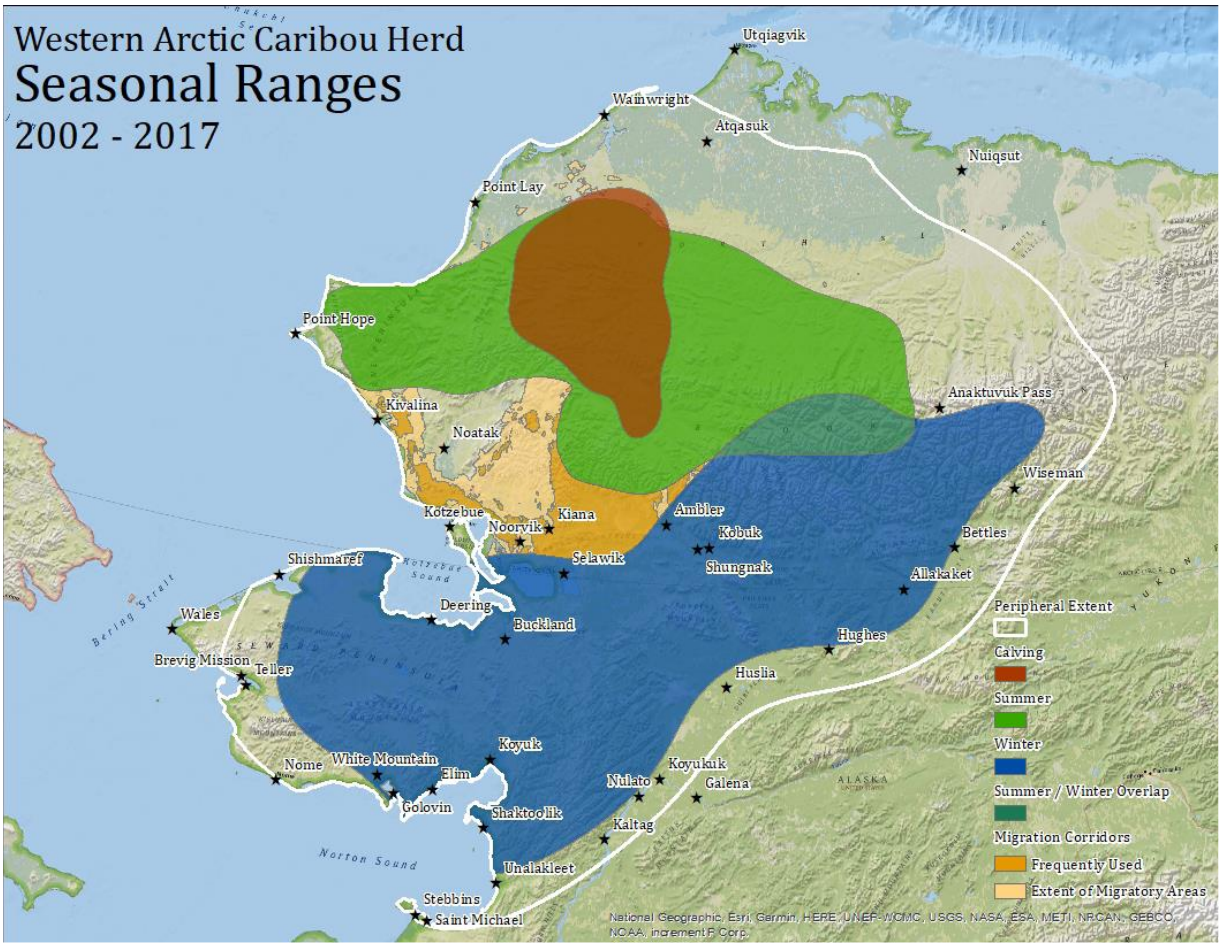
Similarly, the ratio of short yearlings (SY, 10-11 months old caribou) to adults provides a measure of overwintering calf survival and recruitment. Between 1990 and 2020, SY:adult ratios ranged from 9-26 and averaged 18 SY:100 adults/year (**Figure 4**). SY:100 adult ratios were high from 2016-2018, ranging from 22-23 SY:100 adults (Dau 2016b, NWARAC 2019). The 2020 SY:adult ratio was 17 SY:100 adults (WACH Working Group 2020).

Cow mortality affects the trajectory of the herd (Dau 2011, 2013, Prichard 2009, NWARAC 2019). The annual mortality rate of radio-collared adult cows increased from an average of 15% between 1987 and 2003 to 23% from 2004-2014 (**Figure 3,** Dau 2011, 2013, 2014, 2015). Mortality rates declined in 2015 and 2016, but then increased sharply in 2017. However, the increased mortality rate in 2017 may be due to a low and aging sample size as few caribou have been collared in the past two years (Prichard et al. 2012, NWARAC 2019) and/or difficult weather conditions (Gurarie et al. 2020). Estimated mortality includes all causes of death including hunting (Dau 2011). Dau (2015) states that cow mortality estimates are conservative due to exclusion of unhealthy (i.e. diseased) and yearling cows. These estimates are also susceptible to collar sample size and how long the collars have been on individuals (Prichard et al. 2012).

Far more caribou died from natural causes than from hunting between 1992 and 2012 (Dau 2013). Cow mortality remained constant throughout the year, but natural and harvest mortality for bulls spiked during the fall. However, as the WACH has declined and estimated harvest has remained relatively stable, the percentage of mortality due to hunting has increased relative to natural mortality. For example, during the period October 1, 2013 to September 30, 2014, estimated hunting mortality was approximately 42% and estimated natural mortality about 56% (Dau 2014). In previous years (1983–2013), the estimated hunting mortality exceeded 30% only once in 1997-1998 (Dau 2013). Additionally, Prichard (2009) and Dau (2015) suggest the harvest rates of cows can greatly impact population trajectory. If bull:cow ratios continue to decline, harvest of cows may increase, exacerbating the current population decline.

Dau (2015) speculates that fall and winter icing events were the primary factor initiating the population decline in 2003. Increased predation, hunting pressure, deteriorating range condition (including habitat loss and fragmentation), climate change and disease may also be contributing factors (Dau 2015, 2014, Joly et al. 2011). Joly et al. (2007) documented a decline in lichen cover in portions of the wintering areas of the WACH. Dau (2011, 2014) speculated that degradation in range condition is not thought to be a primary factor in the decline of the herd because animals have generally maintained good body condition since the decline began. Body condition is estimated using a subjective scale from 1-5. The fall body condition of adult females in 2015 was characterized as “fat” (mean= 3.9/5) with no caribou being rated as skinny or very skinny (Parrett 2015b). However, the body condition of the WACH in the spring may be a better indicator of the effects of range condition versus the fall when the body condition of the herd is routinely assessed and when caribou are in prime condition (Joly 2015, pers. comm.).

Caribou feed on a wide variety of plants including lichens, fungi, sedges, grasses, forbs and twigs of woody plants. Arctic caribou depend primarily on lichens during the fall and winter, but during summer they feed on leaves, grasses and sedges (Joly and Cameron 2018, Miller 2003).



Map 1. Western Arctic Caribou Herd seasonal range map, 2002-2017 (image from WACH Working Group 2019).

Table 1. Western Arctic Caribou Herd management levels using herd size, population trend, and harvest rate (WACH Working Group 2019).

Management and Harvest Level	Population Trend			Harvest Recommendations May Include:
	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+	Pop: 230,000+	Pop: 200,000+	• Reduce harvest of bulls by nonresidents to maintain at least 30 bulls:100 cows • No restriction of bull harvest by resident hunters unless bull:cow ratios fall below 30 bulls:100 cows
	Harvest: 14,000+	Harvest: 14,000+	Harvest: 14,000+	
Conservative	Pop: 200,000-265,000	Pop: 170,000-230,000	Pop: 150,000-200,000	• Encourage voluntary reduction in calf harvest, especially when the population is declining • No cow harvest by nonresidents • Restriction of bull harvest by nonresidents • Limit the subsistence harvest of bulls only when necessary to maintain a minimum 30:100 bull:cow ratio
	Harvest: 10,000-14,000	Harvest: 10,000-14,000	Harvest: 10,000-14,000	
Preservative	Pop: 130,000-200,000	Pop: 115,000-170,000	Pop: 100,000-150,000	• No harvest of calves • Limit harvest of cows by resident hunters through permit hunts and/or village quotas • Limit the subsistence harvest of bulls to maintain at least 30 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to non-qualified users may be necessary
	Harvest: 6,000-10,000	Harvest: 6,000-10,000	Harvest: 6,000-10,000	
Critical	Pop: <130,000	Pop: <115,000	Pop: <100,000	• No harvest of calves • Highly restrict the harvest of cows through permit hunts and/or village quotas • Limit the subsistence harvest of bulls to maintain at least 30 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to non-qualified users may be necessary
	Harvest: <6,000	Harvest: <6,000	Harvest: <6,000	

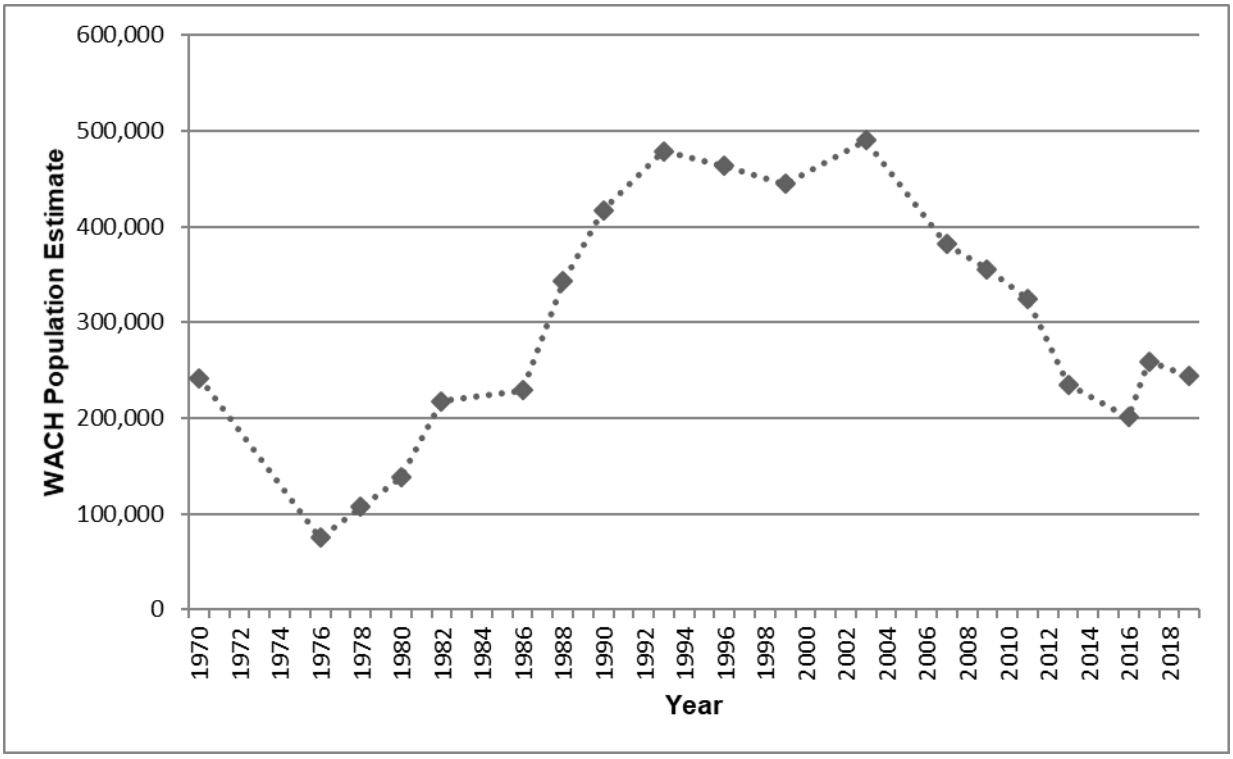


Figure 1. The WACH population estimates from 1970–2019. Population estimates from 1986–2019 are based on aerial photographs of groups of caribou that contained radio-collared animals (Dau 2011, 2013, 2014, Parrett 2016, 2017a, Hansen 2019a)**.**

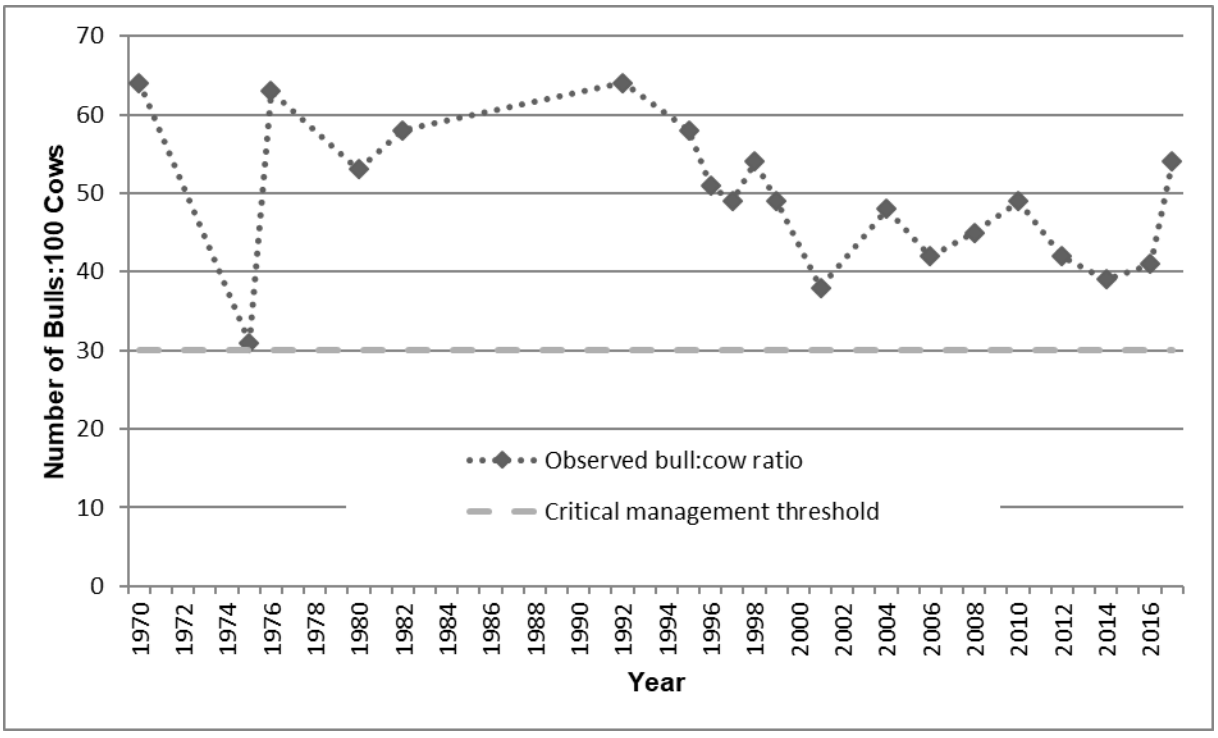


Figure 2. Bull:Cow ratios for the WACH (Dau 2015, ADF&G 2017, Parrett 2017a).

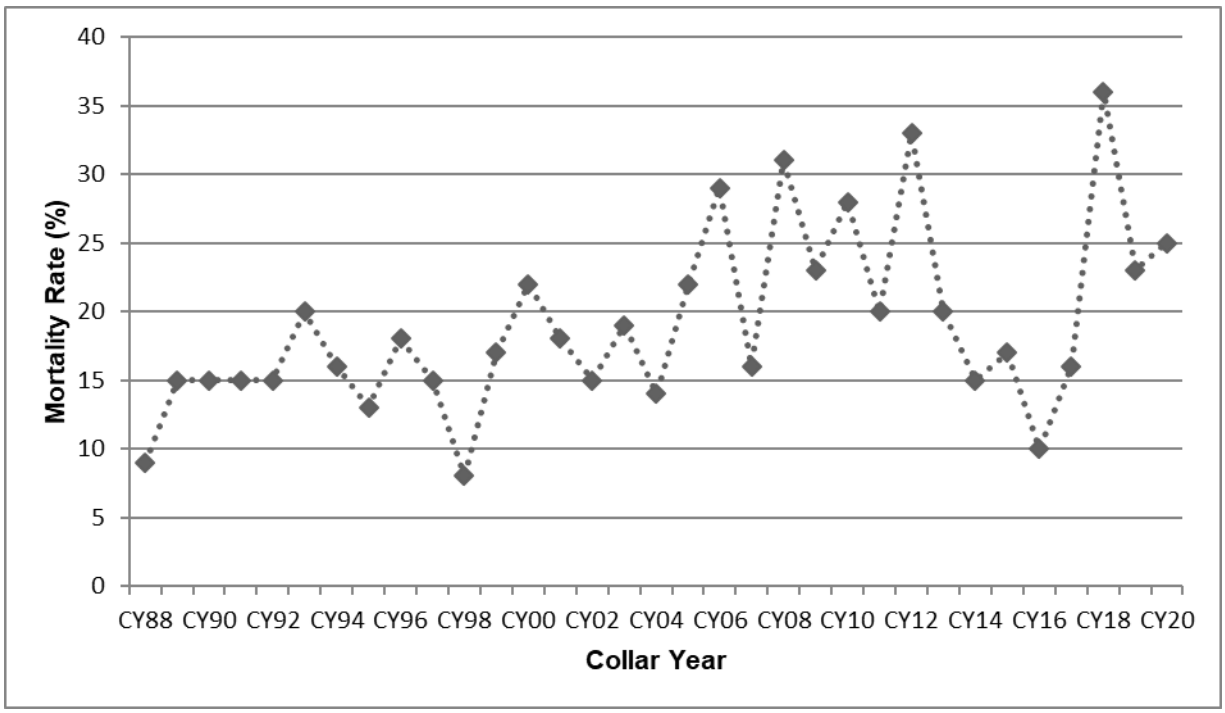


Figure 3. Mortality rate of radio-collared cow caribou in the Western Arctic caribou herd (Dau 2013, 2015, 2016b, NWARAC 2019, WACH Working Group 2020). Collar Year = 1 Oct-30 Sept.

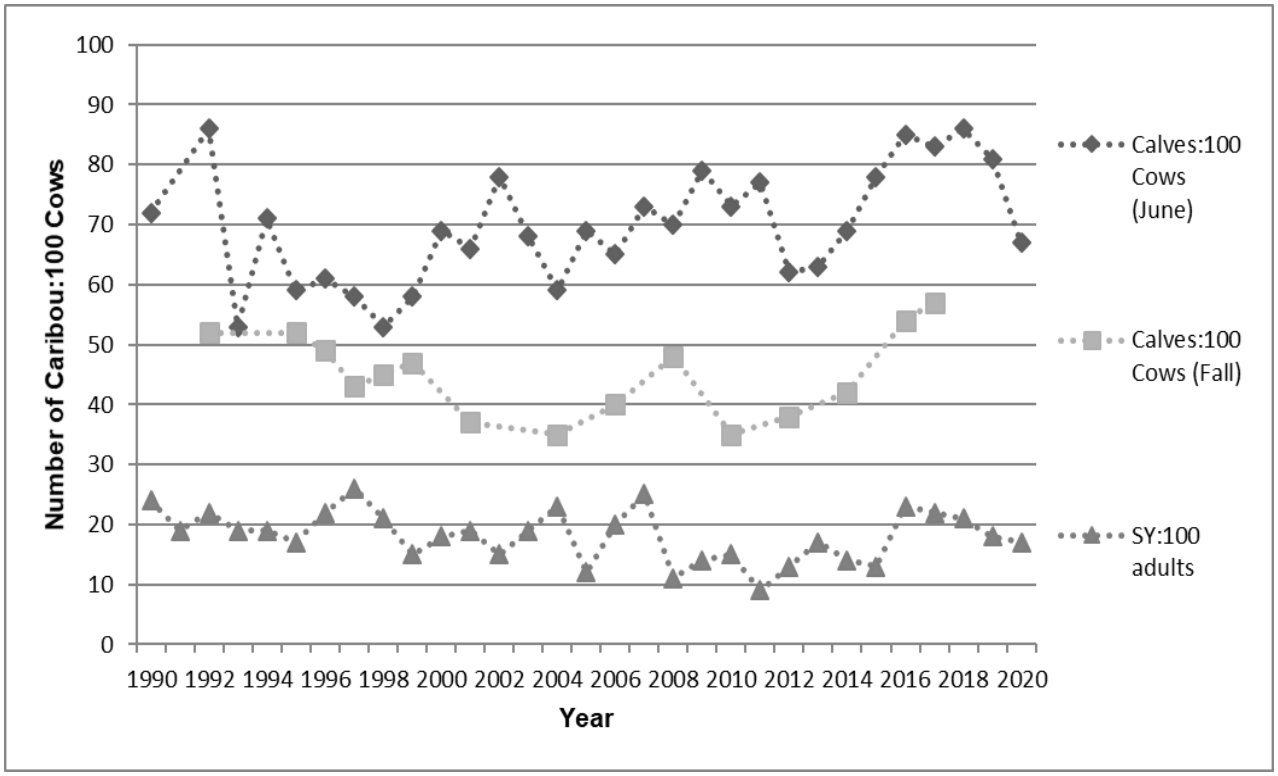


Figure 4. Calf:cow and short yearling (SY):adult ratios for the WACH (Dau 2013, 2015, 2016a, ADF&G 2017, Parrett 2017a, NWARAC 2019, WACH Working Group 2020). Short yearlings are 10-11 months old caribou.

Cultural Knowledge and Traditional Practices

Meeting the nutritional and caloric needs of Arctic communities is vitally important and is the foundation of subsistence activities. Still, the meaning of subsistence extends far beyond human nutrition for Alaska's native peoples. Holthaus (2012) describes subsistence as the base on which Alaska Native culture establishes its identity though "philosophy, ethics, religious belief and practice, art, ritual, ceremony and celebration."

Caribou have been an important resource for the Iñupiat of the Seward Peninsula for thousands of years. Caribou were traditionally a major source of both food and clothing and continues today to be the most important land animal consumed in many communities (Burch 1984, 1994, 1998, ADF&G 1992).

Historically, during fall and spring caribou migrations, people built "drive fences" out of cairns, bundles of shrubs, or upright logs. These fences were sometimes several miles long and two to three miles wide. Ideally, the closed end of the fence crossed a river, and caribou were harvested while crossing the river and retrieved later; or the fence would end in a corral where caribou were snared and killed with spears (Burch 2012).

The WACH population declined rapidly beginning in the late 1800s. At its low point, its range had shrunk to less than half its former size. Famine ensued, primarily due to the absence of caribou. In the early 1900s, reindeer were introduced to fill the need for food and hides. The WACH began to rebound in the 1940s. Currently, among large terrestrial mammals, caribou are among the most abundant; however, the population in any specific area is subject to wide fluctuations from year to year as caribou migration routes change (Burch 2012).

Caribou were traditionally harvested any month of the year they were available. The objective of the summer hunt was to obtain the hides of adult caribou with their new summer coats. They provided the best clothing material available to the Iñupiat. The fall hunt was to acquire large quantities of meat to freeze for winter (Burch 1994). Present-day use of caribou calves appears to be limited but does occur opportunistically.

Small groups of caribou that have over-wintered may be taken by hunters in areas that are accessible by snowmachine. Braem et al. (2015:141) explain, "Hunters harvest cows during the winter because they are fatter than bulls. Caribou harvested during the winter can be aged completely without removing the skin or viscera. Then in the spring, the caribou is thawed. Community members cut it into strips to make dried meat, or they package and freeze it." In spring, caribou start their northward migration. The caribou that are harvested are "lean and good for making dried meat (*paniqtuq*) during the warm, sunny days of late spring" (Georgette and Loon 1993:80).

Harvest History

The State manages the WACH on a sustained yield basis (i.e. managing current harvests to ensure future harvests). The harvestable surplus when the WACH population trend is declining is calculated

as 6% of the estimated population (WACH working group 2011, Parrett 2017b, pers. comm.). In 2017, the WACH harvestable surplus was 15,540 caribou (6% of 259,000 caribou). Assuming the herd population remained stable in 2018 and 2019, the harvestable surplus remains 15,540 caribou. This is a substantial increase from the 2016 harvestable surplus of 12,056 caribou when harvest likely exceeded sustainable levels. However, there is substantial uncertainty in harvestable surplus estimates (Parrett 2015a, Dau 2015). Of particular concern is the overharvest of cows, which has probably occurred since 2010/11 (Dau 2015). Dau (2015:14-29) states, "even modest increases in the cow harvest above sustainable levels could have a significant effect on the population trajectory of the WACH."

Caribou harvest by local hunters is estimated from community harvest surveys, if available, and from models developed by A. Craig with ADF&G's Division of Wildlife Conservation Region V. These models incorporate factors such as community size, availability of caribou and per capita harvests for each community, which are based on mean values from multiple community harvest surveys (Dau 2015). In 2015, Craig's models replaced models developed by Sutherland (2005), resulting in changes to local caribou harvest estimates from past years. While Craig's models accurately reflect harvest trends, they do not accurately reflect actual harvest numbers (Dau 2015). (Note: no model accurately reflects harvest numbers). This analysis only considers the updated harvest estimates using Craig's new model as cited in Dau (2015). Caribou harvest by nonresidents is based on harvest ticket reports (Dau 2015) and registration permits for nonlocal residents. Hunters considered local by ADF&G are functionally identical to Federally qualified subsistence users (e.g. Residents of St. Lawrence Island are technically Federally qualified subsistence users in Unit 22, but do not frequently harvest Western Arctic caribou).

From 1999–2017, the average estimated total harvest from the WACH was 14,119 caribou/year, ranging from 11,729-16,219 caribou/year (Hansen 2020, pers. comm., **Figure 5**). These harvest levels are within the conservative harvest level specified in the WACH Management Plan (**Table 1**). In 2015 and 2016, total local harvest estimates were 14,360 caribou and 14,971 caribou, respectively (Hansen 2019b, pers. comm.). While these harvest estimates are below the 2017-2019 harvestable surpluses, they exceed the 2016 harvestable surplus. Of note, harvest estimates do not include wounding loss, which may be hundreds of caribou (Dau 2015).

Local hunters account for approximately 95% of the total WACH harvest and residents of Unit 22 account for approximately 17% of the total harvest on average (**Figure 6**, ADF&G 2017). Comparison of caribou harvest by community from household survey data with yearly GPS-collared caribou migration routes demonstrates that local community harvests parallel WACH availability rather than population trends.

In 2016, the State began requiring registration permits (RC800) for resident caribou harvest in Unit 22. From 2016-2019, reported RC800 harvest ranged from 147-460 caribou and averaged 377 caribou per year. Bulls and cows comprised 74% and 26% of the reported harvest on average, respectively. Calves comprised an unknown proportion of the harvest as this information is not collected in harvest reports (ADF&G 2021).

From 1999-2013, 72% of nonlocal hunters on average accessed the WACH by plane. Most nonlocal harvest (85-90%) occurs between Aug. 25 and Oct. 7. In contrast, most local, subsistence hunters harvest WACH caribou whenever they are available using boats, 4-wheelers, and snowmachines (Dau 2015, Fix and Ackerman 2015).

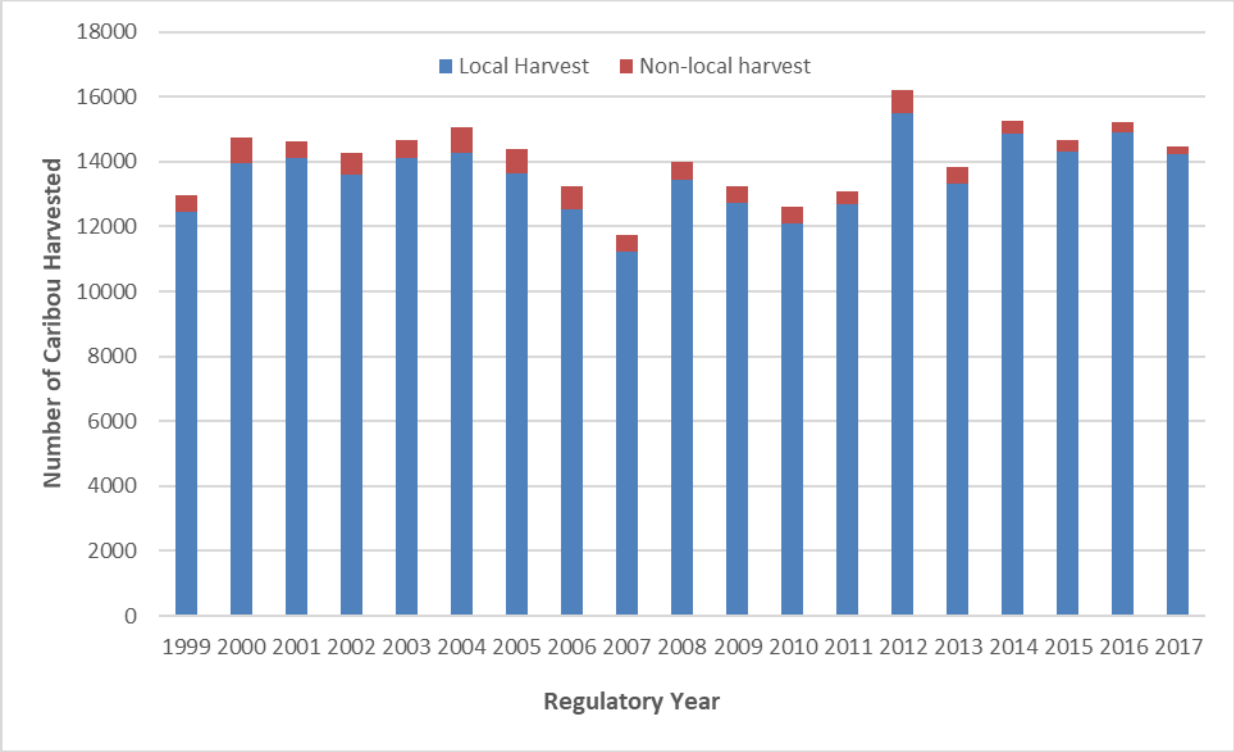


Figure 5. Estimated number of caribou harvested from the WACH by residency (Hansen 2020, pers. comm.). Local harvest is an estimate derived from models; non-local harvest is from harvest reports.

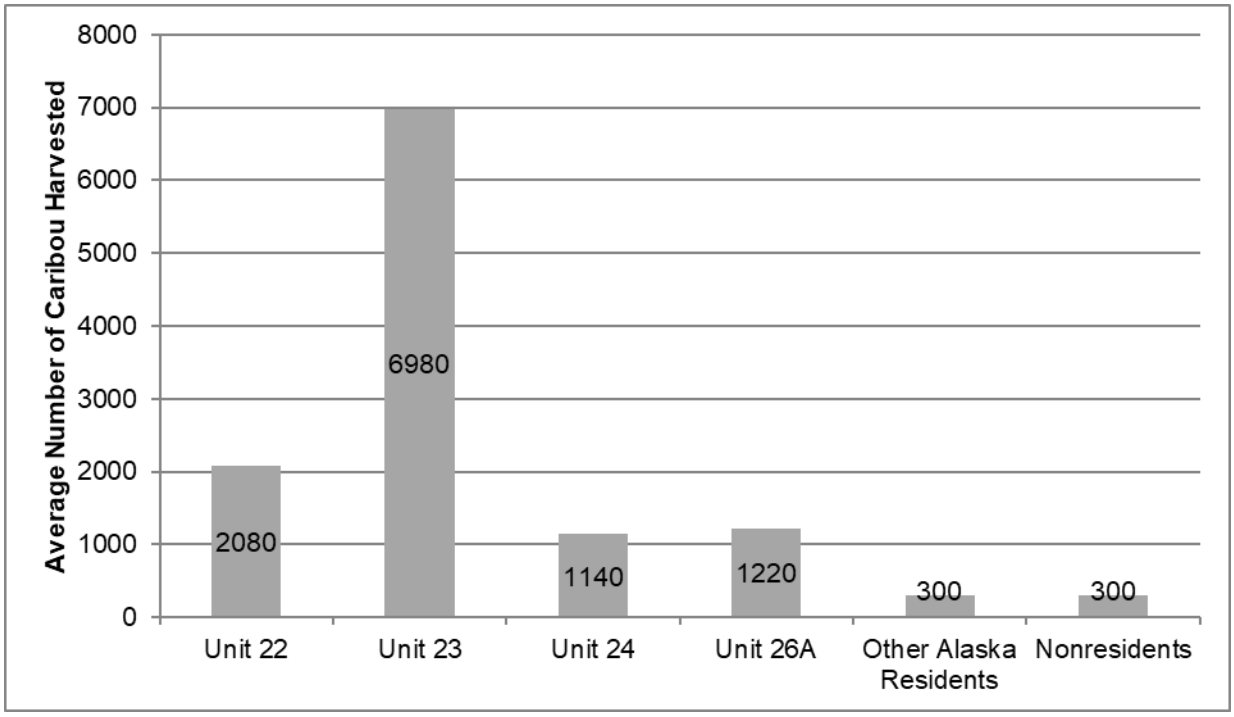


Figure 6. Average number of caribou harvested by unit and residency from 1998-2015 (ADF&G 2017).

Effects of the Proposal

If the Board adopts Proposal WP22-47, the harvest of calves would be permitted in Unit 22. This would increase harvest opportunity for Federally qualified subsistence users. Calf harvest presents minimal conservation concerns as most users do not target calves and calves may already be harvested in Unit 22 under State regulations.

Eliminating the prohibition on calf harvest would allow the harvest of orphaned calves that may otherwise succumb to predation. However, it can be difficult to identify orphaned calves as caribou are scattered across the landscape, and calves and cows can be separated by substantial distances. Additionally, orphaned calves may survive, especially if they remain with the herd. Russell et al. (1991) found survival rates of orphaned and non-orphaned calves were 63% and 78%, respectively, indicating orphaned calves still have a good chance of survival, although the sample size for orphaned calves was very small. The timing of abandonment also influences survival. Calves orphaned after weaning (October) have greater chances of survival than calves orphaned before weaning (Holand et al. 2012, Joly 2000, Russell et al. 1991, Rughetti and Fest-Bianchet 2014). As caribou typically winter on the Seward Peninsula, caribou harvest in Unit 22 usually occurs later in the year, which could improve the chances of orphaned calves surviving.

Allowing calf harvest may also reduce wanton waste. During deliberation on WP20-46, which requested allowance of calf harvest in Unit 23, a Northwest Arctic Regional Advisory Council member

noted that he has seen dead calves in the field, presumably mistakenly shot and then left since they are illegal to harvest (NWARAC 2019). The ADF&G caribou biologist stated many orphaned calves have ended up around Kotzebue during the hunting season but have been unavailable to harvest. He collared a few of these orphaned calves, all of which died shortly thereafter. He also stated that he receives many reports from hunters about orphaned and wounded calves out in the field that are not legally available for harvest (NWARAC 2019). In regard to the prohibition on the take of cows accompanied by calves, an NPS staff biologist voiced concern that unethical hunters could harvest calves and then harvest its mother, who would no longer be accompanied by a calf (NWARAC 2019). However, hunters can already harvest cows with calves under State regulations, which do not have that restriction.

The Western Arctic and Teshekpuk caribou herds are the only caribou herds in Alaska where calf harvest is prohibited. These restrictions were adopted by the BOG in 2015 and the Board in 2016 as conservation measures when both herds were declining. The WACH management plan also recommends prohibiting calf harvest when the herd is within the conservative management level. However, calves comprise a very small portion of the harvest. In his population model, Prichard (2009) assumed calves comprised only 2% of the total annual WACH harvest, which would not affect the population trajectory of the WACH. As most calves die within their first year and few hunters target calves, calf harvest may be compensatory mortality, although Prichard (2009) assumed all harvest mortality to be additive. While calf recruitment influences herd abundance and population trajectory, Prichard (2009) found adult survival to have the largest impact on WACH population size. Prohibiting cow harvest would have a greater impact on herd conservation than prohibiting calf harvest.

The BOG removed the restriction on calf caribou harvest at its Arctic/Western Region meeting in January 2020. Currently, Federal regulations are more restrictive than State regulations. If the Board adopts this proposal to eliminate the prohibition on calf harvest Federal users would have the same opportunities as State users do.

OSM PRELIMINARY CONCLUSION

Support Proposal WP22-47.

Justification

Adopting Proposal WP22-47 increases harvest opportunity for Federally qualified subsistence users. As most people do not target calves, calf harvest is expected to be very low and should not affect conservation of the herd, especially since calf harvest is already permitted under State regulations. Additionally, allowing calf harvest may reduce wanton waste by allowing mistakenly shot calves to be legally salvaged, and would permit harvest of orphaned calves. Adoption of this proposal would give Federal users the same opportunities as State users.

LITERATURE CITED

ADF&G. 1992. Customary and Traditional Worksheets. Northwest Alaska GMU's 22 and 23, Black Bear, Brown Bear, Caribou, Dall Sheep, Moose, Muskoxen. Division of Subsistence, Kotzebue, Alaska.

ADF&G 2017. Region V Caribou Overview. Alaska Board of Game. Arctic and Western Region. Jan. 6-9, 2017. Bethel, AK. http://www.adfg.alaska.gov/static/regulations/regprocess/gameboard/pdfs/2016-2017/aw/Tab_1.3_RegionV_Caribou_Overview.pdf. Accessed January 20, 2017.

ADF&G. 2021. Harvest Lookup. https://secure.wildlife.alaska.gov/index.cfm?fuseaction=harvest.lookup. Accessed May 21, 2021.

Braem, N.M., E.H. Mikow, S.J. Wilson, M.L. Kostick. 2015. Wild food harvests in three upper Kobuk River communities: Ambler, Shungnak, and Kobuk, 2012-2013. ADF&G Division of Subsistence, Technical Paper No. 402. Fairbanks, AK.

Burch, Jr., E. S. 1984. The Kotzebue Sound Eskimo. In Handbook of North American Indians--Arctic. Volume 5. Edited by David Damas. Smithsonian Institution, Washington, D.C.

Burch, Jr., E. S. 1994. The Cultural and Natural Heritage of Northwest Alaska. Volume V. Nana Museum of the Arctic, Kotzebue, Alaska and U.S. National Parle Service, Alaska Region. Anchorage, Alaska.

Burch, E.S. 1998. The Inupiaq Eskimo nations of Northwest Alaska. University of Alaska Press. Fairbanks, AK.

Burch, E.S. 2012. Caribou herds of Northwest Alaska. University of Alaska Press. Fairbanks, AK.

Caribou Trails 2014. News from the Western Arctic Caribou Herd Working Group. Western Arctic Caribou Herd Working Group, Nome, AK. Issue 14. http://westernarcticcaribou.org/wp-content/uploads/2014/07/CT2014_FINAL_lowres.pdf. Retrieved: June 23, 2015.

Dau, J. 2011. Units 21D, 22A, 22B, 22C, 22D, 22E, 23, 24, and 26A caribou management report. Pages 187-250 *in* P. Harper, editor. Caribou management report of survey and inventory activities July 1, 2008–30 June 30, 2010. ADF&G. Juneau, AK.

Dau, J. 2013. Units 21D, 22A, 22B, 22C, 22D, 22E, 23, 24, and 26A caribou management report. Pages 201-280 *in* P. Harper, editor. Caribou management report of survey and inventory activities July 1, 2010–30 June 30, 2012. ADF&G. Juneau, AK.

Dau, J. 2014. Wildlife Biologist. Western Arctic Caribou herd presentation. Western Arctic Caribou Herd (WACH) Working Group Meeting, December 17-18, 2014. Anchorage, Alaska. ADF&G. Nome, AK.

Dau, J. 2015. Units 21D, 22A, 22B, 22C, 22D, 22E, 23, 24 and 26A. Chapter 14, pages 14-1 through 14-89. *In* P. Harper, and Laura A. McCarthy, editors. Caribou management report of survey and inventory activities 1 July 2012–30 June 2014. Alaska Department of Fish and Game, Species Management Report ADF&G/DWC/SMR-2015-4, Juneau.

Dau, J. 2016a. Memorandum to S. Machida dated June 21, 2016. 2016 Western arctic caribou herd calving survey: 4-12 June. ADF&G Division of Wildlife Conservation, Fairbanks, AK. 1 page.

Dau, J. 2016b. Memorandum to S. Machida dated April 26, 2016. 2016 Western Arctic caribou herd recruitment survey: 31 March and 5, 19, and 21 April. ADF&G Division of Wildlife Conservation, Fairbanks, AK. 1 page.

Fix, P.J. and A. Ackerman. 2015. Noatak National Preserve sport hunter survey. Caribou hunters from 2010-2013. Natural resources report. National Park Service.

Fullman, T.J., K. Joly, A. Ackerman. 2017. Effects of environmental features and sport hunting on caribou migration in northwestern Alaska. Movement Ecology. 5:4

Georgette, S., and H. Loon. 1993. Subsistence use of fish and wildlife in Kotzebue, a Northwest Alaska regional center. ADF&G, Division of Subsistence, Technical Paper No. 167. Fairbanks, AK.

Gurarie, Eliezer, P.R. Thompson, A.P. Kelly, N.C. Larter, W.F. Fagan, K. Joly. 2020. For everything there is a season: Analysing periodic mortality patterns with the cyclomortR package. Methods in Ecology and Evolution. Volume 11, Issue 1: 129-138.

Gunn, A. 2001. Voles, lemmings and caribou – population cycles revisited? Rangifer, Special Issue. 14: 105-111.

Hansen, D.A. 2019a. Wildlife Biologist. Personal communication: e-mail. Alaska Department of Fish and Game. Kotzebue, AK.

Hansen, D.A. 2019b. Wildlife Biologist. Personal communication: e-mail. Alaska Department of Fish and Game. Kotzebue, AK.

Hansen, D.A. 2020. Wildlife Biologist. Personal communication: e-mail. Alaska Department of Fish and Game. Kotzebue, AK.

Holand, O., R.B. Weladji, A. Mysterud, K. Roed, E. Reimers, M. Nieminen. 2012. Induced orphaning reveals post-weaning maternal care in reindeer. European Journal of Wildlife Research. 58: 589-596.

Holthaus, G., 2012. Learning Native wisdom: What traditional cultures teach us about subsistence, sustainability, and spirituality. University Press of Kentucky.

Joly, K. 2000. Orphan Caribou, *Rangifer tarandus*, Calves: A re-evaluation of overwinter survival data. The Canadian Field Naturalist. 114: 322-323.

Joly, K. 2015. Wildlife Biologist, Gates of the Arctic National Park and Preserve. Personal communication. email NPS. Fairbanks, AK.

Joly, K. 2021. Wildlife Biologist, Gates of the Arctic National Park and Preserve. Personal communication. email NPS. Fairbanks, AK.

Joly, K., R.R. Jandt, C.R. Meyers, and J.M. Cole. 2007. Changes in vegetative cover on the Western Arctic herd winter range from 1981–2005: potential effects of grazing and climate change. Rangifer Special Issue 17:199-207.

Joly, K., D.R. Klein, D.L. Verbyla, T.S. Rupp, and F.S. Chapin, III. 2011. Linkages between large-scale climate patterns and the dynamics of Arctic caribou populations. Ecography 34:345-352.

Joly, K., and M. D. Cameron. 2018. Caribou vital sign annual report for the Arctic Network Inventory and Monitoring Program: September 2017-August 2018. Natural Resource Report NPS/ARCN/NRR—2018/1834. National Park Service, Fort Collins, Colorado.

Joly, K., and M. D. Cameron. 2020. Caribou vital sign annual report for the Arctic Network Inventory and Monitoring Program: September 2019–August 2020. Natural Resource Report NPS/ARCN/NRR—2020/2210. National Park Service, Fort Collins, Colorado.

Miller, F.L. 2003. Caribou (*Rangifer tarandus*). Pages 965-997 *in* Feldhamer, B.C. Thompson, and J.A. Chapman, *eds.* Wild Mammals of North America- Biology, Management, and Conservation. John Hopkins University Press. Baltimore, Maryland.

Nicholson KL, Arthur SM, Horne JS, Garton EO, Del Vecchio PA. 2016. Modeling Caribou Movements: Seasonal Ranges and Migration Routes of the Central Arctic Herd. PLoS ONE 11(4): e0150333.

NWARAC. 2016. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, October 5-6, 2016 in Selawik, AK. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2019. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, April 9-10, 2019 in Kotzebue, AK. Office of Subsistence Management, USFWS. Anchorage, AK.

Parrett, L.S. 2015a. Western Arctic Caribou Herd Overview presentation. Presented at the Western Arctic Caribou Herd Working Group meeting. Dec. 16-17. Anchorage, AK.

Parrett, L.S. 2015b. Memorandum to P. Bente, Management Coordinator, dated October 29, 2015. 2015 Western Arctic Herd (WAH) captured conducted September 15-17, 2015. ADF&G Division of Wildlife Conservation, Fairbanks, AK.

Parrett, L.S. 2016. Memorandum for distribution, dated August 25, 2016. Summary of Western Arctic Caribou Herd photocensus conducted July 1, 2016. ADF&G Division of Wildlife Conservation, Fairbanks, AK. 6 pages.

Parrett, L.S. 2017a. WAH Caribou Overview. Western Arctic Caribou Herd Working Group Meeting. December 2017. https://westernarcticcaribounet.files.wordpress.com/2017/12/2017-complete-wg-meeting-binder-dec-13-14-2017-for-webpost.pdf. Accessed December 20, 2017.

Parrett, L.S. 2017b. Wildlife Biologist IV. Personal communication: phone and e-mail. Alaska Department of Fish and Game. Fairbanks, AK.

Prichard, A.K. 2009. Development of a Preliminary Model for the Western Arctic Caribou Herd. ABR, Inc. – Environmental Research and Services. Fairbanks, AK.

Prichard, A. K., Joly, K., Dau, J. 2012. Quantifying telemetry collar bias when age is unknown: A simulation study with a long-lived ungulate. The Journal of Wildlife Management. 76(7): 1441-1449. DOI:10.1002/jwmg.394

Russell, D.E., S.G. Fancy, K.R. Whitten, R.G. White. 1991. Overwinter survival of orphan caribou, *Rangifer tarandus*, calves. Canadian Field Naturalist. 105: 103-105.

Rughetti, M., M. Festa-Bianchet. 2014. Effects of selective harvest of non-lactating females on chamois population dynamics. Journal of Applied Ecology. 51: 1075-1084.

Sutherland, R. 2005. Harvest estimates of the Western Arctic caribou herd, Alaska. Proceedings of the 10th North American Caribou Workshop. Girdwood, AK. 4-6 May 2004. Rangifer Special Issue No. 16: 177-184.

Taillon, J., V. Brodeur, M. Festa-Bianchet, S.D. Cote. 2011. Variation in body condition of migratory caribou at calving and weaning: which measures should we use? Ecoscience. 18(3): 295-303.

Western Arctic Caribou Herd Working Group. 2011. Western Arctic Caribou Herd Cooperative Management Plan – Revised December 2011. Nome, AK 47 pp.

Western Arctic Caribou Herd Working Group. 2015. Western Arctic Caribou Herd Cooperative Management Plan. Table 1 Revision – Dec. 2015. https://westernarcticcaribou.net/herd-management/. Accessed June 1, 2017.

Western Arctic Caribou Herd Working Group. 2019. Western Arctic Caribou Herd Working Group Meeting. December 10-12, 2019. Anchorage, AK.

Western Arctic Caribou Herd Working Group. 2020. Western Arctic Caribou Herd Working Group Meeting. December 9, 2020. Teleconference.

WP22–01 Executive Summary	
General Description	Proposal WP22-01 requests clarification of who is and who is not a participant in a community harvest system and how that affects community and individual harvest limits. *Submitted by: the Office of Subsistence Management*
Proposed Regulation	***§_____.25 Subsistence taking of fish, wildlife, and shellfish: general regulations*** *(c) Harvest limits* . . . ***(5) Fish, wildlife, or shellfish taken by a participant in a community harvest system counts toward the community harvest limit or quota for that species as well as individual harvest limits, Federal or State, for each participant in that community harvest system, however, the take does not count toward individual harvest limits, Federal or State, of any non-participant. Fish, wildlife, or shellfish taken by someone who is not a participant in a community harvest system does not count toward any community harvest limit or quota.*** ***(i) For the purposes of this provision, all residents of the community are deemed participants in the community harvest unless the Board-approved framework requires registration as a prerequisite to harvesting or receiving any fish, wildlife, or shellfish pursuant to that community harvest, in which case only those who register are deemed participants in that community harvest.*** ***§_____.26 Subsistence taking of wildlife*** *(e) Possession and transportation of wildlife.* . . . ~~*(2) An animal taken under Federal or State regulations by any member of a community with an established community harvest limit for that species counts toward the community harvest limit for that species. Except for wildlife taken pursuant to §____.10(d)(5)(iii) or as otherwise provided for by this part, an animal taken as part of a community harvest limit counts toward every community member's*~~

WP22–01 Executive Summary	
	~~*harvest limit for that species taken under Federal or State of Alaska regulations.*~~
OSM Preliminary Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	

WP22–01 Executive Summary	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	**None**

DRAFT STAFF ANALYSIS
WP22-01

ISSUES

Wildlife Proposal WP22-01, submitted by the Office of Subsistence Management (OSM), requests clarification of who is and who is not a participant in a community harvest system and how that affects community and individual harvest limits.

Discussion

The proponent requests specific language clarifying who is and who is not a participant in a community harvest system and how this relates to individual and community harvest limits. While developing the framework for a community harvest system in summer 2020, Ahtna Intertribal Resource Commission (AITRC) representatives and Federal agency staff realized that current Federal regulations stipulate that any animals harvested under a community harvest limit count toward the harvest limits of every community member whether or not they choose to participate in the community harvest system. This provision is perceived as unfair to community members who are not interested in participating in a community harvest system because their individual harvest limits are met involuntarily by participants in the community harvest system.

This proposal would affect community and individual harvest limits as well as define who is and who is not a participant in a community harvest system for wildlife, fish, and shellfish, statewide. In addition to clarifying who is and who is not a participant in a community harvest system, the intent of this proposal is to allow community members who opt out of a community harvest system to retain their individual harvest limits.

Note: While the proposal as submitted listed the proposed regulations under §100.25(c)(2), the proponent clarified their intention was to create a separate section for these regulations as §100.25(c)(5).

Existing Federal Regulation

> **36 CFR 242.25 and 50 CFR 100.25 Subsistence taking of fish, wildlife, and shellfish: general regulations**
>
> *(c) Harvest limits*
>
> **§_____.26 Subsistence taking of wildlife**
>
> *(e) Possession and transportation of wildlife.*
>
> . . .
>
> *(2) An animal taken under Federal or State regulations by any member of a community with an established community harvest limit for that species counts towards the community harvest*

limit for that species. Except for wildlife taken pursuant to §____.10(d)(5)(iii)[1] or as otherwise provided for by this part, an animal taken as part of a community harvest limit counts toward every community member's harvest limit for that species taken under Federal or State of Alaska regulations.

Proposed Federal Regulation

§_____.25 Subsistence taking of fish, wildlife, and shellfish: general regulations

(c) Harvest limits

. . .

(5) Fish, wildlife, or shellfish taken by a participant in a community harvest system counts toward the community harvest limit or quota for that species as well as individual harvest limits, Federal or State, for each participant in that community harvest system, however, the take does not count toward individual harvest limits, Federal or State, of any non-participant. Fish, wildlife, or shellfish taken by someone who is not a participant in a community harvest system does not count toward any community harvest limit or quota.

(i) For the purposes of this provision, all residents of the community are deemed participants in the community harvest unless the Board-approved framework requires registration as a prerequisite to harvesting or receiving any fish, wildlife, or shellfish pursuant to that community harvest, in which case only those who register are deemed participants in that community harvest.

§_____.26 Subsistence taking of wildlife

(e) Possession and transportation of wildlife.

. . .

~~*(2) An animal taken under Federal or State regulations by any member of a community with an established community harvest limit for that species counts toward the community harvest limit for that species. Except for wildlife taken pursuant to §____.10(d)(5)(iii) or as otherwise provided for by this part, an animal taken as part of a community harvest limit counts toward every community member's harvest limit for that species taken under Federal or State of Alaska regulations.*~~

State of Alaska Regulations

State general regulations describing its community harvest program are in **Appendix 1**.

[1] *§____.10(d)(5)(iii) The fish and wildlife is taken by individuals or community representatives permitted a one-time or annual harvest for special purposes including ceremonies and potlatches;*

Federal Public Lands

Federal public lands comprise approximately 54% of Alaska statewide and consist of 36% U.S. Fish and Wildlife Service managed lands, 28% Bureau of Land Management managed lands, 25% National Park Service managed lands, and 11% U.S. Forest Service managed lands.

Customary and Traditional Use Determination

This is a statewide proposal for wildlife, fish, and shellfish.

Regulatory History

In 1991, after extensive public comment on the Federal Subsistence Management Program's first Temporary Rule, the Federal Subsistence Board (Board) committed to addressing community harvest limits and alternative permitting processes (56 Fed. Reg. 123, 29311 [June 26, 1991]).

In 1992, responding to approximately 40 proposals requesting community harvest systems and numerous public comments requesting alternative permitting systems, the Board supported the concept of adjusting seasons and harvest limits based on customs and traditions of a community (57 Fed. Reg. 103, 22531–2 [May 28, 1992]). The Board said specific conditions for the use of a particular harvest reporting system may be applied on a case-by-case basis and further development and refinement of guidelines for alternative permitting systems would occur as the Federal Subsistence Management Program evolved (57 Fed. Reg. 104, 22948 [May 29, 1992]. These regulations at ____.6 were modified to state that intent more clearly:

> §_____.6 Licenses, permits, harvest tickets, tags, and reports[2]
>
> *(f) The Board may implement harvest reporting systems or permit systems where:*
>
> *(1) The fish and wildlife is taken by an individual who is required to obtain and possess pertinent State harvest permits, tickets, or tags, or Federal permits, harvest tickets, or tags;*
>
> *(2) A qualified subsistence user may designate another qualified subsistence user to take fish and wildlife on his or her behalf;*
>
> *(3) The fish and wildlife is taken by individuals or community representatives permitted a one-time or annual harvest for special purposes including ceremonies and potlatches;*
>
> *(4) The fish and wildlife is taken by representatives of a community permitted to do so in a manner consistent with the community's customary and traditional practices.*

In 1993, the Board adopted Proposal P93-12, which clarified that community harvest limits and individual harvest limits may not be accumulated, community harvest systems will be adopted on a

[2] Subsequently moved to *§___.10(d)(5) Federal Subsistence Board—Power and Duties*.

case-by-case basis and defined under unit-specific regulations, and wildlife taken by a designated hunter for another person, counts toward the individual harvest limit of the person for whom the wildlife is taken. These new regulations specified that for wildlife, after taking your individual harvest limit, you may not continue to harvest in areas outside of your community harvest area (58 Fed. Reg. 103, 31255 [June 1, 1993]). These new regulations were the following:

> §____.25 Subsistence taking of wildlife[3]
>
> *(c) Possession and transportation of wildlife*
>
> *(1) Except as specified in §___.25(c)(3)(ii)* [below] *or (c)(4)* [trapping regulations], *or as otherwise provided, no person may take a species of wildlife in any Unit, or portion of a Unit, if that person's total statewide take of that species has already been obtained under Federal and State regulations in other Units, or portions of other Units.*
>
> *(2) An animal taken under Federal or State regulations by any member of a community with an established community harvest limit for that species counts toward the community harvest for that species. Except for wildlife taken pursuant to §____.6(f)(3)* [above], *an animal taken by an individual as part of a community harvest limit counts toward that individual's bag limit for that species taken under Federal or State regulations for areas outside of the community harvest area.*
>
> *(3) Individual bag limits (i) bag limits authorized by §____.25 and in State regulations may not be accumulated; (ii) Wildlife taken by a designated hunter for another person pursuant to §____6(f)(2)* [above], *counts toward the individual bag limit of the person for whom the wildlife is taken.*

In 1993, "community harvest systems" were adopted by the Board simply by adding the use of designated hunters to unit-specific regulations for Unit 25 West moose and Unit 26A sheep (58 FR 103, 31252–3 [June 1, 1993]). In this way, designated harvesters and resource quotas became a common method for allocating harvests communally.

In 1996, administrative clarification was made at §____.25(c)(2) to better represent the Board's intent (61 Fed. Reg. 147, 39711 [July 30, 1996]). Before this clarification was made, a member of a community with a community harvest limit who had not taken an individual harvest limit could take an individual harvest limit after the community had met its harvest limit. The effect of the clarification was that members of community in a community harvest system can harvest only as part of the community harvest system:

[3] Subsequently moved to *§____.26 Taking of wildlife*.

§____.25 Subsistence taking of wildlife

(c) Possession and transportation of wildlife

. . .

(2) An animal taken under Federal or State regulations by any member of a community with an established community harvest limit for that species counts toward the community harvest for that species. Except for wildlife taken pursuant to §____.6(f)(3) [above]*, an animal taken ~~by an individual~~ as part of a community harvest limit counts toward ~~that individual's bag limit~~* ***every community member's harvest limit*** *for that species taken under Federal or State regulations ~~for areas outside of the community harvest area~~.*

Later, the language "or as otherwise provided for by this part" was added to the provision. The effect was to allow an exceptions to the provision if the exception was placed in regulation:

(2) An animal taken under Federal or State regulations by any member of a community with an established community harvest limit for that species counts towards the community harvest limit for that species. Except for wildlife taken pursuant to §____.10(d)(5)(iii) ***or as otherwise provided for by this part****, an animal taken as part of a community harvest limit counts toward every community member's harvest limit for that species taken under Federal or State of Alaska regulations.*

In April 2020, the Board adopted deferred Proposal WP18-19 with modification, which added a community harvest system for moose in Unit 11 and caribou and moose in Unit 13 to unit-specific regulations. The modification was to name individual communities within the Ahtna traditional use territory authorized to harvest moose in Units 11 and caribou and moose in Unit 13 as part of a community harvest system, subject to a framework established by the Board under unit-specific regulations (see Existing Federal Regulation section in Proposal WP22-36 analysis).

In July 2020, the Board approved Wildlife Special Action Request WSA20-02 with modification to: (1) name individual communities authorized to participate in the community harvest system on Federal public lands in Units 11, 12, and 13, specifically, the eight Ahtna traditional communities of Cantwell, Chistochina, Chitina, Copper Center, Gakona, Gulkana, Mentasta Lake, and Tazlina; (2) define the geographic boundaries of eligible communities as the most recent Census Designated Places established by the U.S. Census Bureau; (3) extend these actions through the end of the wildlife regulatory cycle (June 30, 2022); (4) specify that harvest reporting will take the form of reports collected from hunters by AITRC and be submitted directly to the land managers and OSM, rather than through Federal registration permits, joint State/Federal registration permits, or State harvest tickets; and (5) set the harvest quota for the species and units authorized in the community harvest system as the sum of individual harvest limits for those opting to participate in the system (OSM 2020).

In January 2021, the Board approved Wildlife Special Action WSA20-07 temporarily adding the following language to unit-specific regulations for moose and caribou in Units 11, 12, and 13:

"Animals taken by those opting to participate in this community harvest system do not count toward the harvest limits of any individuals who do not opt to participate in this community harvest system." At this meeting, the Board also approved a community harvest system framework that describes additional details about implementation of the system (see analysis of Proposal WP22-36 Appendix 1) (OSM 2021).

Currently, the following community harvest systems are codified in Federal regulations: Lime Village for Unit 19 caribou and moose; Nikolai for Unit 19 sheep; the community of Wales for Unit 22 muskoxen; Anaktuvuk Pass for Units 24 and 26 sheep; Unit 25 black bear with a State community harvest permit; Ninilchik for Kasilof River and Kenai River community gillnets for salmon; and Cantwell, Chistochina, Chitina, Copper Center, Gakona, Gulkana, Mentasta Lake, and Tazlina for moose in Unit 11 and caribou and moose in Unit 13.

Current Events Involving the Species

Proposal WP22-36, submitted by AITRC, requests the Board adopt existing temporary regulations for regarding the community harvest system for moose and caribou in Unit 11, 12, and 13.

Cultural Knowledge and Traditional Practices

Community harvest and designated harvester provisions provide recognition of the customary and traditional practices of sharing and redistribution of harvests. A host of research supports a need for these alternative permitting systems in Federal subsistence regulations to harmonize fundamental harvesting characteristics of rural Alaskan communities with the Federal Subsistence Management Program. Family-based production is the foundation of the mixed subsistence-cash economy found in rural Alaskan communities (cf. Wolfe 1981, 1987; Wolfe and Walker 1987; Wolfe et al. 1984). Family-based production is when two or more individual households linked by kinship distribute the responsibility to harvest, process, and store wild resources based on factors such as skills and abilities, availability of able workers, sufficient income to purchase harvesting and processing technology, and other factors. Units of family-based production typically contain at least one "super-household" that produces surpluses of wild foods (Wolfe 1987). On a statewide basis, about 30% of households in a community are super-households that produce about 70% or more of the community's wild food harvest (Sahlins 1972; Andrews 1988; Magdanz, Utermohle, and Wolfe 2002; Sumida 1989; Sumida and Andersen 1990). Conversely, 20% to 30% of households in units of family-based production did not produce enough food to feed members of that household (Sahlins 1972). Inequalities in individual and household production levels are equalized via processes of distribution (sharing and feasting) and exchange (trade and barter).

Recent studies on disparities in household food production demonstrate that super-households participate heavily in food-sharing. Wolfe et al. (2007) looked at household food production in 67 rural Alaska communities representing Aleut, Athabascan, Inupiat, Tlingit-Haida, and Yup'ik cultural groups. The majority of these communities were comprised of mostly Alaska Native households with at least one Native head of household, although communities in Southeast Alaska were ethnically mixed. The researchers found that there were household variables commonly associated with levels of

food production throughout these communities. Household variables including higher levels of income, participation in commercial fishing, and households with three or more adult males over 15 years of age were associated with higher levels of food production. Households in which there was a single or elder head of household were associated with lower levels of food production. Most remarkably, the study also demonstrated that high-producing households gave the most food to others and giving to other households may be a primary motivation for over-production. Wolfe et al. (2007) further recommended that policy and management regulations account for food production and sharing practices within Alaskan mixed subsistence-cash communities. They wrote:

> The findings about the concentration of subsistence harvests also have social policy implications for the management of hunts and fisheries. Annual and daily bag limits that require that individuals or households harvest at equal levels, as is common for sport fishing and sport hunting, operate from different principles from those operating in subsistence systems. In the subsistence system, individuals and households commonly are not equivalent producers. Instead, a relatively small segment of high-producers harvest most of the fish or game. The average harvests among community households may be in line with bag and harvest limits required for conservation reasons, but the actual production is concentrated in a small number of households. Flexible regulations that allow for this type of concentrated harvest would be most compatible with the actual patterns of subsistence production (Wolfe et al. 2007:29).

Community harvest and designated harvester systems in use in the Federal Subsistence Management Program are intended to provide some flexibility in harvest regulations to make legal the activities of super-households in rural communities. Supporting the distribution of wild foods in villages allows people to continue their subsistence way of life.

Effects of the Proposal

If this proposal is adopted, then Federal regulations will recognize that the Board, when approving the framework for a community harvest system, may allow community members to choose whether they want to participate in the community harvest system or retain their individual harvest limits. The Federal regulations will specify that fish, wildlife, or shellfish harvested under a community harvest system will not count against the individual harvest limits of non-participants. Similarly, fish, wildlife, or shellfish harvested by non-participants will not count against the harvest limit set for the community harvest system. Effects to nonsubsistence uses, wildlife, fish, and shellfish, statewide, are not anticipated.

If this proposal is not adopted, then Federal regulations will continue to stipulate that any harvest within a community harvest system also counts toward the individual harvest limit of every community member regardless of whether they participate in the community harvest system. Additionally, the Board's authority to approve community harvest frameworks, and to allow community members to opt in or opt out of a community harvest, will not be clearly stated. Effects to nonsubsistence uses, wildlife, fish, and shellfish, statewide, are not anticipated.

OSM PRELIMINARY CONCLUSION

Support Proposal WP22-01.

Justification

Subsistence users and others will find these regulations less confusing and easier to use. In this way, the proposed regulatory changes provide more equitable harvest options and opportunities for subsistence users. They also prevent unintentional and unnecessary restrictions from being placed on any community members who choose not to participate in a community harvest system, and clarifies a current oversight in Federal regulation.

LITERATURE CITED

Andrews, E.F. 1988. The harvest of fish and wildlife for subsistence by residents of Minto, Alaska. Alaska Department of Fish and Game Division of Subsistence Technical Paper No. 137. Juneau, AK

Magdanz, J.S., C.J. Utermohle, and R. J. Wolfe. 2002. The organization of subsistence food production in two Inupiaq communities, Wales and Deering, Alaska. Alaska Department of Fish and Game Division of Subsistence Technical Paper No. 259, Juneau, AK.

OSM. 1994. Report of the designated hunter task force. Office of Subsistence Management, USFWS, Anchorage, AK. 34 pages.

OSM. 2020. Federal Subsistence Board News Release, July 17, 2020: Federal Subsistence Board takes action on five Wildlife Special Action Requests WSA20-01 (Unit 13 caribou), WSA20-02 (Units 11, 12, 13 moose and caribou), WSA20-03 (Unit 13 caribou), WSA20-04 (Mulchatna Caribou) and WSA20-05 (Unit 18 moose). https://www.doi.gov/subsistence/news/general/federal-subsistence-board-takes-action-five-wildlife-special-action. Retrieved June 15, 2021. Office of Subsistence Management, USFWS, Anchorage, AK.

OSM. 2021. Federal Subsistence Board News Release, February 3, 2021: Federal Subsistence Board approves changes to subsistence fishing regulations. https://www.doi.gov/subsistence/news/general/federal-subsistence-board-approves-changes-subsistence-fishing-0. Retrieved July 14, 2021. Office of Subsistence Management, USFWS, Anchorage, AK.

Sahlins, M D. 1972. Stone age economics. Aldine Publishing Company, New York.

Sumida, V.A. 1989. Patterns of fish and wildlife harvest and use in Beaver, Alaska. Alaska Department of Fish and Game Division of Subsistence Technical Paper No. 140, Juneau, AK.

Sumida, V.A, and D.B. Andersen. 1990. Patterns of fish and wildlife use for subsistence in Fort Yukon, Alaska. Alaska Department of Fish and Game Division of Subsistence Technical Paper No. 179. Juneau, AK.

Wolfe, R.J. 1981. Norton Sound/Yukon Delta Sociocultural Systems Baseline Analysis. Alaska Department of Fish and Game Division of Subsistence Technical Report No. 59, Juneau, AK.

Wolfe, R.J. 1987. The super-household: specialization in subsistence economies. Paper presented at the 14th Annual Meeting of the Alaska Anthropological Association, March 12-13, 1987, Anchorage, AK.

Wolfe, R.J., C.L. Scott, W.E. Simeone, C.J. Utermohle, and M.C. Pete. 2007. The "Super-Household" in Alaska Native subsistence economics. National Science Foundation, ARC 0352677. Washington DC. 31 pages.

Wolfe, R.J., J.J. Gross, S.J. Langdon, J.M. Wright, G.K. Sherrod, L.J. Ellanna, V.Sumida, and P.J. Usher. 1984. Subsistence-based economies in coastal communities of Southwest Alaska. Alaska Department of Fish and Game Division of Subsistence Technical Paper No. 59. Juneau, AK. 270 pages.

Wolfe, R.J., and R.J. Walker. 1987. Subsistence economies in Alaska: Productivity, geography, and development impacts. Arctic Anthropology 24(2): 56–81.

APPENDIX 1

STATE OF ALASKA COMMUNITY HARVEST PROGRAM

5 AAC 92.074. Community subsistence harvest hunt areas

(a) The commissioner or the commissioner's designee may, under this section and 5 AAC 92.052, issue community-based subsistence harvest permits and harvest reports for big game species where the Board of Game (board) has established a community harvest hunt area under (b) of this section and 5 AAC 92.074.

(b) The board will consider proposals to establish community harvest hunt areas during regularly scheduled meetings to consider seasons and bag limits for affected species in a hunt area. Information considered by the board in evaluating the proposed action will include

(1) a geographic description of the hunt area;

(2) the sustainable harvest and current subsistence regulations and findings for the big game population to be harvested;

(3) a custom of community-based harvest and sharing of the wildlife resources harvested in the hunt area by any group; and

(4) other characteristics of harvest practices in the hunt area, including characteristics of the customary and traditional pattern of use found under 5 AAC 99.010(b).

(c) If the board has established a community harvest hunt area for a big game population, residents of the community or members of a group may elect to participate in a community harvest permit hunt in accordance with the following conditions:

(1) a person representing a group of 25 or more residents or members may apply to the department for a community harvest permit by identifying the community harvest hunt area and the species to be hunted, and by requesting that the department distribute community harvest reports to the individuals who subscribe to the community harvest permit; the community or group representative must

(A) provide to the department the names of residents or members subscribing to the community harvest permit and the residents' or members' hunting license numbers, permanent hunting identification card numbers, or customer service identification numbers, or for those residents or members under 18 years of age, the resident or member's birth date;

(B) ensure delivery to the department of validated harvest reports from hunters following the take of individual game animals, records of harvest information for

individual animals taken, and collected biological samples or other information as required by the department for management;

(C) provide the department with harvest information, including federal subsistence harvest information, within a specified period of time when requested, and a final report of all game taken under the community harvest permit within 15 days of the close of the hunting season or as directed in the permit; and

(D) make efforts to ensure that the applicable customary and traditional use pattern described by the board and included by the department as a permit condition, if any, is observed by subscribers including meat sharing; the applicable board finding and conditions will be identified on the permit; this provision does not authorize the community or group administrator to deny subscription to any community resident or group member;

(E) from July 1, 2014 until June 30, 2018, in the community harvest hunt area described in 5 AAC 92.074(d) , permits for the harvest of bull moose that do not meet the antler restrictions for other resident hunts in the area will be limited to one permit for every three households in the community or group. Beginning July 1, 2018, in the community harvest hunt area described in 5 AAC 92.074(d) , permits for the harvest of bull moose that do not meet the antler restrictions for other resident hunts in the area will be distributed to participants using the scoring criteria described in 5 AAC 92.070.

(2) a resident of the community or member of the group who elects to subscribe to a community harvest permit

(A) may not hold a harvest ticket or other state hunt permit for the same species where the bag limit is the same or for fewer animals during the same regulatory year; however, a person may hold harvest tickets or permits for same-species hunts in areas with a larger bag limit following the close of the season for the community harvest permit, except that in Unit 13, prior to July 1, 2018, only one caribou may be retained per household, and on or after July 1, 2018, up to two caribou may be retained per household;

(B) may not subscribe to more than one community harvest permit for a species during a regulatory year;

(C) must have in possession when hunting and taking game a community harvest report issued by the hunt administrator for each animal taken;

(D) must validate a community harvest report immediately upon taking an animal; and

(E) must report harvest and surrender validated harvest reports within five days, or sooner as directed by the department, of taking an animal and transporting it to the place of final processing for preparation for human use and provide information and biological samples required under terms of the permit;

(F) must, if the community harvest hunt area is under a Tier II permit requirement for the species to be hunted, have received a Tier II permit for that area, species, and regulatory year.

(G) participants in the community harvest hunt area described in 5 AAC 92.074(d)must commit to participation for two consecutive years. This does not apply to participants that applied in 2016 for the 2018 regulatory year.

(3) in addition to the requirements of (1) of this subsection, the community or group representative must submit a complete written report, on a form provided by the department, for the community or group participating in the community harvest hunt area described in 5 AAC 92.074(d), that describes efforts by the community or group to observe the customary and traditional use pattern described by board findings for the game populations hunted under the conditions of this community harvest permit; in completing the report, the representative must make efforts to collect a complete report from each household that is a member of the community or group that describes efforts by the household to observe the customary and traditional use pattern using the eight elements described in this paragraph; a copy of all household reports collected by the community or group representative shall be submitted to the department as a part of the representative's written report; complete reports must include information about efforts to observe the customary and traditional use pattern of the game population, as follows:

(A) Element 1: participation in a long-term, consistent pattern of noncommercial taking, use, and reliance on the game population: the number of years of taking and use of the game population; and involvement of multiple generations in the taking and use of the game population; and use of areas other than the community subsistence hunt area for harvest activities;

(B) Element 2: participation in the pattern of taking or use of the game population that follows a seasonal use pattern of harvest effort in the hunt area: the months and seasons in which noncommercial harvest activities occur in the hunt area;

(C) Element 3: participation in a pattern of taking or use of wild resources in the hunt area that includes methods and means of harvest characterized by efficiency and economy of effort and cost: costs associated with harvests; and methods used to reduce costs and improve efficiency of harvest; and number of species harvested during hunting activities;

(D) Element 4: participation in a pattern of taking or use of wild resources that occurs in the hunt area due to close ties to the area: number of years of taking and use of the game population; and involvement of multiple generations in the taking and use of the game population; and variety of harvesting activities that take place in the hunt area; and evidence of other areas used for harvest activities;

(E) Element 5: use of means of processing and preserving wild resources from the hunt area that have been traditionally used by past generations: complete listing of the parts of the harvested game that are used; and preservation methods of that game; and types of foods and other products produced from that harvest;

(F) Element 6: participation in a pattern of taking or use of wild resources from the hunt area that includes the handing down of knowledge of hunting skills, values, and lore about the hunt area from generation to generation: involvement of multiple generations in the taking and use of the game population; and evidence of instruction and training;

(G) Element 7: participation in a pattern of taking of wild resources from the hunt area in which the harvest is shared throughout the community: amount of harvest of the game population that is shared; and evidence of a communal sharing event; and support of those in need through sharing of the harvest of the game population; and

(H) Element 8: participation in a pattern that includes taking, use, and reliance on a wide variety of wild resources from the hunt area: the variety of resource harvest activities engaged in within the hunt area; and evidence of other areas used for harvest activities.

(d) Seasons for community harvest permits will be the same as those established for other subsistence harvests for that species in the geographic area included in a community harvest hunt area, unless separate community harvest hunt seasons are established. The total bag limit for a community harvest permit will be equal to the sum of the individual participants' bag limits, established for other subsistence harvests for that species in the hunt area or otherwise by the board. Seasons and bag limits may vary within a hunt area according to established

subsistence regulations for different game management units or other geographic delineations in a hunt area.

(e) Establishment of a community harvest hunt area will not constrain nonsubscribing residents of the community or members of the group from participating in subsistence harvest activities for a species in that hunt area using individual harvest tickets or other state permits authorized by regulation, nor will it require any resident of the community or member of the group eligible to hunt under existing subsistence regulations to subscribe to a community harvest permit.

(f) The department may disapprove an application for a community subsistence harvest permit from a community or group that has previously failed to comply with requirements in (c)(1) and (3) of this section. The failure to report by the community or group representative under (c)(1) and (3) of this section may result in denial of a community subsistence harvest permit during the following regulatory year. The department must allow a representative the opportunity to request a hearing if the representative fails to submit a complete report as required under (c)(1) and (3) of this section. A community or group aggrieved by a decision under this subsection will be granted a hearing before the commissioner or the commissioner's designee, if the community or group representative makes a request for a hearing in writing to the commissioner within 60 days after the conclusion of the hunt for which the person failed to provide a report. The commissioner may determine that the penalty provided under this subsection will not be applied if the community or group representative provides the information required on the report and if the commissioner determines that

(1) the failure to provide the report was the result of unavoidable circumstance; or

(2) extreme hardship would result to the community or group.

(g) A person may not give or receive a fee for the taking of game or receipt of meat under a community subsistence harvest permit.

(h) Nothing in this section authorizes the department to delegate to a community or group representative determination of the lawful criteria for selecting who may hunt, for establishing any special restrictions for the hunt and for the handling of game, and for establishing the terms and conditions for a meaningful communal sharing of game taken under a community harvest permit.

(i) In this section,

(1) "fee" means a payment, wage, gift, or other remuneration for services provided while engaged in hunting under a community harvest permit; and does not include reimbursement for actual expenses incurred during the hunting activity within the scope of the community harvest permit, or a non-cash exchange of subsistence-harvested resources.

(2) a "community" or "group" is a mutual support network of people who routinely (at least several times each year) provide each other with physical, emotional, and nutritional assistance in a multi-generational and inter/intra familial manner to assure the long-term welfare of individuals, the group, and natural resources they depend on; for purposes of this regulation, a "community" or "group" shares a common interest in, and participation in uses of, an identified area and the wildlife populations in that area, that is consistent with the customary and traditional use pattern of that wildlife population and area as defined by the board.

WP22–02 Executive Summary	
General Description	Proposal WP22-02 requests to remove language from designated hunting regulations prohibiting the use of a designated hunter permit by a member of community operating under a community harvest system. *Submitted by the Office of Subsistence Management.*
Proposed Regulation	See page 125
OSM Preliminary Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	

WP22–02 Executive Summary	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	**None**

DRAFT STAFF ANALYSIS
WP22-02

ISSUES

Wildlife Proposal WP22-02, submitted by the Office of Subsistence Management (OSM), requests to remove language from designated hunting regulations prohibiting the use of a designated hunter permit by a member of community operating under a community harvest system.

DISCUSSION

While developing the framework for a community harvest system in summer 2020, Ahtna Intertribal Resource Commission (AITRC) representatives realized that residents of communities in a community harvest system cannot designate another person to harvest on their behalf, pursuant to Federal designated hunter regulations. AITRC and Federal agency staff perceived this provision as unfair to community members who choose not to participate in a community harvest system because their options for acquiring their individual harvest limits are curtailed involuntarily.

The proponent clarified that the intent of this proposal is to allow members of a community with a community harvest system to designate a hunter to harvest on their behalf to fulfill either their individual harvest limit or to count toward the community harvest limit depending on whether or not they choose to participate in the community harvest system.

Existing Federal Regulation

> **36 CFR 242 and 50 CFR 100.25(e) Hunting by designated harvest permit**
>
> *If you are a Federally qualified subsistence user (recipient), you may designate another Federally qualified subsistence user to take deer, moose, and caribou, and in Units 1-5, goats, on your behalf unless you are a member of a community operating under a community harvest system or unless unit-specific regulations in §____.26 preclude or modify the use of the designated hunter system or allow the harvest of additional species by a designated hunter. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients but may have no more than two harvest limits in his/her possession at any one time except for goats, where designated hunters may have no more than one harvest limit in possession at any one time, and unless otherwise specified in unit-specific regulations in §____.26.*
>
> **§_____.26(n)(6)(ii) Unit 6 specific regulations**
>
> *(D) A federally qualified subsistence user (recipient) who is either blind, 65 years of age or older, at least 70 percent disabled, or temporarily disabled may designate another federally qualified subsistence user to take any moose, deer, black bear, and beaver on his or her behalf in Unit 6, and goat in Unit 6D, unless the recipient is a member of a community operating*

under a community harvest system. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients, but may have no more than one harvest limit in his or her possession at any one time.

§_____.26(n)(9)(iii) Unit 9 specific regulations

(E) For Units 9C and 9E only, a federally qualified subsistence user (recipient) of Units 9C and 9E may designate another federally qualified subsistence user of Units 9C and 9E to take bull caribou on his or her behalf unless the recipient is a member of a community operating under a community harvest system. The designated hunter must obtain a designated hunter permit and must return a completed harvest report and turn over all meat to the recipient. There is no restriction on the number of possession limits the designated hunter may have in his/her possession at any one time.

(F) For Unit 9D, a federally qualified subsistence user (recipient) may designate another federally qualified subsistence user to take caribou on his or her behalf unless the recipient is a member of a community operating under a community harvest system. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients but may have no more than four harvest limits in his/her possession at any one time.

§_____.26(n)(10) Unit 10 specific regulations

(iii) In Unit 10—Unimak Island only, a federally qualified subsistence user (recipient) may designate another federally qualified subsistence user to take caribou on his or her behalf unless the recipient is a member of a community operating under a community harvest system. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients but may have no more than four harvest limits in his/her possession at any one time.

§_____.26(n)(22)(iii) Unit 22 specific regulations

(E) A federally qualified subsistence user (recipient) may designate another federally qualified subsistence user to take musk oxen on his or her behalf unless the recipient is a member of a community operating under a community harvest system. The designated hunter must get a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients in the course of a season, but have no more than two harvest limits in his/her possession at any one time, except in Unit 22E where a resident of Wales or Shishmaref acting as a designated hunter may hunt for any number of recipients, but have no more than four harvest limits in his/her possession at any one time.

§_____.26(n)(23)(iv) Unit 23 specific regulations

(D) For the Baird and DeLong Mountain sheep hunts—A federally qualified subsistence user (recipient) may designate another federally qualified subsistence user to take sheep on his or her behalf unless the recipient is a member of a community operating under a community harvest system. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for only one recipient in the course of a season and may have both his and the recipients' harvest limits in his/her possession at the same time.

(F) A federally qualified subsistence user (recipient) may designate another federally qualified subsistence user to take musk oxen on his or her behalf unless the recipient is a member of a community operating under a community harvest system. The designated hunter must get a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients, but have no more than two harvest limits in his/her possession at any one time.

§_____.26(n)(26)(iv) Unit 26 specific regulations

(C) In Kaktovik, a federally qualified subsistence user (recipient) may designate another federally qualified subsistence user to take sheep or musk ox on his or her behalf unless the recipient is a member of a community operating under a community harvest system. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients but may have no more than two harvest limits in his/her possession at any one time.

(D) For the DeLong Mountain sheep hunts—A federally qualified subsistence user (recipient) may designate another federally qualified subsistence user to take sheep on his or her behalf unless the recipient is a member of a community operating under a community harvest system. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for only one recipient in the course of a season and may have both his and the recipient's harvest limits in his/her possession at the same time.

Proposed Federal Regulation

§_____.25(e) Hunting by designated harvest permit

If you are a Federally qualified subsistence user (recipient), you may designate another Federally qualified subsistence user to take deer, moose, and caribou, and in Units 1-5, goats, on your behalf ~~unless you are a member of a community operating under a community harvest system or~~ unless unit-specific regulations in §100.26 preclude or modify the use of the designated hunter system or allow the harvest of additional species by a designated hunter. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients but may have no

more than two harvest limits in his/her possession at any one time except for goats, where designated hunters may have no more than one harvest limit in possession at any one time, and unless otherwise specified in unit-specific regulations in §100.26.

§_____.26(n)(6)(ii) Unit 6 specific regulations

(D) A federally qualified subsistence user (recipient) who is either blind, 65 years of age or older, at least 70 percent disabled, or temporarily disabled may designate another federally qualified subsistence user to take any moose, deer, black bear, and beaver on his or her behalf in Unit 6, and goat in Unit 6D, ~~unless the recipient is a member of a community operating under a community harvest system~~. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients, but may have no more than one harvest limit in his or her possession at any one time.

§_____.26(n)(9)(iii) Unit 9 specific regulations

(E) For Units 9C and 9E only, a federally qualified subsistence user (recipient) of Units 9C and 9E may designate another federally qualified subsistence user of Units 9C and 9E to take bull caribou on his or her behalf ~~unless the recipient is a member of a community operating under a community harvest system~~. The designated hunter must obtain a designated hunter permit and must return a completed harvest report and turn over all meat to the recipient. There is no restriction on the number of possession limits the designated hunter may have in his/her possession at any one time.

(F) For Unit 9D, a federally qualified subsistence user (recipient) may designate another federally qualified subsistence user to take caribou on his or her behalf ~~unless the recipient is a member of a community operating under a community harvest system~~. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients but may have no more than four harvest limits in his/her possession at any one time.

§_____.26(n)(10) Unit 10 specific regulations

(iii) In Unit 10—Unimak Island only, a federally qualified subsistence user (recipient) may designate another federally qualified subsistence user to take caribou on his or her behalf ~~unless the recipient is a member of a community operating under a community harvest system~~. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients but may have no more than four harvest limits in his/her possession at any one time.

§_____.26(n)(22)(iii) Unit 22 specific regulations

(E) A federally qualified subsistence user (recipient) may designate another federally qualified subsistence user to take musk oxen on his or her behalf ~~unless the recipient is a member of a community operating under a community harvest system~~. The designated hunter must get a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients in the course of a season, but have no more than two harvest limits in his/her possession at any one time, except in Unit 22E where a resident of Wales or Shishmaref acting as a designated hunter may hunt for any number of recipients, but have no more than four harvest limits in his/her possession at any one time.

§_____.26(n)(23)(iv) Unit 23 specific regulations

(D) For the Baird and DeLong Mountain sheep hunts—A federally qualified subsistence user (recipient) may designate another federally qualified subsistence user to take sheep on his or her behalf ~~unless the recipient is a member of a community operating under a community harvest system~~. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for only one recipient in the course of a season and may have both his and the recipients' harvest limits in his/her possession at the same time.

(F) A federally qualified subsistence user (recipient) may designate another federally qualified subsistence user to take musk oxen on his or her behalf ~~unless the recipient is a member of a community operating under a community harvest system~~. The designated hunter must get a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients, but have no more than two harvest limits in his/her possession at any one time.

§_____.26(n)(26)(iv) Unit 26 specific regulations

(C) In Kaktovik, a federally qualified subsistence user (recipient) may designate another federally qualified subsistence user to take sheep or musk ox on his or her behalf ~~unless the recipient is a member of a community operating under a community harvest system~~. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for any number of recipients but may have no more than two harvest limits in his/her possession at any one time.

(D) For the DeLong Mountain sheep hunts—A federally qualified subsistence user (recipient) may designate another federally qualified subsistence user to take sheep on his or her behalf ~~unless the recipient is a member of a community operating under a community harvest system~~. The designated hunter must obtain a designated hunter permit and must return a completed harvest report. The designated hunter may hunt for only one recipient in the course of a season and may have both his and the recipient's harvest limits in his/her possession at the same time.

Existing State Regulation

The State of Alaska provides for the transfer of harvest limits from one person to another through its proxy hunting program (5 AAC 92.011; see **Appendix 1**). **Table 1** is a side-by-side comparison of the State's proxy system to the Federal designated hunter system.

Table 1. State of Alaska Proxy System compared to Federal Designated Hunter System.

State of Alaska Proxy System	Federal Subsistence Management Program Designated Hunter System
Applies where there is an open State harvest season.	Applies to Federal public lands when there is an open Federal harvest season.
Applies to caribou, deer, and moose.	Applies to caribou, deer, moose, and in Units 1–5, goats, as well as other species identified in unit-specific regulations.
Available to a hunter who is blind, physically or developmentally disabled (requires physician's affidavit), or 65 years of age or older	Available to Federally qualified subsistence users.
Either the recipient or the hunter may apply for the authorization.	Recipient obtains a permit or harvest ticket and designates another Federally qualified subsistence user to harvest on his/her behalf. Designated hunter obtains a Federal designated hunter permit.
No person may be a proxy for more than one recipient at a time.	A person may hunt for any number of recipients, but may have no more than two harvest limits in his/her possession at any one time.
Antler destruction is required.	No antler destruction is required.

Federal Public Lands

Federal public lands comprise approximately 54% of Alaska statewide and consist of 36% U.S. Fish and Wildlife Service managed lands, 28% Bureau of Land Management managed lands, 25% National Park Service managed lands, and 11% U.S. Forest Service managed lands.

Customary and Traditional Use Determination

This is a statewide proposal regarding wildlife.

Regulatory History

In 1991, after extensive public comment on the Federal Subsistence Management Program's first Temporary Rule, the Federal Subsistence Board committed to addressing community harvest limits and alternative permitting processes (56 Fed. Reg. 123, 29411 [June 26, 1991]).

In 1992, responding to approximately 40 proposals requesting community harvest systems and numerous public comments requesting alternative permitting systems, the Board supported the concept of adjusting seasons and harvest limits based on customs and traditions of a community (57 Fed. Reg. 103, 22531–2 [May 28, 1992]). The Board said specific conditions for the use of a particular harvest reporting system may be applied on a case-by-case basis and further development and refinement of guidelines for alternative permitting systems would occur as the Federal Subsistence Management Program evolved (57 Fed. Reg. 104, 22948 [May 29, 1992]. These regulations at ____.6 were modified to state that intent more clearly:

> §_____.6 Licenses, permits, harvest tickets, tags, and reports[1]
>
> *(f) The Board may implement harvest reporting systems or permit systems where:*
>
> *(1) The fish and wildlife is taken by an individual who is required to obtain and possess pertinent State harvest permits, tickets, or tags, or Federal permits, harvest tickets, or tags;*
>
> *(2) A qualified subsistence user may designate another qualified subsistence user to take fish and wildlife on his or her behalf;*
>
> *(3) The fish and wildlife is taken by individuals or community representatives permitted a one-time or annual harvest for special purposes including ceremonies and potlatches;*
>
> *(4) The fish and wildlife is taken by representatives of a community permitted to do so in a manner consistent with the community's customary and traditional practices.*

In 1993, the Board adopted Proposal P93-12, which clarified that community harvest limits and individual harvest limits may not be accumulated, community harvest systems will be adopted on a case-by-case basis and defined under unit-specific regulations, and wildlife taken by a designated hunter for another person, counts toward the individual harvest limit of the person for whom the wildlife is taken. These new regulations specified that for wildlife, after taking your individual harvest limit, you may not continue to harvest in areas outside of your community harvest area (58 Fed. Reg. 103, 31255 [June 1, 1993]). These new regulations were the following:

> §____.25 Subsistence taking of wildlife[2]
>
> *(c) Possession and transportation of wildlife*
>
> *(1) Except as specified in §___.25(c)(3)(ii)* [below] *or (c)(4)* [trapping regulations], *or as otherwise provided, no person may take a species of wildlife in any Unit, or portion of a Unit, if that person's total statewide take of that species has already been obtained under Federal and State regulations in other Units, or portions of other Units.*

[1] Subsequently moved to *§___.10(d) Federal Subsistence Board—Power and Duties*.
[2] Subsequently moved to *§____.26 Taking of wildlife*.

(2) An animal taken under Federal or State regulations by any member of a community with an established community harvest limit for that species counts toward the community harvest for that species. Except for wildlife taken pursuant to §____.6(f)(3) [above], *an animal taken by an individual as part of a community harvest limit counts toward that individual's bag limit for that species taken under Federal or State regulations for areas outside of the community harvest area.*

(3) Individual bag limits (i) bag limits authorized by §____.25 and in State regulations may not be accumulated; (ii) Wildlife taken by a designated hunter for another person pursuant to §____6(f)(2) [above], *counts toward the individual bag limit of the person for whom the wildlife is taken.*

In 1993, community harvest strategies were adopted by the Board simply by adding the use of designated hunters into unit-specific regulations for Unit 25 West moose and Unit 26C sheep (58 Fed. Reg. 103, 31252–3 [June 1, 1993]). In this way, designated harvesters and resource quotas became a common method for allocating harvests communally.

Unit 25(D)(West)—. . .1 antlered moose by a Federal registration permit. Alternate permits allowing for designated hunters are available to qualified applicants who reside in Beaver, Birch Creek, or Stevens Village. Moose hunting on public land in this portion of Unit 25(D)(West) is closed at all times except for residents of Beaver, Birch Creek and Stevens Village during seasons identified above. The moose season will be closed when 30 antlered moose have been harvested in the entirety of Unit 25D West (58 Fed. Reg. 103, 31287 [June 1, 1993]).

Unit 26(C)—3 sheep per year; the Aug. 10–Sept 20 season is restricted to 1 ram with 7/8 cur1 horn or larger. A State registration permit is required for the Oct. 1–Apr. 30 season, except for residents of the City of Kaktovik. Kaktovik residents may harvest sheep in accordance with a Federal community harvest strategy for Unit 26(C) which provides for the take of up to two bag limits of 3 sheep by designated hunter. Procedures for Federal permit issuance and community reporting will be mutually developed by Kaktovik and Federal representatives prior to the season opening. Open season: Aug. 10–Sept. 30 and Oct. 1–Apr. 30 (58 Fed. Reg. 103, 31289 [June 1, 1993]).

In 1994, the Board rejected four proposals concerning the use of designated hunters to harvest wildlife for others and redirected staff to work with Regional Advisory Councils and develop regulations for the 1995/96 regulatory year that address designated harvesters on a state-wide basis (59 Fed. Reg. 29033, June 3, 1994).

In October 1994, a Designated Hunter Task Force published its report describing four options for alternative permitting systems (OSM 1994).

In 1996, administrative clarification was made at §____.25(c)(2) to better represent the Board's intent (61 Fed. Reg. 147, 39711 [July 30, 1996]). Before this clarification was made, a member of a community with a community harvest limit who had not taken an individual harvest limit could take an individual harvest limit after the community had met its harvest limit. The effect of the clarification was that members of community in a community harvest system can harvest only as part of the community harvest system:

> §____.25 Subsistence taking of wildlife
>
> *(c) Possession and transportation of wildlife*
>
> . . .
>
> *(2) An animal taken under Federal or State regulations by any member of a community with an established community harvest limit for that species counts toward the community harvest for that species. Except for wildlife taken pursuant to §____.6(f)(3)* [above], *an animal taken ~~by an individual~~ as part of a community harvest limit counts toward ~~that individual's bag limit~~* ***every community member's harvest limit*** *for that species taken under Federal or State regulations ~~for areas outside of the community harvest area~~.*

Later, the language "or as otherwise provided for by this part" was added to the provision. The effect was to allow an exception to the provision if the exception was placed in regulation:

> *(2) An animal taken under Federal or State regulations by any member of a community with an established community harvest limit for that species counts towards the community harvest limit for that species. Except for wildlife taken pursuant to §____.10(d)(5)(iii)* ***or as otherwise provided for by this part****, an animal taken as part of a community harvest limit counts toward every community member's harvest limit for that species taken under Federal or State of Alaska regulations.*

In 2001, administrative clarifications were added to regulations at §____.25(e) *Hunting by designated harvest permit*. New provisions stipulated that a designated hunter recipient may not be a member of a community operating under a community harvest system, reflecting §____.25(c)(2), above (66 Fed. Reg. 122, 33758 [June 25, 2001]). These new provisions were the following:

> §____.25 Subsistence taking of fish, wildlife, and shellfish: general regulations[3]
>
> *(e) Hunting by designated harvest permit*
>
> *(1) As allowed by §____.26* [Subsistence taking of wildlife], *if you are a Federally-qualified subsistence user, you (beneficiary) may designate another Federally-qualified*

[3] §____.25 was formerly *Subsistence taking of wildlife* that was moved to §____.26 to make room for these *general regulations*.

subsistence user to take wildlife on your behalf ***unless you are a member of a community operating under a community harvest system.***

(2) The designated hunter must obtain a designated hunter permit and must return a completed harvest report.

(3) You may not designate more than one person to take or attempt to take fish on your behalf at one time.

(4) The designated hunter may hunt for any number of recipients but may have no more than two harvest limits in his/her possession at any one time, unless otherwise specified in §____.26.

After 1994, the Board recommenced adopting designated harvester provisions in unit-specific regulations through 2002.

Prior to 2003, the Board adopted designated hunter regulations for 21 unit-specific hunts. In 2003, the Board established the statewide designated hunter system, based on Regional Advisory Council recommendations, providing opportunities for subsistence users to receive deer, caribou, and moose from designated hunters, subject to unit-specific regulations to include other species and special provisions (68 Fed. Reg. 38466 [June 27, 2003]). Where Councils agreed with these general statewide provisions, then unit-specific regulations were rescinded unless they included other species or special provisions.

In April 2020, the Board adopted deferred Proposal WP18-19 with modification to establish a community harvest system moose in Units 11 and caribou and moose in Unit 13 that will be administered by the Ahtna Intertribal Resource Commission (AITRC). The modification was to name individual communities within the Ahtna traditional use territory authorized to harvest caribou and moose in Unit 13 and moose in Unit 11 as part of a community harvest system, subject to a framework established by the Board under unit specific regulations. While developing the framework for the community harvest system over the summer of 2020, AITRC representatives and Federal agency staff realized that current Federal regulations prevent the use of designated hunters by any community member whether or not they choose to participate in the community harvest system (OSM 2020). In January 2021, the Board approved the community harvest system framework that describes additional details about implementation of the system (OSM 2021a).

Harvest History

The Designated Hunter Permit database is maintained at the Office of Subsistence Management. **Table 2** describes the use of the designated hunter system since 2002 when the permit system was implemented. Designated hunters have reported harvesting caribou, deer, moose, sheep, goats, and muskoxen. Most of the reported harvest by designated hunters is for deer (84%, or 4,717, ,), and most of those are taken from Southeast Alaska (Units 1–5). Designated hunter harvests of caribou account for 12% (658 caribou), and moose 4% (212 moose).

Table 2. Use of Federal designated hunter system based on completed harvest reports 2002-2020 cumulative, by species and management unit (OSM 2021b).

Management Unit	Number of Animals Harvested by Designated Hunters 2002-2020
Caribou	
9	4
12	109
13	477
17	8
18	6
20	31
Unknown	23
Total	658
Dall Sheep	
23	3
Deer	
1	57
2	146
3	1,178
4	22
6	0
8	10
2	727
4	1,836
5	11
6	3
8	672
Unknown	55
Total	4,717
Moose	
1	9
3	9
5	34
6	36
11	7
12	1
13	67
15	18
18	3
19	12
21	2
24	5
25	1
26	2
Unknown	6
Total	212

Continued on next page.

Management Unit	Number of Animals Harvested by Designated Hunters 2002-2020
Continued from previous page.	
Management Unit	**Number of Animals Harvested by Designated Hunters 2002-2020**
Mountain Goats	
1	1
4	5
Total	6
Muskoxen	
22	3

Cultural Knowledge and Traditional Practices

See the Cultural Knowledge and Traditional Practices section in the Proposal WP22-01 analysis.

Effects of the Proposal

If this proposal is adopted, then Federal designated hunter regulations will no longer preclude members of communities with a community harvest system from designating another person to take wildlife on their behalf to fulfill either their individual harvest limit or count toward the community harvest limit, pursuant to Federal designated hunter regulations. Effects to nonsubsistence uses or wildlife are not anticipated.

If this proposal is not adopted, then Federal designated hunting regulations will continue to preclude residents of communities in a community harvest system from designating another person to take wildlife on their behalf, even though some residents may choose not to participate in the community harvest system. Effects to nonsubsistence uses or wildlife are not anticipated.

OSM PRELIMINARY CONCLUSION

Support Proposal WP22-02.

Justification

The intent of the proposed regulation change is to allow members of a community with a community harvest system to designate another person to harvest on their behalf to meet either their individual harvest limit or count toward the community harvest limit, pursuant to Federal designated harvester regulations. Therefore, the statements in general and unit-specific regulations addressed by this proposal, WP22-02, will no longer be relevant and should be removed. Additionally, these regulatory changes will provide more equitable harvest options and opportunities for subsistence users.

LITERATURE CITED

OSM. 1994. Report of the designated hunter task force. Office of Subsistence Management, USFWS. Anchorage, AK. 34 pages.

OSM. 2020. Federal Subsistence Board News Release, April 29, 2020: Federal Subsistence Board approves changes to subsistence hunting and trapping regulations. https://www.doi.gov/subsistence/news/general/federal-subsistence-board-approves-changes-subsistence-hunting-and-0. Retrieved, July 14, 2020. Office of Subsistence, USFWS, Anchorage, AK.

OSM. 2021a. Federal Subsistence Board News Release, February 3, 2021: Federal Subsistence Board approves changes to subsistence fishing regulations. https://www.doi.gov/subsistence/news/general/federal-subsistence-board-approves-changes-subsistence-fishing-0. Retrieved July 14, 2021. Office of Subsistence Management, USFWS, Anchorage, AK.

OSM 2021b. Federal permit system. Electronic database. Office of Subsistence Management, USFWS, Anchorage, AK.

APPENDIX 1

STATE PROXY HUNTING REGULATIONS

5 AAC 92.011. Taking of game by proxy

(a) A resident hunter (the proxy) holding a valid resident hunting license may take specified game for another resident (the beneficiary) who is blind, physically or developmentally disabled, or 65 years of age or older, as authorized by AS 16.05.405and this section.

(b) Both the beneficiary and the proxy must possess copies of a completed proxy authorization form issued by the department. The completed authorization must include

(1) names, addresses, hunting license numbers, and signatures of the proxy and the beneficiary;

(2) number of the required harvest ticket report or permit harvest report;

(3) effective dates of the authorization; and

(4) signature of the issuing agent.

(c) A proxy authorization may not be used to take a species of game for a beneficiary for more than the length of the permit hunt season listed on the proxy authorization or for the maximum length of the species general season listed on the proxy authorization.

(d) A person may not be a proxy

(1) for more than one beneficiary at a time;

(2) more than once per season per species in Unit 13;

(3) for Tier II Caribou in Unit 13, unless the proxy is a Tier II permittee;

(4) for more than one person per regulatory year for moose in Units 20(A) and 20(B).

(e) Repealed 7/26/97.

(f) A proxy who takes game for a beneficiary shall, as soon as practicable, but not later than 30 days after taking game, personally deliver all parts of the game removed from the field to the beneficiary.

(g) Except for reporting requirements required by (h) of this section, a proxy who hunts or kills game for a beneficiary is subject to all the conditions and requirements that would apply to the beneficiary if the beneficiary personally hunted or killed the game.

(h) Reporting requirements for proxy and beneficiary are as follows:

(1) if the proxy takes the bag limit for the beneficiary, the proxy shall provide the beneficiary with all the information necessary for the beneficiary to complete and return the harvest ticket report or permit harvest report, as required by regulation, to the department within the time periods specified for such reports; the beneficiary is responsible for the timely return of the harvest ticket and permit harvest reports;

(2) if the proxy is unsuccessful or does not take the bag limit for the beneficiary, the proxy shall provide the beneficiary with any information necessary for the beneficiary to complete and return the harvest ticket report or permit harvest report, as required by regulation, to the department within the time periods specified for such reports; the beneficiary is responsible for the timely return of the harvest ticket and permit harvest reports;

(3) the department may require the proxy to complete a proxy hunter report issued with the authorization form and mail it to the department within 15 days after the effective period of the authorization.

(i) A person may not give or receive remuneration in order to obtain, grant, or influence the granting of a proxy authorization.

(j) A proxy participating in a proxy hunt must remove at least one antler from the skull plate or cut the skull plate in half, on an antlered animal, for both the proxy's animal and the beneficiary's animal before leaving the kill site, unless the department has established a requirement that complete antlers and skull plates must be submitted to the department.

(k) Proxy hunting under this section is only allowed for

(1) caribou;

(2) deer;

(3) moose in Tier II hunts, any-bull hunts, and antlerless moose hunts; and

(4) emperor geese.

(l) Notwithstanding (k) of this section, proxy hunting is prohibited in the following hunts where the board has determined that the use of the proxy would allow circumvention of harvest restrictions specified by the board, or where the board has otherwise directed:

(1) Unit 20(E) moose registration hunts and Units 20(B), 20(D), 20(E), 20(F), and 25(C) Fortymile and White Mountains caribou registration hunts;

(2) Units 21(B), 21(C), 21(D), and 24 moose hunts if either the proxy or the beneficiary holds a drawing permit for Units 21(B), 21(C), 21(D), or 24 moose hunts;

(3) Units 9(A) and 9(B), unit 9(C), that portion within the Alagnak River drainage, and units 17(B), 17(C), 18, 19(A), and 19(B) caribou hunts from August 1 through October 31;

(4) Unit 5(A) deer hunts from October 15 through October 31;

(5) Unit 20(D), within the Delta Junction Management Area, the moose drawing hunt for qualified disabled veterans.

Federal Subsistence Board

1011 East Tudor Road, MS 121
Anchorage, Alaska 99503 - 6199

FISH and WILDLIFE SERVICE
BUREAU of LAND MANAGEMENT
NATIONAL PARK SERVICE
BUREAU of INDIAN AFFAIRS

FOREST SERVICE

AUGUST 13 2021

In Reply Refer To
OSM 21043.LG

Northwest Arctic Subsistence
Regional Advisory Council
Office of Subsistence Management
1011 E. Tudor Road
Anchorage, Alaska 99503-6199

Dear Council:

This letter responds to your Temporary Wildlife Special Action Request WSA21-01, requesting closure of Federal public lands in Units 23 and 26A to caribou and moose hunting by non-Federally qualified users from August 1 to September 30, 2021.

The Federal Subsistence Board (Board) has deferred this request and will reconsider it prior to the 2022 hunting season. The Board requested that Office of Subsistence Management (OSM) staff seek additional input on concerns related to caribou from the Western Arctic Caribou Herd Working Group, Federal land-managing agencies, local Fish and Game Advisory Committees, the Alaska Department of Fish and Game, Regional Advisory Councils, commercial guides and transporters, and subsistence users in the area. The Board also asked OSM staff to include comparisons of moose harvest by survey area within Unit 23 in their analysis. The Board will further discuss and take action on this request in 2022.

The Board's deferral of this temporary special action request means that at this time, there are no changes to Federal regulations for moose or caribou in Units 23 or 26A for the 2021 season. Existing regulations, published prior to this request, are still in effect.

The enclosed copies of the Staff Analysis and the Interagency Staff Committee Recommendation provide further information and justification for this action. If you have any questions, please contact Lisa Grediagin, Wildlife Division Supervisor, Office of Subsistence Management, at (907) 786-3357.

Sincerely,

Anthony Christianson
Chair

Enclosures

cc: Federal Subsistence Board
Office of Subsistence Management
Tom Baker, Chair, Northwest Arctic Subsistence Regional Advisory Council
Gordon Brower, Chair, North Slope Subsistence Regional Advisory Council
Louis Green, Chair, Seward Peninsula Subsistence Regional Advisory Council
Jenny Pelkola, Chair, Western Interior Subsistence Regional Advisory Council
Benjamin Mulligan, Deputy Commissioner, Alaska Department of Fish and Game
Mark Burch, Special Projects Coordinator, Alaska Department of Fish and Game
Interagency Staff Committee
Administrative Record

STAFF ANALYSIS
TEMPORARY SPECIAL ACTION
WSA21-01

ISSUES

Temporary Wildlife Special Action WSA21-01, submitted by the Northwest Arctic Subsistence Regional Advisory Council (Council), requests closing Federal public lands in Units 23 and 26A to caribou and moose hunting by non-Federally qualified users from August 1 to September 30, 2021.

DISCUSSION

The proponent expresses concern about the late migration of caribou into and through Unit 23. The caribou migration has been delayed in recent years, and the proponent anticipates another delay in fall of 2021. In 2020, Unit 23 communities (with the exception of Noatak) were unable to conduct their fall caribou harvest, because caribou had not yet migrated into the area. The proponent states that winter harvests are uncertain, and the lack of fall harvest has resulted in empty freezers and stressed communities. Of particular concern to the proponent is the effect that transporters and non-local hunters may be having on caribou migration through both Unit 23 and Unit 26A contributing to its delay. The proponent hopes that a closure will reduce activity and traffic, creating an easier path for migrating caribou. The proponent is requesting a closure to moose hunting by non-Federally qualified users in Units 23 and 26A because of declining moose populations.

The applicable Federal regulations are found in 36 CFR 242.19(b) and 50 CFR 100.19(b) (Temporary Special Actions) and state that:

> *. . . After adequate notice and public hearing, the Board may temporarily close or open public lands for the taking of fish and wildlife for subsistence uses, or modify the requirements for subsistence take, or close public lands for the taking of fish and wildlife for nonsubsistence uses, or restrict take for nonsubsistence uses.*

Existing Federal Regulation

Unit 23−Caribou

Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage—5 caribou per day by State registration permit as follows:	
Bulls may be harvested	*July 1–June 30*
Cows may be harvested. However, cows accompanied by calves may not be taken July 15–Oct. 14.	*July 15–Apr. 30*

Unit 23, remainder—5 caribou per day by State registration permit as follows:

Bulls may be harvested	*July 1–June 30*
Cows may be harvested. However, cows accompanied by calves may not be taken July 31–Oct. 14.	*July 31–Mar. 31*

Federal public lands within a 10-mile-wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage are closed to caribou hunting except by federally qualified subsistence users hunting under these regulations

Unit 23−Moose

Unit 23—that portion north and west of and including the Singoalik River drainage, and all lands draining into the Kukpuk and Ipewik Rivers—1 antlered bull. No person may take a calf.	*July 1-Dec. 31.*
Unit 23, remainder—1 antlered bull. No person may take a calf.	*Aug. 1-Dec. 31.*

Unit 26A−Caribou

Unit 26A—that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River drainage—5 caribou per day by State registration permit as follows:

Calves may not be taken	
Bulls may be harvested	*July 1-Oct. 14.* *Dec. 6-June 30.*

Cows may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15	*July 16-Mar. 15.*
Unit 26A remainder—5 caribou per day by State registration permit as follows:	
Calves may not be taken	
Bulls may be harvested	*July 1-Oct. 15.* *Dec. 6-June 30.*
Up to 3 cows per day may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15	*July 16-Mar. 15.*

Unit 26A−Moose

Unit 26A—that portion of the Colville River drainage upstream from and including the Anaktuvuk River drainage—1 bull	*Aug. 1-Sep. 14*
Unit 26A—that portion of the Colville River drainage upstream from and including the Anaktuvuk River drainage—1 moose; however, you may not take a calf or a cow accompanied by a calf	*Feb. 15-Apr. 15.*
Unit 26A—that portion west of 156°00′ W longitude excluding the Colville River drainage—1 moose, however, you may not take a calf or a cow accompanied by a calf	*July 1-Sep. 14.*
Unit 26A, remainder—1 bull	*Aug. 1-Sep. 14.*

Proposed Federal Regulation

Unit 23−Caribou

Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage—5 caribou per day by State registration permit as follows:

Bulls may be harvested	*July 1–June 30*
Cows may be harvested. However, cows accompanied by calves may not be taken July 15–Oct. 14.	*July 15–Apr. 30*

Federal public lands are closed to caribou hunting from Aug. 1-Sep. 30, 2021 except by Federally qualified subsistence users hunting under these regulations.

Unit 23, remainder—5 caribou per day by State registration permit as follows:

Bulls may be harvested	*July 1–June 30*
Cows may be harvested. However, cows accompanied by calves may not be taken July 31–Oct. 14.	*July 31–Mar. 31*

Federal public lands within a 10-mile-wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage are closed to caribou hunting except by federally qualified subsistence users hunting under these regulations.

Federal public lands are closed to caribou hunting from Aug. 1-Sep. 30, 2021 except by Federally qualified subsistence users hunting under these regulations.

Unit 23−Moose

Unit 23—that portion north and west of and including the Singoalik River drainage, and all lands draining into the Kukpuk and Ipewik Rivers—1 antlered bull. No person may take a calf.	*July 1-Dec. 31.*

Federal public lands are closed to moose hunting from Aug. 1-Sep. 30, 2021 except by Federally qualified subsistence users hunting under these regulations.

Unit 23, remainder—1 antlered bull. No person may take a calf.	*Aug. 1-Dec. 31.*

Federal public lands are closed to moose hunting from Aug. 1-Sep. 30, 2021 except by Federally qualified subsistence users hunting under these regulations.

Unit 26A−Caribou

Unit 26A—that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok River drainage—5 caribou per day by State registration permit as follows:

Calves may not be taken	
Bulls may be harvested	*July 1-Oct. 14.* *Dec. 6-June 30.*
Cows may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15	*July 16-Mar. 15.*

Federal public lands are closed to caribou hunting from Aug. 1-Sep. 30, 2021 except by Federally qualified subsistence users hunting under these regulations.

Unit 26A remainder—5 caribou per day by State registration permit as follows:

Calves may not be taken	
Bulls may be harvested	*July 1-Oct. 15.* *Dec. 6-June 30.*
Up to 3 cows per day may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15.	*July 16-Mar. 15.*

Federal public lands are closed to caribou hunting from Aug. 1-Sep. 30, 2021 except by Federally qualified subsistence users hunting under these regulations.

Unit 26A−Moose

Unit 26A—that portion of the Colville River drainage upstream from and including the Anaktuvuk River drainage—1 bull	*Aug. 1-Sep. 14*
***Federal public lands are closed to moose hunting from Aug. 1-Sep. 30, 2021 except by Federally qualified subsistence users hunting under these regulations**.*	
Unit 26A—that portion of the Colville River drainage upstream from and including the Anaktuvuk River drainage—1 moose; however, you may not take a calf or a cow accompanied by a calf	*Feb. 15-Apr. 15.*
***Federal public lands are closed to moose hunting from Aug. 1-Sep. 30, 2021 except by Federally qualified subsistence users hunting under these regulations**.*	
Unit 26A—that portion west of 156°00′ W longitude excluding the Colville River drainage—1 moose, however, you may not take a calf or a cow accompanied by a calf	*July 1-Sep. 14.*
***Federal public lands are closed to moose hunting from Aug. 1-Sep. 30, 2021 except by Federally qualified subsistence users hunting under these regulations**.*	
Unit 26A, remainder—1 bull	*Aug. 1-Sep. 14.*
***Federal public lands are closed to moose hunting from Aug. 1-Sep. 30, 2021 except by Federally qualified subsistence users hunting under these regulations**.*	

Existing State Regulation

Unit 23—Caribou

23, north of and including Singoalik River drainage	*Residents—Five caribou per day by permit available online at http://hunt.alaska.gov or in person in Kotzebue, Utqiagvik, and at license vendors in Units 23 and 26A beginning June 22.*	*Bulls*	*RC907*	*No closed season*
		Cows	*RC907*	*Jul. 15-Apr. 30*

	Nonresidents—One bull		*HT*	*Aug. 1-Sept. 30*
23 remainder	*Residents— Five caribou per day by permit available online at http://hunt.alaska.gov or in person in Kotzebue, Utqiagvik, and at license vendors in Units 23 and 26A beginning June 22.*	*Bulls*	*RC907*	*No closed season*
		Cows	*RC907*	*Sept. 1-Mar. 31*
	Nonresidents—One bull		*HT*	*Aug. 1-Sept. 30*

Unit 23—Moose

23, north of and including Singoalik River drainage	*Residents— One antlered bull by permit available in person at license vendors within Unit 23 villages June 1-July 15*	*RM880*	*July 1-Dec. 31*
	or		
	Residents— One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side	*HT*	*Sept. 1-Sept. 20*
	Nonresidents		*No open season*
23 remainder	*Residents— One antlered bull by permit available in person at license vendors within Unit 23 villages June 1-July 15*	*RM880*	*Aug. 1-Dec. 31*
	or		
	Residents— One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side	*HT*	*Sept. 1-Sept. 20*
	Nonresidents		*No open season*

Unit 26A—Caribou

26A, the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including	*Residents—Five caribou per day by permit available online at http://hunt.alaska.gov or in person in Kotzebue, Utqiagvik, and at license vendors in Units 23 and 26A beginning June 22.*	*Bulls*	*RC907*	*July 1-Oct. 14* *Feb. 1-June 30*
		Cows	*RC907*	*Jul. 15-Apr. 30*
	Nonresidents—One bull		*HT*	*July 15-Sept. 30*

the Utukok River drainage			
26A remainder	*Residents—Five bulls per day by permit available online at http://hunt.alaska.gov or in person in Kotzebue, Utqiagvik, and at license vendors in Units 23 and 26A beginning June 22.*	*RC907*	*July 1-July 15* *Mar. 16-Jun 30*
	Residents—Five caribou per day, three of which may be cows; cows with calves may not be taken. Permits available online at http://hunt.alaska.gov or in person in Kotzebue, Utqiagvik, and at license vendors in Units 23 and 26A beginning June 22.	*RC907*	*July 16-Oct. 15*
	Residents—Three cows per day by permit available online at http://hunt.alaska.gov or in person in Kotzebue, Utqiagvik, and at license vendors in Units 23 and 26A beginning June 22.	*RC907*	*Oct. 16-Dec. 31*
	Residents—Five caribou per day, three of which may be cows. Permits available online at http://hunt.alaska.gov or in person in Kotzebue, Utqiagvik, and at license vendors in Units 23 and 26A beginning June 22.	*RC907*	*Jan. 1-Mar. 15*
	Nonresidents—One bull	*HT*	*July 15-Sept. 30*

Unit 26A—Moose

26A, west of 156° 00' W. long. excluding the Colville River drainage	*Residents— One moose. However, a person may not take a calf or a cow accompanied by a calf*	*HT*	*July 1-Sept. 14*
	Nonresidents		*No open season*
26A, the Colville River drainage above and including the Anaktuvuk River drainage	*Residents— One bull*	*HT*	*Aug. 1-Sept. 30*
	Nonresidents		*No open season*
26A remainder	*Residents— One bull*	*HT*	*Aug. 1-Sept. 30*
	Nonresidents		*No open season*

Extent of Federal Public Lands

Unit 23

Federal public lands comprise approximately 71% of Unit 23 and consist of 40% National Park Service (NPS) managed lands, 22% Bureau of Land Management (BLM) managed lands, and 9% U.S. Fish and Wildlife Service (USFWS) managed lands.

Unit 26A

Federal public lands comprise approximately 73% of Unit 26A and consist of 66% BLM managed lands and 7% NPS managed lands.

Customary and Traditional Use Determinations

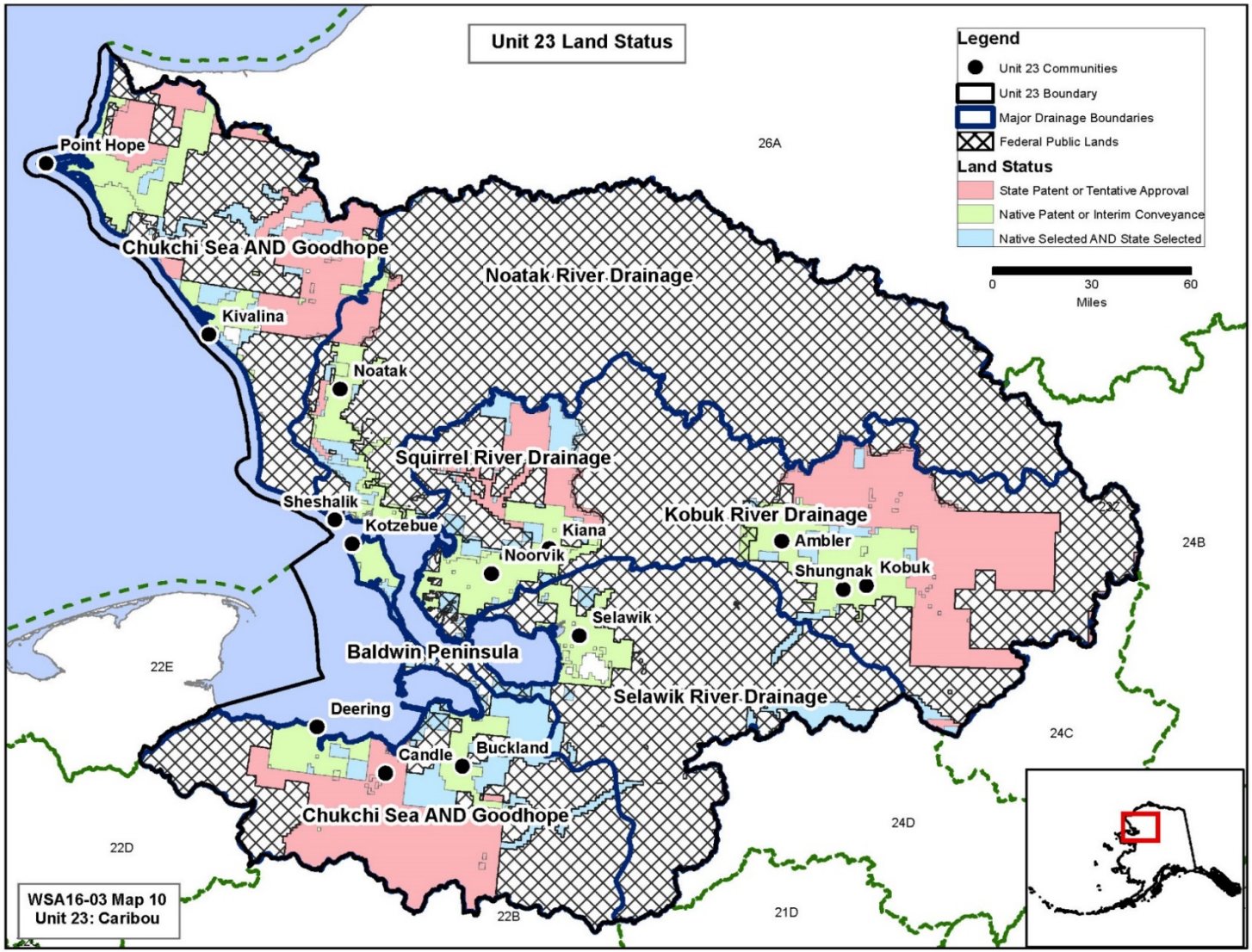
Residents of Units 21D west of the Koyukuk and Yukon Rivers, Galena, 22, 23, 24 including residents of Wiseman but not including other residents of the Dalton Highway Corridor Management Area, and 26A have a customary and traditional use determination for caribou in Unit 23 (**Map 2)**.

Residents of Unit 23 have a customary and traditional use determination for moose in Unit 23.

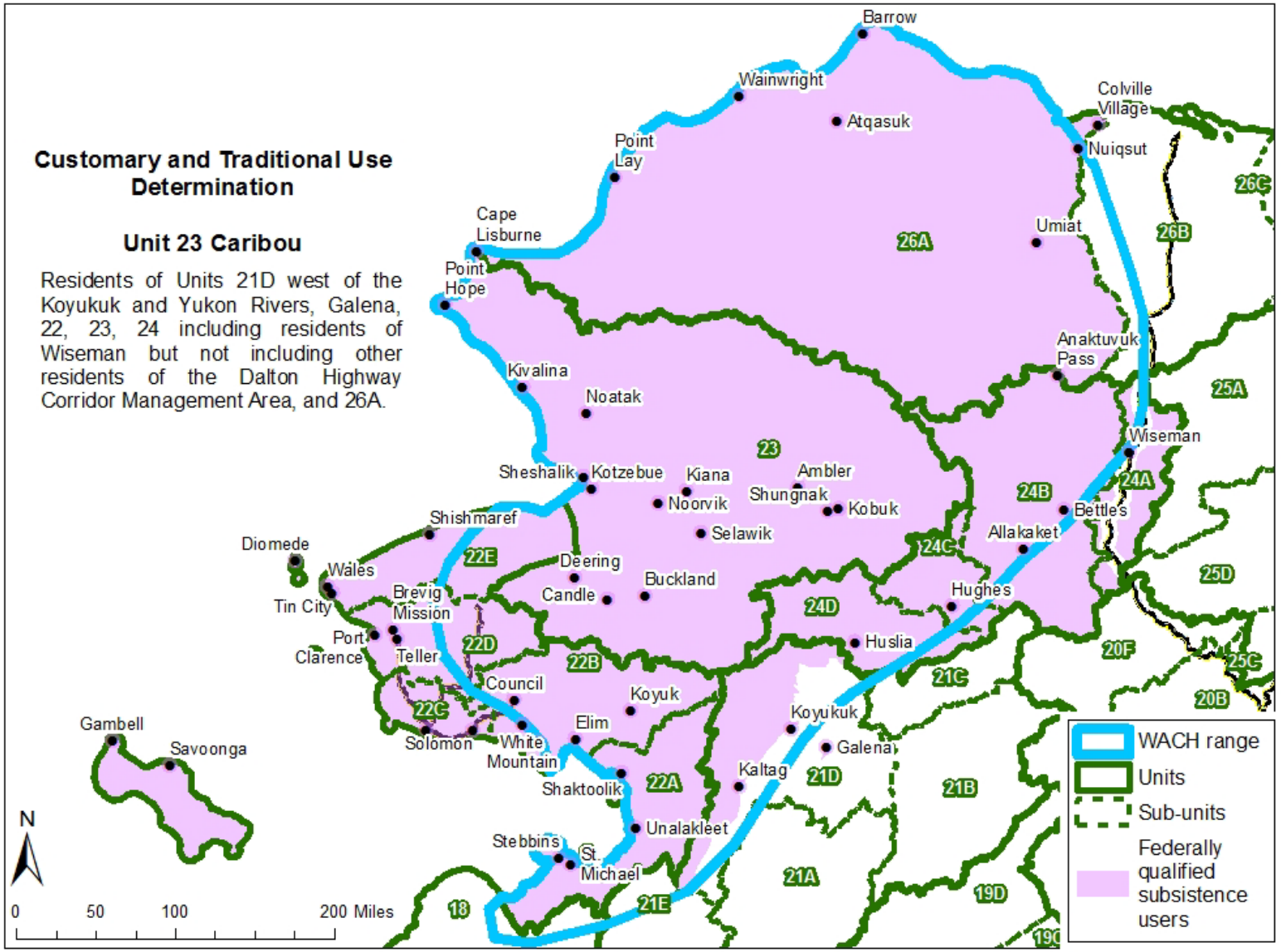
Residents of Unit 26, Anaktuvuk Pass, and Point Hope have a customary and traditional use determination for caribou in Unit 26A.

Residents of Unit 26 (excluding the Prudhoe Bay-Deadhorse Industrial Complex), Point Hope, and Anaktuvuk Pass have a customary and traditional use determination for moose in Unit 26A.

Only resident zone communities can hunt in National Parks and Monuments. The resident zone communities for Kobuk Valley National Park and Cape Krusenstern National Monument include all NANA regional corporation communities (all Unit 23 communities except Point Hope). Resident zone communities for Gates of the Arctic National Park include Alatna, Allakaket, Ambler, Anaktuvuk Pass, Bettles/Evansville, Hughes, Kobuk, Nuiqsut, Shungnak, and Wiseman.



Map 1. Land status within Unit 23 as per data obtained from the Bureau of Land Management on July 27, 2016.



Map 2. Customary and Traditional (C&T) Use Determination for caribou in Unit 23.

Regulatory History

Unit 23 and 26A Caribou

In 1990, the caribou hunting season in Unit 23 and 26A was open year round with a five caribou per day harvest limit and a restriction on the harvest of cows May 16-Jun. 30.

In 1994 the Federal Subsistence Board (Board) adopted Proposal P94-82 with modification to allow motor-driven boats and snowmachines to be used to take caribou in Unit 26 and to allow swimming caribou to be taken with a firearm using rimfire cartridges in Unit 26. (Swimming caribou could be taken with a firearm using rimfire cartridges in Unit 23 since 1990).

In 1995, the Board adopted Proposal P95-51 to increase the caribou harvest limit from five to 15 caribou per day in Unit 23 so that subsistence hunters could maximize their hunting efforts when caribou were available. The Board also adopted Proposal P95-64 to increase the harvest limit from 5 caribou per day to 10 caribou per day in Unit 26 to increase harvest opportunity for subsistence hunters.

In 1995 the Board also adopted Proposal P95-62 which closed the area east of the Killik River and south of the Colville River to caribou hunting by non-Federally qualified users from Aug.1-Sep. 30. This closure was enacted to prevent non-Federally qualified users from harvesting lead animals, which may have caused the migration to move away from the area that local subsistence users hunted in Unit 26A. The justification was to allow for caribou migrations to take their normal route into Anaktuvuk Pass.

In 1997, the Board adopted Proposal P97-66 with modification to provide a customary and traditional use determination for caribou in Unit 23 for rural residents of Unit 21D west of the Koyukuk and Yukon rivers, Galena, Units 22, 23, 24 including residents of Wiseman, but not other residents of the Dalton Highway Corridor Management Area and Unit 26A (**Map 2**).

In 2000, the Board adopted Proposal WP00-53 with modification, allowing the use of snowmachines to position a hunter to select individual caribou for harvest in Units 22 and 23. This was done to recognize a customary and traditional practice in the region.

In 2006, the Board adopted Proposal WP06-65 which opened the area east of the Killik River and south of the Colville River to non-Federally qualified users. The 1995 closure was lifted for several reasons. First, due to changes in land status, lands formerly managed by BLM were transferred to Alaska Native corporations or the State pursuant to the Alaska Native Claims Settlement Act or the Statehood Act, respectively. After these land transfers, only lands east of Anaktuvuk Pass were affected by the closure, making the closure less effective. Second, the population was at a point where it could support both subsistence and non–subsistence uses.

In 2013, an aerial photo census indicated significant declines in the Teshekpuk Caribou Herd (TCH), WACH, and possibly the Central Arctic Caribou Herd (CACH) populations (Caribou Trails 2014). In response, the Alaska Board of Game (BOG) adopted modified Proposal 202 (RC76) in March 2015 to

reduce harvest opportunities for both Alaska residents and nonresidents within the range of the WACH and the TCH. These regulation changes – which included lowering bag limits for nonresidents from two caribou to one bull, reductions in bull and cow season lengths, the establishment of new hunt areas, and prohibiting calf harvest – were adopted to slow or reverse the population decline. The regulatory changes took effect on July 1, 2015.

In 2015, four special actions, WSA15-03/04/05/06, requesting changes to caribou regulations in Units 23, 24, and 26, were submitted by the North Slope Council and approved with modification by the Board, effective July 1, 2015. Temporary Special Action WSA15-03 requested designation of a new hunt area for caribou in the northwest corner of Unit 23 where the harvest limit would be reduced from 15 to five caribou per day, the harvest season would be shortened for bulls and cows, and the harvest of calves would be prohibited. The Board did not establish a new hunt area, instead applying the restrictions to all of Unit 23 and also prohibited the harvest of cows with calves. These State and Federal regulatory changes were the first time that harvest restrictions had been implemented for the WACH in over 30 years.

Temporary Special Action WSA15-05 requested that the bull caribou harvest limit in Unit 26A be reduced from 10 caribou per day to 5 caribou per day, the cow harvest limit be reduced to 3 per day, the harvest seasons for bulls and cows be reduced, and the take of calves and cows with calves be prohibited. Compared to the new State caribou regulations, it requested 3 additional weeks to the bull harvest season (Dec. 6-31). These special actions took effect on July 1, 2015.

In 2015, the Northwest Arctic Council submitted a temporary special action request (WSA16-01) to close caribou hunting on Federal public lands in Unit 23 to non-Federally qualified users for the 2016/17 regulatory year. The Council stated that their request was necessary for conservation purposes but also needed because nonlocal hunting activities were negatively affecting subsistence harvests. In April 2016, the Board approved WSA16-01, basing its decision on the strong support of the Northwest Arctic and North Slope Councils, public testimony in favor of the request, as well as concerns over conservation and continuation of subsistence uses.

Six proposals (WP16-37, WP16-48, WP16-49/52, WP16-61, and WP16-63) concerning caribou regulations in Units 23 and 26A were submitted to the Board for the 2016-2018 wildlife regulatory cycle. The Board adopted WP16-48 with modification to allow the positioning of a caribou, wolf, or wolverine for harvest in Unit 23 on BLM lands only. Proposal WP16-37 requested that Federal caribou regulations mirror the new State regulations across the ranges of the WACH and TCH (Units 21D, 22, 23, 24, 26A, and 26B). The Board adopted Proposal WP16-37 with modification to reduce the harvest limit to five caribou per day, restrict bull harvest during rut and cow harvest around calving, prohibit the harvest of calves and the harvest of cows with calves before weaning (mid-October), and to create a new hunt area in the northwest corner of Unit 23. The Board took no action on the remaining proposals (WP16-49/52, and WP16-61, and WP16-63) due to action taken on WP16-37.

In June 2016, the State submitted a special action request (WSA16-03) to reopen caribou hunting on Federal public lands in Unit 23 to non-Federally qualified users, providing new biological information

(e.g. calf recruitment, weight, body condition) on the WACH. The State specified that there was no biological reason for the closure and that it could increase user conflicts. In January 2017, the Board rejected WSA16-03 due to the position of all four affected Councils (Northwest Arctic, North Slope, Seward Peninsula, and Western Interior) as well as public testimony and Tribal consultation comments opposing the request. Additionally, the Board found the new information provided by the State to be insufficient to rescind the closure.

In January 2017, the BOG adopted Proposal 2, requiring registration permits for residents hunting caribou within the range of the Western Arctic and Teshekpuk herds in Units 21, 23, 24, and 26 (a similar proposal was passed for Unit 22 in 2016). The Alaska Department of Fish and Game (ADF&G) submitted the proposal in order to better monitor harvest and improve management flexibility. The BOG also rejected Proposal 3 (deferred Proposal 85 from 2016), which would have removed the caribou harvest ticket and report exception for residents living north of the Yukon River in Units 23 and 26A). Also in January 2017, the BOG rejected Proposal 45, which proposed requiring big game hunting camps to be spaced at least three miles apart along the Noatak, Agashashok, Eli, and Squirrel Rivers. The proposal failed as it would be difficult to enforce.

In March 2017, the Northwest Arctic and North Slope Councils submitted temporary special action requests (WSA17-03 and -04, respectively) to close caribou hunting on Federal public lands in Unit 23 and in Units 26A and 26B, respectively, to non-Federally qualified users for the 2017/18 regulatory year. Both Councils stated that the intent of the proposed closures was to ensure subsistence use in the 2017/18 regulatory year, to protect declining caribou populations, and to reduce user conflicts. The Board voted to approve WSA17-03 with modification to close all Federal public lands within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage, to caribou hunting except by Federally qualified subsistence users for the 2017/18 regulatory year. The Board considered the modification a reasonable compromise for all users, and that closure of the specified area was warranted in order to continue subsistence use. The Board rejected WSA17-04 due to recent changes to State regulations that should reduce caribou harvest.

In April 2018, the Board adopted Proposals WP18-46 with modification and WP18-48 (effective July 1, 2018). Proposal WP18-46 requested closing caribou hunting on Federal public lands in Unit 23 to non-Federally qualified users (similar to WSA16-01 and WSA17-03). The Board adopted WP18-46 with the same modification as WSA17-03 (see above) as the Northwest Arctic, Western Interior, and Seward Peninsula Councils as well as the village of Noatak supported this modification and viewed the targeted closure as effectively addressing user conflicts and the continuation of subsistence uses. The Board also adopted WP18-48 to require State registration permits for caribou hunting in Units 22, 23, and 26A to improve harvest reporting and herd management, and to align with State regulations.

Also in 2018, the Board considered proposal WP18-57, which requested that caribou hunting on Federal public lands in Units 26A and 26B be closed to non-Federally qualified users. This proposal was submitted by the North Slope Council to ensure continuation of subsistence, protect the caribou

herds, and reduce user conflicts. The Board rejected WP18-57, choosing to allow time to evaluate the effects of recently implemented harvest restrictions. In addition, the Board expressed concern that closing Federal lands would shift users to State lands, increasing conflict.

In January 2020, the BOG adopted Proposal 20 to open a year-round resident season for caribou bull harvest in Unit 23 under State regulations. The BOG also adopted Proposal 24 as amended to remove the restriction on caribou calf harvest in Units 22, 23, and 26A. Proposal 28, which would have eliminated the caribou registration permit in Units 23 and 26A for North Slope resident hunters, was not adopted by the BOG, due to an ongoing need for harvest data.

In April 2020, the Board adopted Proposal WP20-46 to open a year-round bull season and permit calf harvest for caribou in Unit 23. Creating a year-round season for bulls was intended to allow for harvest of bulls when caribou migration had been delayed, alleviating harvest pressure on cows. The prohibition on calf harvest was lifted in order to permit taking of calves that had been orphaned or injured.

In summary, since 2013, restrictions have been placed on caribou hunting in Units 23 and 26A under both State and Federal subsistence regulations. Recent relevant changes include:

Federal Subsistence regulatory changes:

- Reduction in cow and bull season length in 26A (2015)
- Reduction of caribou harvest limit to 5 per day in both Units 23 (2015) and 26A (2016)
- Requirement for FQSUs hunting caribou under Federal regulations to have a State registration permit (RC907) in both Units 23 and 26A in order to improve monitoring (2018)
- Closure of limited areas in Unit 23 centered on the Noatak River to caribou hunting by non-Federally qualified users in order to reduce user conflict (2017)
- Opening a year-round bull season in Unit 23 to allow for harvest of younger bulls when caribou migration has been delayed, and to alleviate harvest pressure on cows (2020)

State regulatory changes:

- Reduction in cow and bull season length in both Units 23 and 26A (2013)
- Reduction of caribou harvest limit to 5 caribou per day in both Units 23 and 26A (2015)
- Requirement for registration permit under State regulations throughout the range of the WACH and TCH (2017)
- Opening a year-round harvest for bulls in Unit 23 (2020)

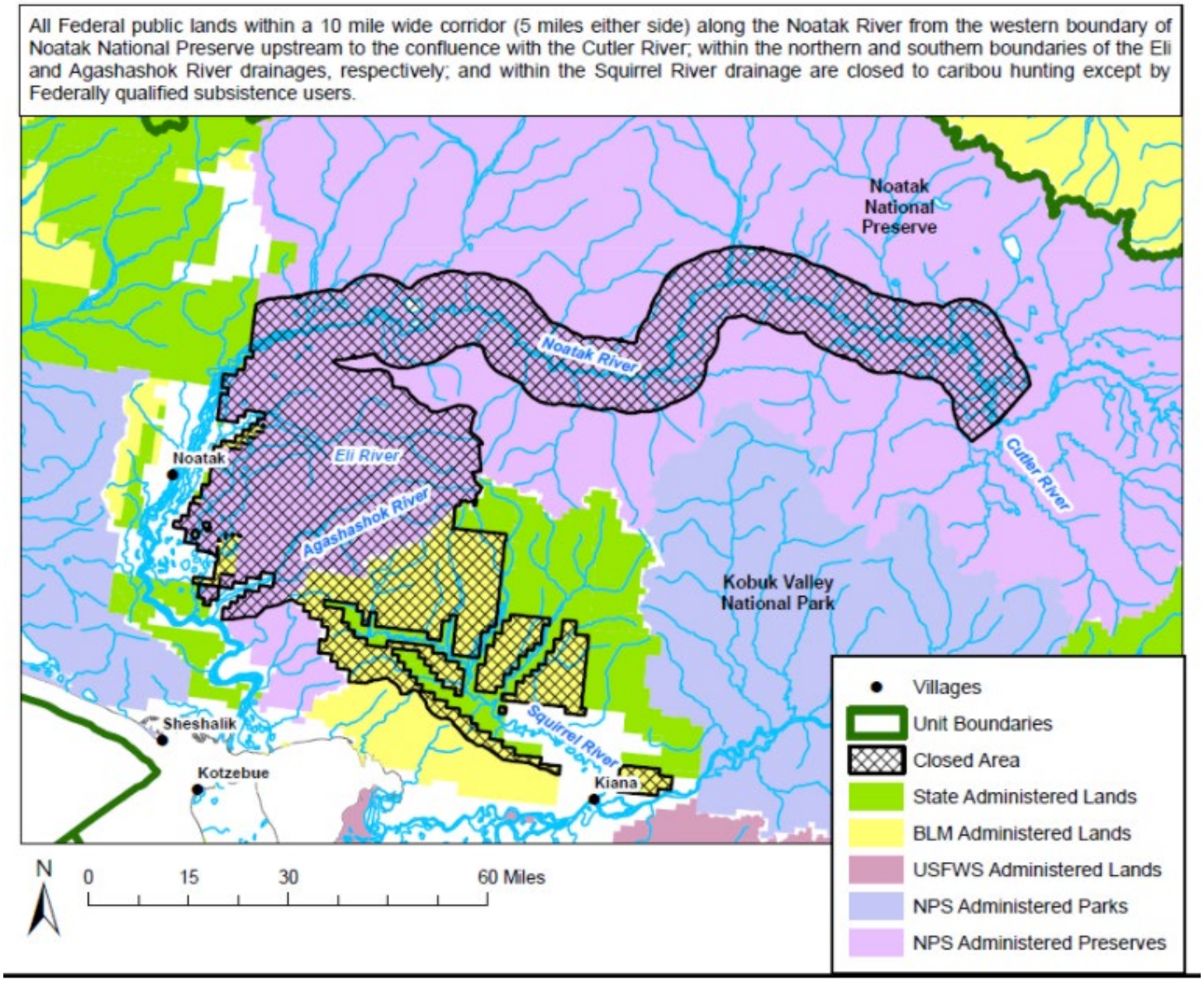
A non-resident caribou hunt remains open in both Units 23 and 26A under State regulations, although the bag limits for nonresidents was reduced from two caribou to one bull in 2013. The results of closure requests for caribou in Units 23 and 26 made to the Board since 2016 are documented in **Table 1** and **Table 2**, below.

Table 1. History and outcomes of closure requests for caribou on Federal public lands in Unit 23 since 2016. All three requests were submitted by the Northwest Arctic Council. FQSUs = Federally Qualified Subsistence Users; NFQUs = non-Federally qualified users.

Proposal or Special Action Request	Proposed Action	Proponent Rationale	Board Action
WSA16-01	Close Unit 23 to NFQUs for 2016/2017 regulatory year	Conservation, impact of nonlocal hunting	Approved
WSA17-03	Close Unit 23 to NFQUs for 2017/18 regulatory year	Ensure subsistence use, protect declining caribou, reduce conflict	Approved with geographical limitation/modification (Noatak, Eli, Agashashok, and Squirrel rivers closures)
WP18-46	Close Unit 23 to NFQUs	Ensure subsistence use, protect declining caribou, reduce conflict	Approved with geographical limitation/modification (Noatak, Eli, Agashashok, and Squirrel rivers closures); closure is still in place

Table 2. History and outcomes of recent closure requests for caribou on Federal public lands in Unit 26A since 2017. Both requests were submitted by the North Slope Council. NFQUs = non-Federally qualified users.

Proposal or Special Action Request	Proposed Action	Proponent Rationale	Board Action
WSA17-04	Close 26A (and 26B) to NFQUs	Continuation of subsistence, protect declining caribou populations, and reduce user conflicts	Reject
WP18-57	Close 26A (and 26B) to NFQUs	Continuation of subsistence, protect declining caribou populations, and reduce user conflicts	Reject



Map 3. Current closure to caribou hunting by non-Federally qualified subsistence users in Unit 23.

Unit 23 Moose

In 1994, the Federal subsistence moose hunt in Unit 23 consisted of three hunt areas: Unit 23 north and west of and including the Singoalik River drainage, and all lands draining into the Kukpuk and Ipewik rivers (Unit 23 NW), Unit 23 within the Noatak River drainage, and Unit 23 remainder. The harvest limit in each hunt area was one moose with a prohibition on the take of cows accompanied by calves. The season in the Unit 23 NW hunt area was Jul. 1-Mar. 31; the season in the Noatak River drainage hunt area was Aug. 1-Sep. 15 and Oct. 1-Mar. 31, although antlerless moose could only be taken Nov. 1-Mar. 31; the season in Unit 23 remainder was Aug. 1-Mar. 31.

State moose regulations became more restrictive in 2003 when BOG approved amended Proposal 15 (effective starting with the 2004/05 regulatory year), making it more difficult for nonlocal residents to hunt moose, creating four registration hunts in the unit with permits (RM880) only available in person at licensed vendors in Unit 23 villages from Jun. 1-Jul. 15. This early availability of permits occurred before most of the seasons opened, requiring nonlocal hunters to make a special trip to a Unit 23 village in order to receive a permit. These permits also allowed for better tracking of harvest.

In 2005, Proposal WP05-18, submitted by the Northwest Arctic Council, requested prohibiting the harvest of calves, shortening the season for moose in most of Unit 23 from Jul. 1 (or Aug. 1)-Mar. 31 to Aug. 1-Dec. 31, combining the Noatak drainage and remainder hunt areas, and allowing antlerless moose to be harvested only in November and December. The Board tabled this proposal in response to a Northwest Arctic Council recommendation to provide time for residents of local villages to review the proposal and provide their input due to differing viewpoints related to the moose population and local subsistence needs.

In 2006, Proposal WP06-54 was submitted by the Council to replace WP05-18, requesting that the harvest of moose calves be prohibited and that the two week seasonal closure (Sep. 16-30) in the Noatak River drainage hunt area be rescinded. The Board adopted WP06-54 under its consensus agenda.

In January 2017, the BOG adopted amended Proposal 36, changing the antlerless moose season in Unit 23 to one antlered bull due to conservation concerns. Of note, nonresident drawing permits had been reduced from 50 permits in 2016/17 to 34 permits in 2017/18 and, later in 2017, ADF&G cancelled the 2017/18 nonresident moose hunt in Unit 23, voiding all issued permits (ADF&G 2017a, 2017b, Saito 2017 pers. comm.).

In April 2017, the Board rejected Temporary Special Action WSA17-02, which requested that Federal public lands in Unit 23 be closed to moose harvest by non-Federally qualified users during the 2017/18 regulatory year. The Board stated that they wanted to allow time to assess the effects of recent State actions prior to considering a unit-wide closure.

During the 2018/20 regulatory cycle, the Council (WP18-41) and Louis Cusack (WP18-42) submitted similar proposals requesting changes to the Unit 23 moose season, including shortening the cow and overall moose seasons and aligning Federal and State hunt areas. Specifically, WP18-41 requested

combining the Noatak River drainage and remainder hunt areas, changing the closing date of the bull season from Mar. 31-Dec.31, and restricting cow harvest to Nov. 1–Dec. 31. The Board adopted Proposal WP18-41 to protect the declining moose population and took no action on WP18-42.

In 2018, Emergency Special Action WSA18-04, which requested closing the cow moose season in Unit 23 to Federally qualified subsistence users for the 2018/2019 regulatory year, was submitted to the Board. The Board approved with modification to close the Federal winter cow moose season and close moose hunting in Unit 23 except by Federally qualified subsistence users for the 2018/19 regulatory year. Board justification was based on declining moose population and low calf: cow ratios; the action was found to be necessary to maintain a healthy moose population.

In 2018, ADF&G also closed the non-resident moose season in Unit 23 and planned to continue the nonresident closure until moose populations rebound (NWARAC 2018a).

In 2019, the Northwest Arctic Council submitted a wildlife special action request (WSA19-04) to close the cow moose harvest on Federal public lands in Unit 23 for the 2019/20 regulatory year to Federally qualified subsistence users in order to ensure that the cow harvest in the unit remained closed until the Board could take permanent action through a regulatory proposal. The Council justification for closing to Federally qualified subsistence users— rather than non-Federally qualified subsistence users—was to avoid concentrating non-local hunters around communities. The Board approved WSA19-04 with modification to also delegate authority to the in-season manager to close moose hunting on Federal public lands in Unit 23 to non-Federally qualified users during the 2019/20 regulatory year, if warranted.

In 2020, the Northwest Arctic Council submitted Proposal WP20-47, which requested closure of the cow moose season in Unit 23 to Federally qualified subsistence users and requiring the use of a State registration permit (RM880) by Federally qualified subsistence users under Federal regulations. The RM880 permit can only be obtained within Unit 23 from June 1 to July 15. The Board adopted WP20-47 with modification to change the Unit 23 moose harvest limit from one moose to one antlered bull, closing the cow moose season because of conservation concerns. The Board did not adopt the State registration permit requirement because it would burden Federally qualified subsistence users.

In summary, changes implemented in both State and Federal subsistence regulations since 2017 have placed restrictions on moose hunting in Unit 23:

Federal Subsistence regulatory changes:

- Combined Noatak River drainage and remainder hunt areas, effectively reducing harvest (2018)
- Shortened bull and cow seasons (2018)
- Closure to non-Federally qualified subsistence users (2018/2019 regulatory year only)
- Closure of cow moose season for Federally qualified subsistence users for the 2019/2020 regulatory year
- Changed the harvest limit to one antlered bull (2020)

State regulatory changes:

- Changed antlerless moose season to one antlered bull (2017)
- Closure of the non-resident moose season (2018)

The results of closure requests for moose in Units 23 made to the Board since 2017 are documented in **Table 3**, below.

Table 3. Recent history of closure requests for moose on Federal public lands in Unit 23. FQSUs = Federally Qualified Subsistence Users; NFQUs = non-Federally qualified users.

Proposal	Proposed Action	Proponent Rationale	Board Action
WSA17-02 (Northwest Arctic Council)	Close to NFQUs for 2017/18 regulatory year	Decline in moose population	Reject
WSA18-04 (Louis Cusack)	Close the cow moose season to FQSUs for the 2018/2019 regulatory year	Decline in moose population	Approve with modification to close the Federal winter cow moose season and close moose hunting in Unit 23 except by Federally qualified subsistence users for the 2018/19 regulatory year.
WSA19-04 (Northwest Arctic Council)	Close the cow moose harvest to FQSUs users for the 2019/20 regulatory year	Decline in moose population; to ensure that the cow harvest in the unit remained closed until the Board could take permanent action through a regulatory proposal. Closure to NFQUs may concentrate users around communities.	Approved with modification to also delegate authority to the in-season manager to close moose hunting in Unit 23 to non-Federally qualified users during the 2019/20 regulatory year, if warranted.
WP20-47 (Northwest Arctic Council)	Close the cow moose harvest to FQSUs	Decline in moose population	Adopted with modification to change the Unit 23 moose harvest limit from one moose to one antlered bull, closing the cow moose season because of conservation concerns.

Unit 26A Moose

A 75% moose population decline from 1991 to 1996 prompted season restrictions in State regulations in 1995 and in both the Federal and State moose harvest regulations in 1996. Prior and leading up to the May 1996 Federal Subsistence Board action, the moose population in Unit 26A—the Colville River drainage in particular—was in serious decline. To address this issue, the Board adopted the State's aircraft use restrictions for Unit 26A in 1994.

In 1996, the Board adopted regulatory proposal P96-66, which closed moose hunting on all Federal public lands in Unit 26A except in that portion of the Colville River drainage downstream from the mouth of the Anaktuvuk River due to population declines. At that time, the only segment of the population that was considered stable was the small population of moose downstream from the mouth of Anaktuvuk River. That area remained open only to Federally qualified subsistence users from Aug. 1–Aug. 31, and the harvest was limited to 1 moose per hunter, as long as it was not a cow accompanied by a calf. The Board's justification for adopting the closure to non-Federally qualified users to harvest moose was to address conservation concerns.

In 2002, the Board adopted Proposal WP02-45 that expanded the Federal subsistence moose harvest area in Unit 26A from that portion of the Colville River drainage downstream from the mouth of the Anaktuvuk River to that portion of the Colville River drainage downstream from and including the Chandler River and also extended the season by two weeks, from Aug. 1–Aug. 31 to Aug. 1–Sep. 14. The Board's rationale for adopting Proposal WP02-45 included: population increases since 1998, especially in the core areas of the Colville River drainage; spreading out the harvest pressure to other areas with higher moose density; aligning State and Federal regulations; and providing additional subsistence hunting opportunity later in the fall when the temperatures are colder, which could reduce the chance of meat spoilage.

In 2004, the Board adopted Proposal WP04-85 which established the eastern boundary of the proposed harvest area in Unit 26A to 156° 00'W longitude to match the new State regulation and also aligned the season and harvest limits with those made by the BOG.

In 2005, the Office of Subsistence Management conducted closure review WCR05-23 and recommended that the closure of that portion of the Colville River drainage downstream from and including the Chandler River to non-Federally qualified moose hunters should continue to remain in effect. However, when WCR05-23 was discussed during the North Slope Council's fall 2005 meeting, new winter moose census information provided by the ADF&G suggested the closure was no longer necessary since the moose population had reached at least 1,000 animals. Although the Council recommended maintaining the closure to nonsubsistence uses, the new information indicated such a closure may no longer be needed to conserve a healthy moose population.

In May 2006, the Board adopted Proposal WP06-66, which resulted in reopening remaining Federal public lands on that portion of the Colville River drainage downstream from and including the Chandler River to hunting by all Alaska residents.

In 2007, the BOG opened a non-resident drawing hunt for moose in Unit 26A. In 2014, the BOG extended the resident bull moose season in Unit 26A from Aug. 1-Sep. 14 to Aug. 1 to Sep. 30 in order to accommodate a shifting moose season in two hunt areas: the Colville River drainage above and including the Anaktuvuk River drainage, and in Unit 26A Remainder. The BOG also aligned the Unit 26A Controlled Use Area dates with this season at this time. However, later in 2014, the season was reduced to its original length and the non-resident drawing hunt closed through Emergency Order due to moose population decline. There has not been a non-resident moose hunt in Unit 26A since 2013.

Table 4. Summary of moose and caribou hunts in the months of August and September in Units 23 and 26A.Y = Yes; N = No; FQSUs = Federally qualified subsistence users; NFQUs = non-Federally qualified users.

	FQSUs (rural residents with C&T) hunting under Federal regulations	**Residents of Alaska (includes both FQSUs and NFQUs) hunting under State regulations**	**Nonresidents of Alaska (NFQUs) hunting under State regulations**
Unit 23 caribou	Y	Y	Y
Unit 23 moose	Y	Y	N
Unit 26A caribou	Y	Y	Y
Unit 26A moose	Y, but hunt ends Sep. 14 everywhere except Nuiqsut area	Y, but ends Sep. 14 in Western portion of the Unit	N

Controlled Use Areas in Unit 23

Noatak Controlled Use Area

In 1988, the Traditional Council of Noatak submitted a proposal to the BOG to create the Noatak Controlled Use Area (CUA) in order to restrict the use of aircraft in any manner for big game hunting Aug. 15-Sep. 20 due to user conflicts (Fall 1990). The proposed Controlled Use Area extended five miles on either side of the Noatak River, from the mouth of the Eli River upstream to the mouth of the Nimiuktuk River, including the north side of Kivivik Creek (ADF&G 1988). The BOG adopted the proposal with modification to close a much smaller area extending from the Kugururok River to Sapun Creek from Aug. 20-Sep. 20.

The Controlled Use Area was expanded in 1994 and modified in 2017 (Betchkal 2015, Halas 2015, ADF&G 2017a). From 1994-2016, the Noatak Controlled Use Area consisted of a 10-mile wide corridor (5 miles either side) along the Noatak River from its mouth to Sapun Creek with approximately 80 miles of the Controlled Use Area within Noatak National Preserve (NP) (**Map 5**, Betchkal 2015). The closure dates from 1994-2009 were Aug. 25-Sep. 15. In 2009 (effective 2010), the

BOG adopted Proposal 22 to expand the closure dates to Aug. 15-Sep. 30 in response to the timing of caribou migration becoming less predictable (ADF&G 2009). During the 2016/17 BOG regulatory cycle, the Noatak/Kivalina & Kotzebue AC proposed (Proposal 44) extending the upriver boundary of the Noatak Controlled Use Area to the Cutler River, citing increased user conflicts as their rationale (ADF&G 2017b). In January 2017, the BOG approved amended Proposal 44 to shift the boundaries of the Noatak Controlled Use Area to start at the mouth of the Agashashok River and end at the mouth of the Nimiuktuk River with approximately 105 miles within Noatak NP (**Map 5**, ADF&G 2017a).

In 1990, the Noatak Controlled Use Area was adopted under Federal regulations. In 1995, the Board adopted Proposal P95-50 to expand the time period and area of the Controlled Use Area to Aug. 25-Sep. 15 and the mouth of the Noatak River upstream to the mouth of Sapun Creek, respectively, which aligned with State regulations as they existed at that time.

In 2008, Proposals WP08-50 and 51 requested modifications to the Noatak Controlled Use Area dates. These proposals were submitted in response to caribou migration occurring later in the season, to improve caribou harvest for subsistence users, and to decrease conflicts between local and nonlocal hunters. The Board deferred these proposals to the next regulatory cycle. In 2010, Proposals WP10-82, 83, and 85 requested similar date changes. The Board adopted WP10-85 to expand the time period during which aircraft are restricted in the Noatak Controlled Use Area to Aug. 15-Sep. 30, which aligned with the current State regulations (**Table 5)**.

Selawik National Wildlife Refuge: Area Not Authorized for Commercial Transporters and Guides

In 2011, Selawik National Wildlife Refuge (NWR) designated refuge lands in the northwest portion of the refuge as closed to big game hunting by commercial guides and transporters through their comprehensive conservation plan (**Table 5,** FWS 2011, 2014). These refuge lands are intermingled with private lands near the villages of Noorvik and Selawik (**Map 5**). The purpose of this closure was to minimize trespass on private lands and to reduce user conflicts (FWS 2011).

At the winter 2021 meeting of the Northwest Arctic Council, a representative of Selawik National Refuge reported that only two hunters were brought into the refuge by air taxis and transporters in 2021. Because caribou are no longer abundant in Selawik National Wildlife Refuge in September, and because the non-resident moose season is already closed in Unit 23, this area no longer receives many fly-in hunters (NWARAC 2021).

Noatak National Preserve Delayed Entry Controlled Use Area

In 2012, the NPS established a Special Commercial Use Area or "delayed entry zone" in the western portion of the Noatak NP (**Table 5,** Halas 2015, Fix and Ackerman 2015). Within this zone, transporters can only transport nonlocal caribou hunters after a pre-determined date unless otherwise specified by the Western Arctic Parklands (WEAR) superintendent in consultation with commercial operators, other agencies and local villages (Halas 2015). In 2020, the delayed entry date was changed from Sep. 15-Sep. 22 (NPS 2020) in response to requests from the Cape Krusenstern National

Monument and Kobuk Valley National Park SRCs and the Native Village of Noatak (Atkinson 2021, pers. comm.). The purpose of this zone is to allow a sufficient number of caribou to cross the Noatak River and establish migration routes, to limit interactions between local and nonlocal hunters, and to allow local hunters the first opportunity to harvest caribou in that area (**Map 5**, FWS 2014, Halas 2015).

Aircraft in National Parks and Monuments

National parks and monuments in Unit 23 include Cape Krusenstern National Monument, Kobuk Valley National Park, and Gates of the Arctic National Park. The use of aircraft for access to or from lands and waters within a national park or monument for purposes of taking fish or wildlife within the national park or monument is prohibited, except in the case of exempted communities and individuals for the purpose of subsistence access. However, aircraft are allowed to access lands and waters in national parks and monuments for the purposes of engaging in any activity allowed by law other than the taking of fish and wildlife.

Controlled Use Areas in Unit 26A

Anaktuvuk Pass Controlled Use Area

The BOG established the Anaktuvuk Pass Controlled Use Area in 2005 to reduce user conflicts during the caribou hunting season and to provide more opportunity for Anaktuvuk Pass residents to harvest caribou. The Anaktuvuk Controlled Use Area includes a portion of Unit 26A. This area is closed to the use of aircraft for hunting caribou, including the transportation of caribou hunters, their hunting gear, or parts of caribou from Aug. 15-Oct. 15; however, this provision does not apply to the transportation of caribou hunters, their hunting gear, or parts of caribou by aircraft between publicly owned airports (**Table 5**).

Unit 26A Controlled Use Area

Under State regulations, the Unit 26A Controlled Use Area (**Map 4**) is closed to the use of aircraft for hunting moose, including the transportation of moose hunters, their hunting gear, or parts of moose from Jul. 1-Sep. 30 and from Jan.-Mar. 31 (**Table 5**). This provision does not apply to the transportation of moose hunters, their hunting gear, or parts of moose by aircraft between publicly owned airports.

Map 4. Unit 26A Controlled Use Area.

Table 5. Comparative summary of Controlled Use Areas in Units 23 and 26A, with aircraft closure periods noted.

Controlled Use Area	Time Period	Aircraft closure
Unit 23		
Noatak Controlled Use Area (State and Federal regulations)	Aug. 15-Sep. 30	To transportation of hunters or harvested **species.**
Selawik National Wildlife Refuge Area Not Authorized for Commercial Transporters and Guides	Year-round	To **big game** hunting by commercial guides and transporters
Noatak National Preserve Delayed Entry Controlled Use Area (National Park Service regulations)	Until after Sep. 22	To transportation of nonlocal **caribou** hunters
Unit 26A		
Anaktuvuk Pass Controlled Use Area (State regulations)	Aug. 15-Oct. 15	To use of aircraft for hunting **caribou**, including the transportation of caribou hunters, their hunting gear, or parts of caribou.

Controlled Use Area	Time Period	Aircraft closure
Unit 26A Controlled Use Area (State regulations)	Jul. 1-Sep. 30, Jan. 1-Mar. 31	To the use of aircraft for hunting **moose**, including the transportation of moose hunters, their hunting gear, or parts of moose.

Current Events

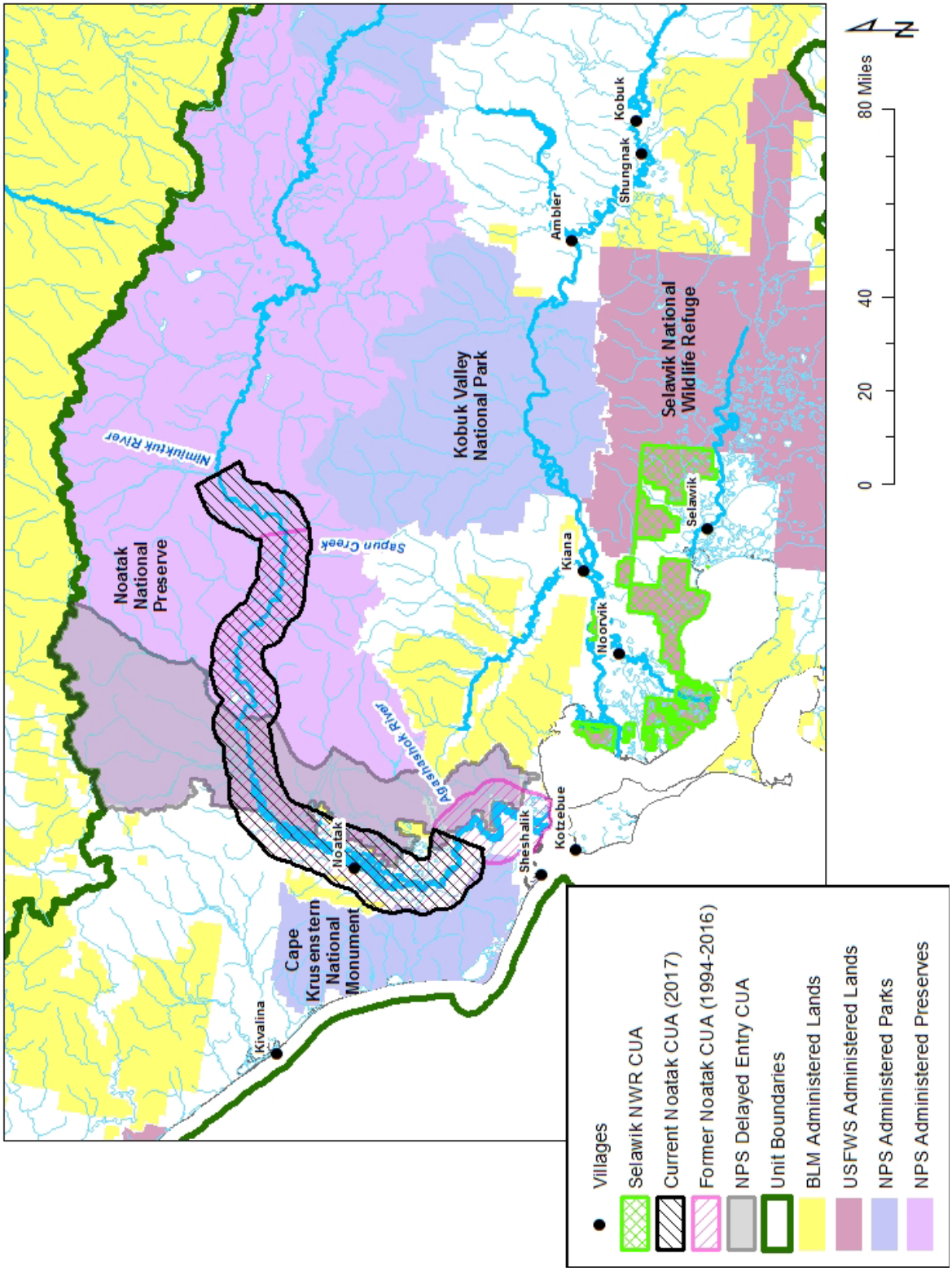
Tribal and ANCSA Corporation Consultations

Tribal and Alaska Native Claims Settlement Act (ANCSA) corporation consultations were held on April 28 and May 26, 2021 by teleconference. Representatives of Alaska Native Corporations and tribes in the region expressed strong support for the closure in order to allow caribou migrations to return to their previous, typical route, and to support communities during a time when food security has been affected by Covid-19 and high fuel prices. Caribou have provided vital sustenance for Iñupiaq people in the Northwest Arctic since "time immemorial," and the current lack of caribou during the traditional time of harvest has created great hardship for residents.

Participants clarified that they are concerned with the effects of low-flying, small aircraft on caribou, rather than the effects of commercial flights. When non-local hunters are dropped off right in front of caribou, this can create problems for subsistence hunters. One participant with experience as a reindeer herder and caribou hunter described the effects of human-caribou interaction as capable of diverting migration pathways. Disruption in migration was dated to 2017 by one tribal representative from the lower Kobuk River region. Caribou are not only coming later; they are also less abundant in the region overall. Participants expressed the need for scientists to share caribou tracking data with communities. One participant explained that when the caribou migration is delayed, transportation to harvest becomes difficult. The cost of going further to get caribou is often prohibitive due to the extremely high fuel prices in the region. Additionally, when the migration is delayed, locals are forced to hunt more cows, rather than bulls.

When caribou are not available, the few taken are given to elders. When non-Federally qualified users share meat with locals, this is appreciated, but does not replace successful subsistence activities, which encompass traditional practices and transmission of culture. Moose are not traditionally the favored subsistence food in Northwest Arctic and North Slope, and so cannot substitute adequately for lost caribou.

The fact that relatives living outside of the region would not be able to hunt on Federal public lands during a closure to non-Federally qualified users was discussed, but it was clarified that these individuals would still be able to hunt on Native Corporation land under State regulations.



Map 5. Federal and State Controlled Use Areas in Unit 23.

Public Hearing and Written Comments

The Office of Subsistence Management held a public hearing to solicit comments on WSA21-01 on April 23, 2021 from 3pm to 7:15pm by teleconference. Over 300 people called in, and approximately 120 people gave comments. Written public comments were also accepted between April 16 and April 20, 2021, and 1,221 written comments were submitted. The majority of public comments came from non-Federally qualified users or non-local hunters, guides, transporters, and regular citizens, and were in opposition to the requested closure.

The reasons most frequently given for opposition can be broken down into the following broad categories: (1) decisions regarding wildlife management should always be science-based, and this closure is not supported by available science; (2) the Western Arctic Herd is above management objective; (3) there is not evidence that air traffic has delayed caribou migration; (4) subsistence harvest of caribou has remained high; (5) public land should be open to all; (6) local businesses and guides will be negatively affected; (7) non-local hunters have already booked expensive trips; (8) once-in-a-lifetime experiences will be lost, often involving family members; (9) distinguishing between sport and subsistence hunting is not fair or valid; and (10) this action would represent Federal overreach.

A resident of Ambler testified in opposition, expressing concern that his nonrural relatives would not be able to hunt in the region, and asking for the views of all communities in the region to be considered in the decision-making. However, most residents of Units 23 and 26A who participated in public comment opportunities testified in support of the action for reasons that overlap with those described in the above section on tribal and ANCSA corporation consultation. Caribou were noted as being vital to the physical, spiritual, and mental well-being of people in the Northwest Arctic region, including the youngest generation. Local residents testified that non-locals do not follow the traditional practice of "letting the leader caribou pass," which can result in herd diversion and a small number of hunters having a disproportionate impact on subsistence for entire communities. Speakers expressed frustration about having to fight for basic access to their traditional foods.

Western Arctic Caribou Herd Working Group

At the December 9, 2020 meeting of the Western Arctic Caribou Herd (WACH) Working Group, Steve Oomittuk of Point Hope made a motion to support the North Slope Subsistence Regional Advisory Council if the Council were to submit a proposal to close Federal public lands in Unit 26A to non-Federally qualified subsistence users; this motion passed (WACH Working Group 2020). While the North Slope Regional Advisory Council did not formally submit a request or proposal to close Federal lands in Unit 26A, the Council did support the Northwest Arctic Regional Advisory Council in the current request to close Units 23 and 26A to hunting of caribou and moose by non-Federally qualified users Aug. 1-Sep. 30, 2021.

Alaska Department of Fish and Game

Alaska Department of Fish and Game submitted a written memorandum opposing this special action request, stating that the proponent's objective of regulating the use of aircraft for caribou hunting would be more appropriately addressed by submitting a proposal to the Alaska Board of Game. Additionally, the State argued that this closure would have negative economic consequences and would prevent non-Federally qualified users with ties to the area from hunting on Federal public lands.

Biological Background

Caribou

The TCH, WACH, and CACH have ranges that overlap in Unit 26A (**Map 6**), and there can be considerable mixing of herds during the fall and winter. As the current request focuses on the migration of the WACH through Unit 23, this analysis will only consider the WACH as the ranges of the other herds do not include Unit 23 (Dau 2011, 2015, Lenart 2011, Parrett 2011, 2015c, 2015d).

Western Arctic Caribou Herd

Caribou abundance naturally fluctuates over decades (Gunn 2001, WACH Working Group 2011). Gunn (2001) reports the mean doubling rate for Alaskan caribou as 10 ± 2.3 years. Although the underlying mechanisms causing these fluctuations are uncertain, climatic oscillations (i.e. Arctic and Pacific Decadal Oscillations) may play an important role (Gunn 2001, Joly et al. 2011). Climatic oscillations can influence factors such as snow depth, icing, forage quality and growth, wildfire occurrence, insect levels, and predation, which all contribute to caribou population dynamics (Joly et al. 2011). Density-dependent reduction in forage availability, resulting in poorer body condition may exacerbate caribou population fluctuations (Gunn 2001).

Caribou calving generally occurs from late May to mid-June (Dau 2013). Weaning generally occurs in late October and early November before the breeding season (Taillon et al. 2011). Calves stay with their mothers through their first winter, which improves calves' access to food and body condition (Holand et al. 2012). Calves orphaned after weaning (October) have greater chances of survival than calves orphaned before weaning (Holand et al. 2012, Joly 2000, Russell et al. 1991, Rughetti and Festa-Bianchet 2014).

The WACH has historically been the largest caribou herd in Alaska and has a home range of approximately 157,000 square miles in northwestern Alaska. In the spring, most mature cows move north to calving grounds in the Utukok Hills, while bulls and immature cows lag behind and move toward summer range in the Wulik Peaks and Lisburne Hills (**Map 7**, Dau 2011, WACH Working Group 2011, 2019). After calving, cows and calves move west toward the Lisburne Hills where they mix with the bulls and non-maternal cows. During the summer, the herd moves rapidly to the Brooks Range. In the fall, the majority of the herd generally moves south toward wintering grounds south of the Brooks Range (Joly 2021, pers. comm.). Rut occurs during fall migration (Dau 2011, WACH Working Group 2011).

In recent years, the timing of fall migration has been less predictable. From 2010-2019, the average dates that GPS collared caribou crossed the Noatak River ranged from Sep. 6-Oct. 13; the Kobuk River ranged from Sep. 24-Nov. 3; and the Selawik River ranged from Oct. 2-Nov. 10 (Joly and Cameron 2020). From 2010-2016, caribou migration was trending to occur earlier in the year. However, from 2017-2019, caribou crossed the Noatak River, but then there was substantial delay before caribou crossed the Kobuk and Selawik Rivers (**Figure 1, Table 7**). This appears to have been the case for 2020 as well. During the fall 2020 Northwest Arctic Council meeting in early November, Council members stated that only Noatak had harvested caribou in the fall and that caribou had not yet passed through the Southern portions of Unit 23. While data has yet to be analyzed, the first GPS collared caribou did not cross the Kobuk River until November, which is the latest first crossing since data collection began in 2010 (Joly 2021, pers. comm.). Reasons for changes in migration phenology are unknown.

The proportion of caribou using certain migration paths also varies each year (**Figure 2**, Joly and Cameron 2020). Changes in migration paths are likely influenced by multiple factors including food availability, snow depth, rugged terrain, and dense vegetation (Fullman et al. 2017, Nicholson et al. 2016). If caribou travelled the same migration routes every year, their food resources would likely be depleted (NWARAC 2016a).

The WACH Working Group consists of a broad spectrum of stakeholders, including subsistence users, sport hunters, conservationists, hunting guides, reindeer herders and transporters. The Group is also technically supported by NPS, FWS, BLM, and ADF&G personnel. The WACH Working Group developed a WACH Cooperative Management Plan in 2003 and revised it in 2011 and 2019 (WACH Working Group 2011, 2019). The WACH Management Plan identifies nine plan elements: cooperation, population management, habitat, regulations, reindeer, knowledge, education, human activities, and changing climate, as well as associated goals, strategies, and management actions. As part of the population management element, the WACH Working Group developed a guide to herd management determined by population size, population trend, and harvest rate. Population sizes guiding management level determinations were based on recent (since 1970) historical data for the WACH (WACH Working Group 2011, 2019). Revisions to recommended harvest levels under liberal and conservative management were made in 2015 (WACH Working Group 2015) and 2019 (WACH Working Group 2019, **Table 6**).

The WACH population declined rapidly in the early 1970s, bottoming out at about 75,000 animals in 1976. Aerial photocensuses have been used since 1986 to estimate population size. The WACH population increased throughout the 1980s and 1990s, peaking at 490,000 animals in 2003 (**Figure 3**). Beginning in 2003, the herd declined at an average annual rate of 7.1% from approximately 490,000 caribou to 200,928 caribou in 2016 (Caribou Trails 2014; Dau 2011, 2014, Parrett 2016). In 2017, the herd increased to an estimated 259,000 caribou (Parrett 2017a). However, part of this increase may have been due to improved photographic technology as ADF&G switched from film to higher resolution digital cameras. The 2019 population estimate was 244,000 caribou (Hansen 2019a). No photocensus was completed in 2020, but ADF&G plans to conduct a census in 2021 (WACH Working Group 2020).

Between 1982 and 2011, the WACH population was within the liberal management level prescribed by the WACH Working Group (**Figure 3, Table 6**). In 2013, the herd population estimate fell below the population threshold for liberal management of a decreasing population (265,000), slipping into the conservative management level where it has remained. In 2020, no photocensus was completed, and the WACH Working Group voted to maintain the herd's status at the conservative declining level (WACH Working Group 2020).

Between 1970 and 2017, the bull:cow ratio exceeded Critical Management levels identified in the 2019 WACH Management Plan (**Figure 4**). However, the average annual number of bulls:100 cows was greater during the period of population growth (54:100 between 1976–2001) than during the recent period of decline (44:100 between 2004-2016). Additionally, Dau (2015) states that while trends in bull:cow ratios are accurate, actual values should be interpreted with caution due to sexual segregation during sampling and the inability to sample the entire population, which likely account for more annual variability than actual changes in composition.

Although factors contributing to the 2003-2016 decline are not known with certainty, increased adult cow mortality, and decreased calf recruitment and survival played a role (Dau 2011). Since the mid-1980s, adult mortality has slowly increased while recruitment has slowly decreased (**Figure 5**, Dau 2013). Prichard (2009) developed a population model specifically for the WACH using various demographic parameters and found adult survival to have the largest impact on population size, followed by calf survival and then parturition rates.

Calf production has likely had little influence on the population trajectory (Dau 2013, 2015). Between 1990 and 2003, the June calf:cow ratio averaged 66 calves:100 cows/year. Between 2004 and 2016, the June calf:cow ratio averaged 71 calves:100 cows/year (**Figure 6**). In June 2016, 85 calves:100 cows were observed, which approximates the highest parturition level ever recorded for the herd (86 calves:100 cows in 1992) (Dau 2016a).

Decreased calf survival through summer and fall and recruitment into the herd likely contributed to the recent population decline (Dau 2013, 2015). Fall calf:cow ratios indicate calf survival over summer. Between 1976 and 2017, the fall calf:cow ratio ranged from 35 to 59 calves:100 cows/year, averaging 47 calves:100 cows/year (**Figure 6**). Since 2008, ADF&G has recorded calf weights at Onion Portage as an index of herd nutritional status. In September 2015, calf weights averaged 100 lbs., the highest average ever recorded (Parrett 2015b).

Similarly, the ratio of short yearlings (SY, 10-11 months old caribou) to adults provides a measure of overwintering calf survival and recruitment. Between 1990 and 2020, SY:adult ratios ranged from 9-26 and averaged 18 SY:100 adults/year (**Figure 6**). SY:100 adult ratios were high from 2016-2018, ranging from 22-23 SY:100 adults (Dau 2016b, NWARAC 2019a). The 2020 SY:adult ratio was 17 SY:100 adults (WACH Working Group 2020).

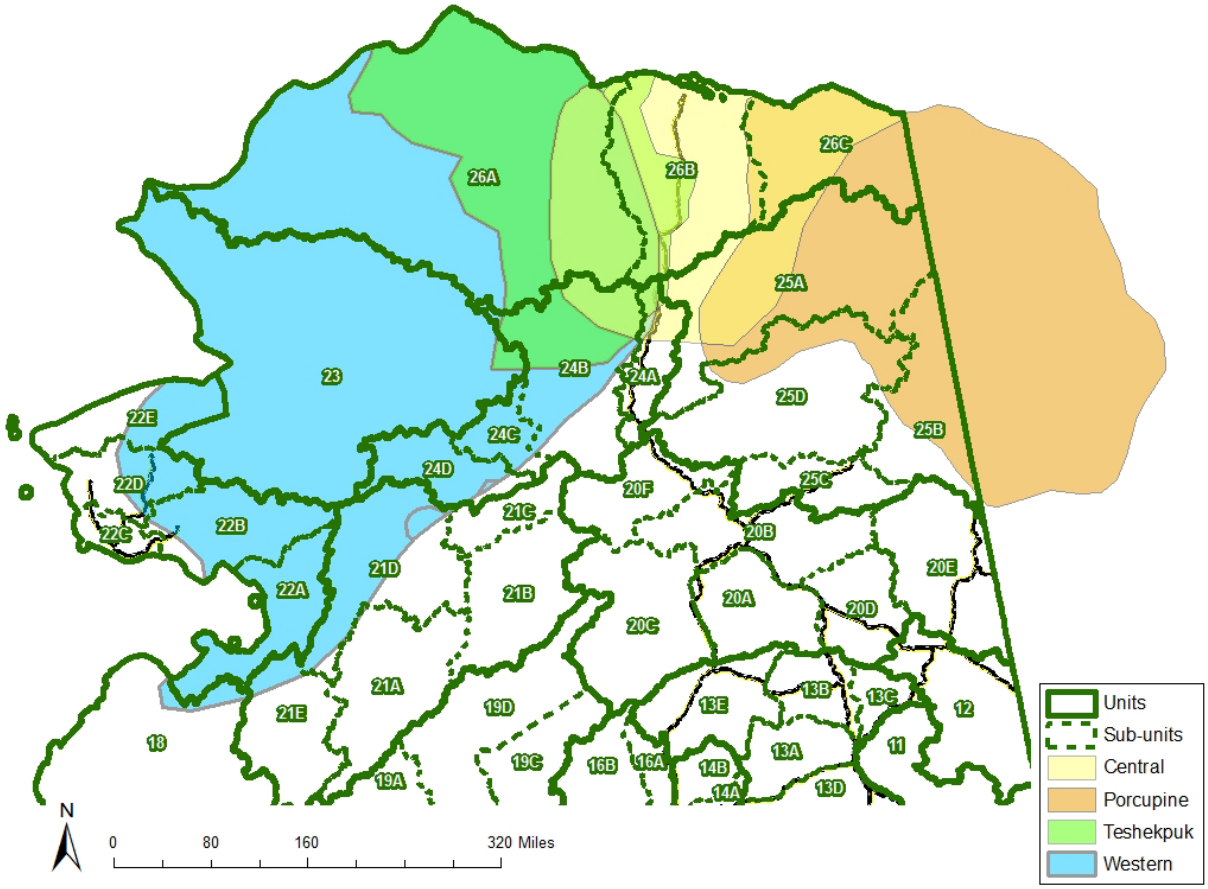
Cow mortality affects the trajectory of the herd (Dau 2011, 2013, Prichard 2009, NWARAC 2019a). The annual mortality rate of radio-collared adult cows increased from an average of 15% between 1987 and 2003 to 23% from 2004-2014 (**Figure 5,** Dau 2011, 2013, 2014, 2015). Mortality rates declined in

2015 and 2016, but then increased sharply in 2017. However, the increased mortality rate in 2017 may be due to a low and aging sample size as few caribou have been collared in the past two years (Prichard et al. 2012, NWARAC 2019a) and/or difficult weather conditions (Gurarie et al. 2020). Estimated mortality includes all causes of death including hunting (Dau 2011). Dau (2015) states that cow mortality estimates are conservative due to exclusion of unhealthy (i.e. diseased) and yearling cows. Dau (2013) attributed the high mortality rate for 2011-2012 (33%, **Figure 5**) to a winter with deep snows, which weakened caribou and enabled wolves to prey upon them more easily. Prior to 2004, estimated adult cow mortality only exceeded 20% twice, but exceeded 20% in 7 out of 9 regulatory years between 2004 and 2012 (**Figure 5**). These estimates are susceptible to collar sample size and how long the collars have been on individuals (Dau 2015, 2015b, Prichard et al. 2012).

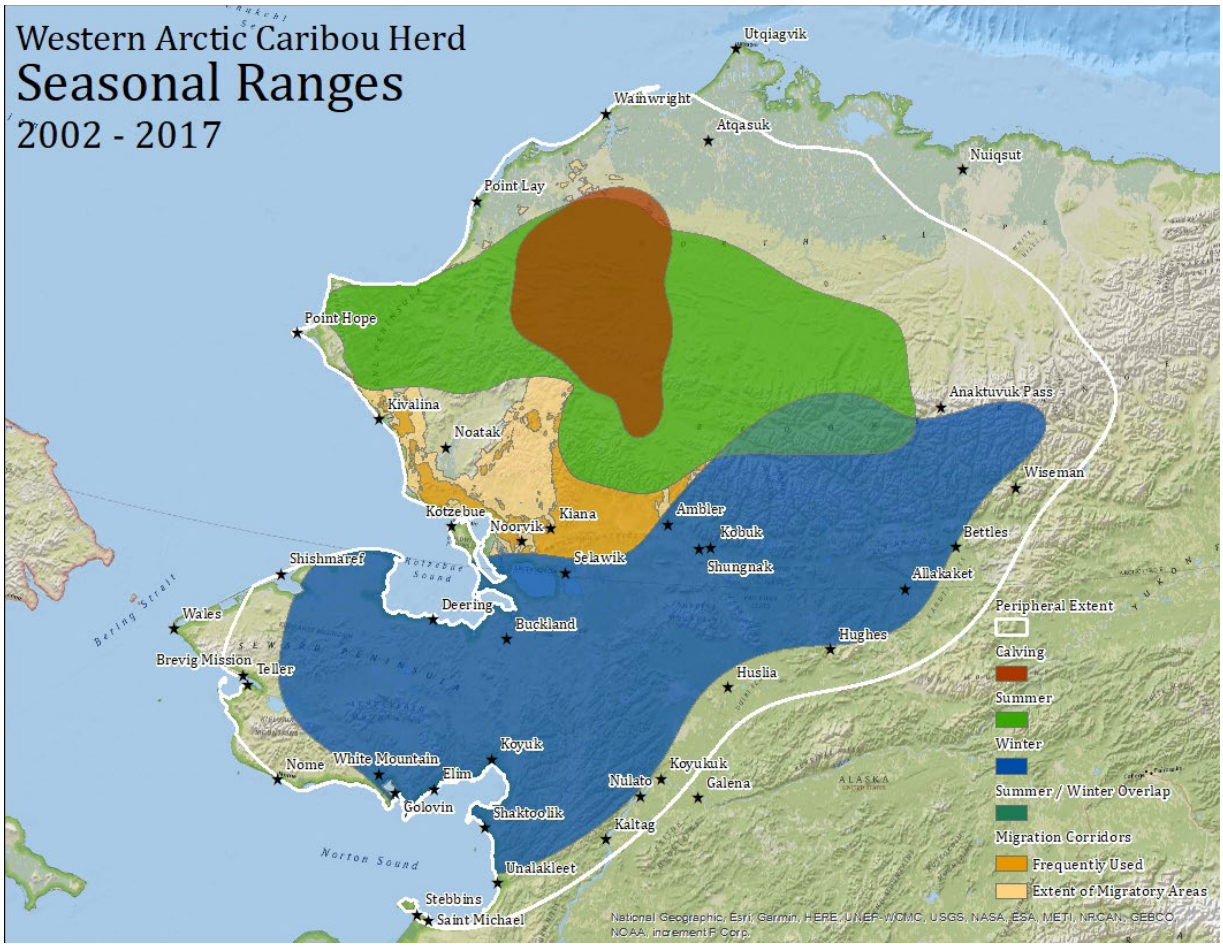
Far more caribou died from natural causes than from hunting between 1992 and 2012 (Dau 2013). Cow mortality remained constant throughout the year, but natural and harvest mortality for bulls spiked during the fall. However, as the WACH has declined and estimated harvest has remained relatively stable, the percentage of mortality due to hunting has increased relative to natural mortality. For example, during the period October 1, 2013 to September 30, 2014, estimated hunting mortality was approximately 42% and estimated natural mortality about 56% (Dau 2014). In previous years (1983–2013), the estimated hunting mortality exceeded 30% only once in 1997-1998 (Dau 2013). Additionally, Prichard (2009) and Dau (2015) suggest that harvest levels and rates of cows can greatly impact population trajectory. If bull:cow ratios continue to decline, harvest of cows may increase, exacerbating the current population decline.

Dau (2015) speculates that fall and winter icing events were the primary factor initiating the population decline in 2003. Increased predation, hunting pressure, deteriorating range condition (including habitat loss and fragmentation), climate change, and disease may also be contributing factors (Dau 2015, 2014, Joly et al. 2011). Joly et al. (2007) documented a decline in lichen cover in portions of the wintering areas of the WACH. Dau (2011, 2014) speculated that degradation in range condition is not thought to be a primary factor in the decline of the herd because animals have generally maintained good body condition since the decline began. Body condition is estimated using a subjective scale from 1-5. The fall body condition of adult females in 2015 was characterized as “fat” (mean= 3.9/5) with no caribou being rated as skinny or very skinny (Parrett 2015b). However, the body condition of the WACH in the spring may be a better indicator of the effects of range condition versus the fall when the body condition of the herd is routinely assessed and when caribou are in prime condition (Joly 2015, pers. comm.).

Caribou feed on a wide variety of plants including lichens, fungi, sedges, grasses, forbs, and twigs of woody plants. Arctic caribou depend primarily on lichens during the fall and winter, but during summer they feed on leaves, grasses and sedges (Joly and Cameron 2018, Miller 2003).



Map 6. Herd overlap and ranges of the WACH, TCH, CACH, and PCH.



Map 7. Western Arctic Caribou Herd seasonal range map, 2002-2017 (image from WACHWG 2019).

Table 6. Western Arctic Caribou Herd management levels using herd size, population trend, and harvest rate (WACH Working Group 2019).

Management and Harvest Level	Population Trend			Harvest Recommendations May Include:
	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+	Pop: 230,000+	Pop: 200,000+	• Reduce harvest of bulls by nonresidents to maintain at least 30 bulls:100 cows • No restriction of bull harvest by resident hunters unless bull:cow ratios fall below 30 bulls:100 cows
	Harvest: 14,000+	Harvest: 14,000+	Harvest: 14,000+	
Conservative	Pop: 200,000-265,000	Pop: 170,000-230,000	Pop: 150,000-200,000	• Encourage voluntary reduction in calf harvest, especially when the population is declining • No cow harvest by nonresidents • Restriction of bull harvest by nonresidents • Limit the subsistence harvest of bulls only when necessary to maintain a minimum 30:100 bull:cow ratio
	Harvest: 10,000-14,000	Harvest: 10,000-14,000	Harvest: 10,000-14,000	
Preservative	Pop: 130,000-200,000	Pop: 115,000-170,000	Pop: 100,000-150,000	• No harvest of calves • Limit harvest of cows by resident hunters through permit hunts and/or village quotas • Limit the subsistence harvest of bulls to maintain at least 30 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to non-qualified users may be necessary
	Harvest: 6,000-10,000	Harvest: 6,000-10,000	Harvest: 6,000-10,000	
Critical	Pop: <130,000	Pop: <115,000	Pop: <100,000	• No harvest of calves • Highly restrict the harvest of cows through permit hunts and/or village quotas • Limit the subsistence harvest of bulls to maintain at least 30 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to non-qualified users may be necessary
	Harvest: <6,000	Harvest: <6,000	Harvest: <6,000	

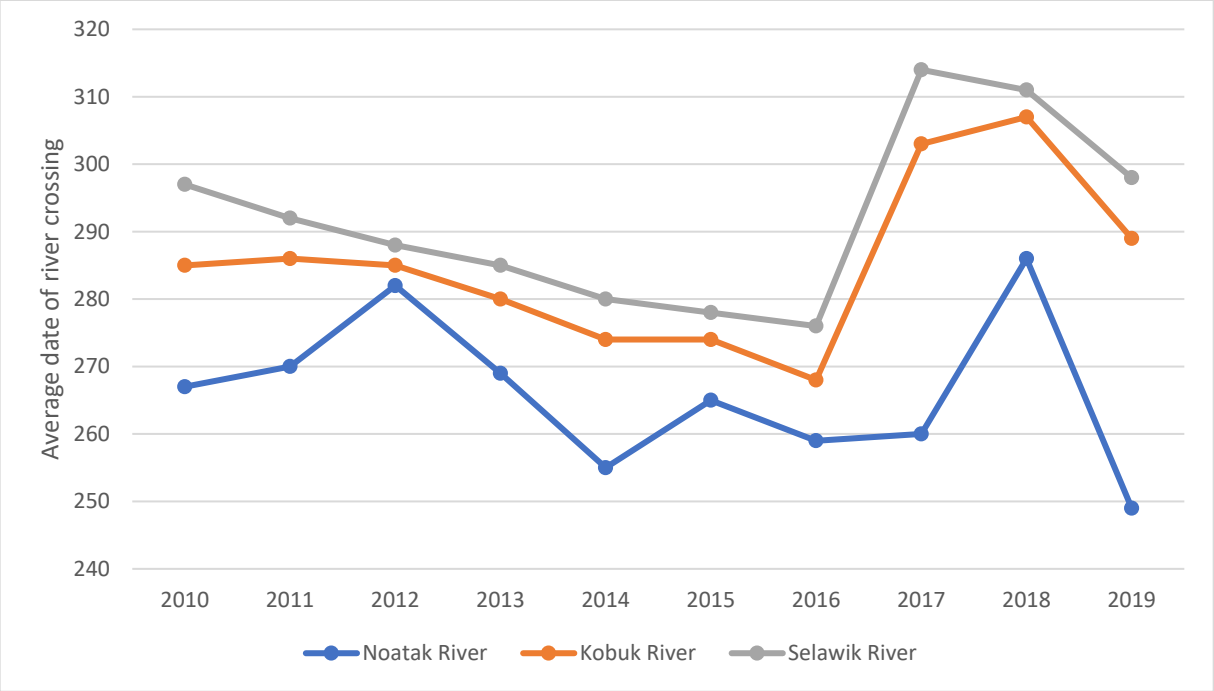


Figure 1. Average dates GPS collared caribou crossed the Noatak, Kobuk and Selawik Rivers during fall migration. Calendar dates were converted to numerical dates (e.g. February 1 would be 32). (Joly and Cameron 2020).

Table 7. Fall migration timing and prevalence of river crossing events by Western Arctic Herd caribou. Reported results are average date (standard deviation in number of days); percentage of collared cows crossing; and sample size results for generally southward 'fall' migration. Dates are for the first crossing if the individual re-crosses. Duration is the number days between Noatak and Selawik River crossings. Average (Ave) is for all years. (Table from Joly and Cameron 2020).

Year	Noatak River Crossing Date (SD); % Crossed; N	Kobuk River Crossing Date (SD); % Crossed; N	Selawik River Crossing Date (SD); % Crossed; N	Duration
2019	Sept 6 (42.7); 46.8%; 47	Oct 16 (13.3); 36.2%; 47	Oct 25 (14.4); 27.7%; 47	49
2018	Oct 13 (28.6); 56.0%; 50	Nov 3 (23.2); 20.0%;50	Nov 7 (16.1); 16.0%; 50	35
2017	Sep 17 (40.0); 65.9%; 82	Oct 30 (22.5); 48.1%; 81	Nov 10 (18.2); 42.3%; 78	54
2016	Sept 15 (21.1); 73.3%; 75	Sep 24 (12.7); 58.1%; 74	Oct 2 (15.4); 52.1%; 73	17
2015	Sep 22 (29.5); 85.7%; 49	Oct 1 (22.3); 85.4%; 48	Oct 5 (21.0); 85.4%; 48	13
2014	Sep 12 (19.9); 88.9%; 45	Oct 1 (15.8); 84.8%; 45	Oct 7 (15.6); 86.4%; 44	25
2013	Sep 26 (16.9); 100%; 35	Oct 7 (17.4); 91.4%; 35	Oct 12 (16.4); 88.6%; 35	16
2012	Oct 8 (20.8); 84.8%; 33	Oct 11 (17.7); 78.8%; 33	Oct 14 (18.1); 70.0%; 33	6
2011	Sep 27 (37.2); 74.4%; 39	Oct 13 (27.0); 71.8%; 39	Oct 19 (27.4); 61.5%; 39	22
2010	Sep 24 (16.4); 96.7%; 30	Oct 12 (17.6); 76.7%; 30	Oct 24 (11.7); 62.1%; 29	30
Ave	**Sep 23 (11.4); 77.3% 49**	**Oct 12 (12.5); 65.1%; 48**	**Oct 19 (13.4); 59.2%; 48**	**27**

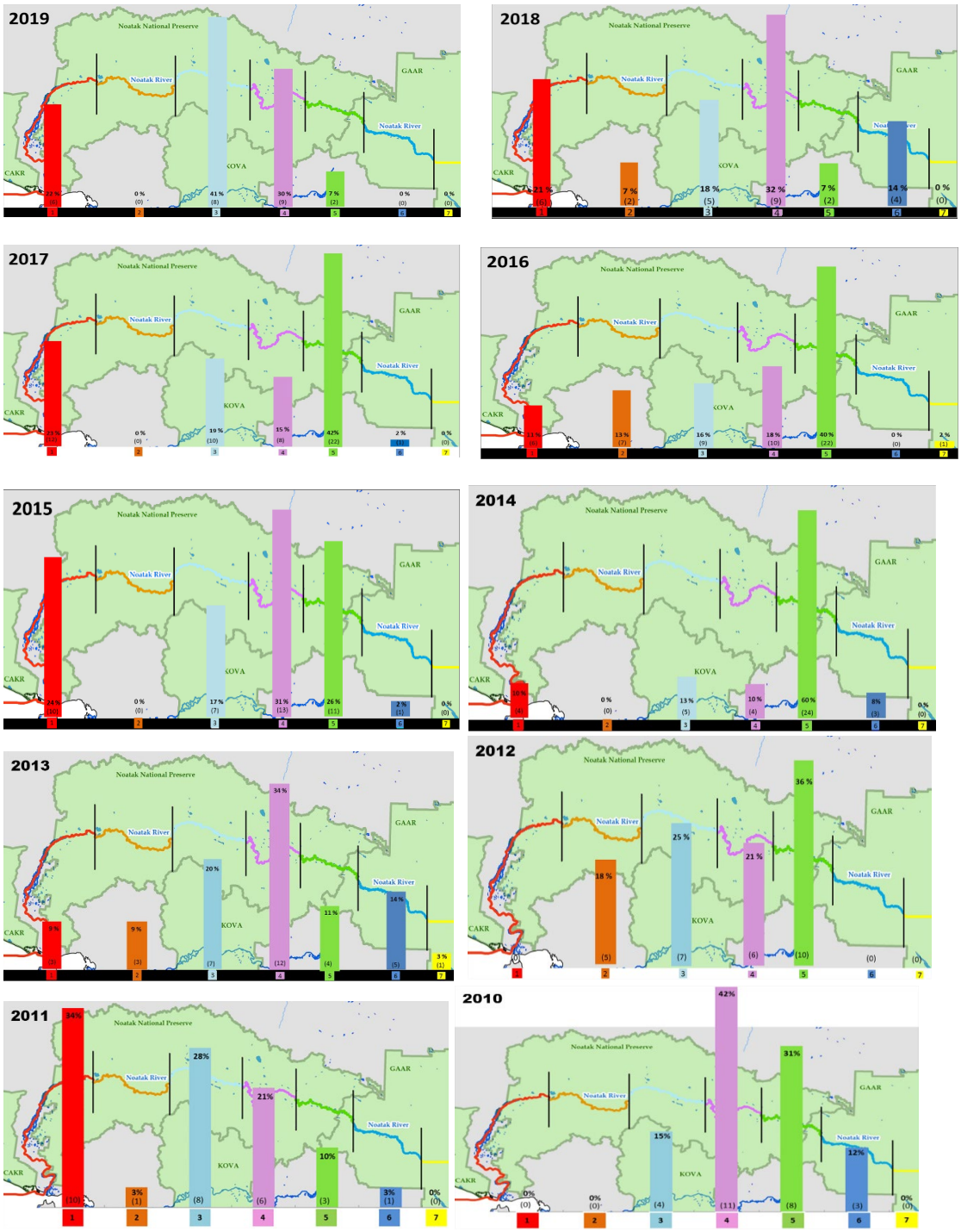


Figure 2. 2010-2019 distribution of caribou crossing the Noatak River during fall. Histograms depict where collared female caribou crossed the Noatak River, generally from north to south, on their fall migration. Relative percentages (top number) and the absolute number (middle number) of caribou are provided. The river is divided into seven (lowest number) color-coded segments which are displayed in the background. The middle five segments are 100 river kilometers long, while the westernmost segment (red) is 200 km (before extending into the Chukchi Sea) and the easternmost (yellow) runs as far east as WACH caribou are known to migrate (Joly and Cameron 2020).

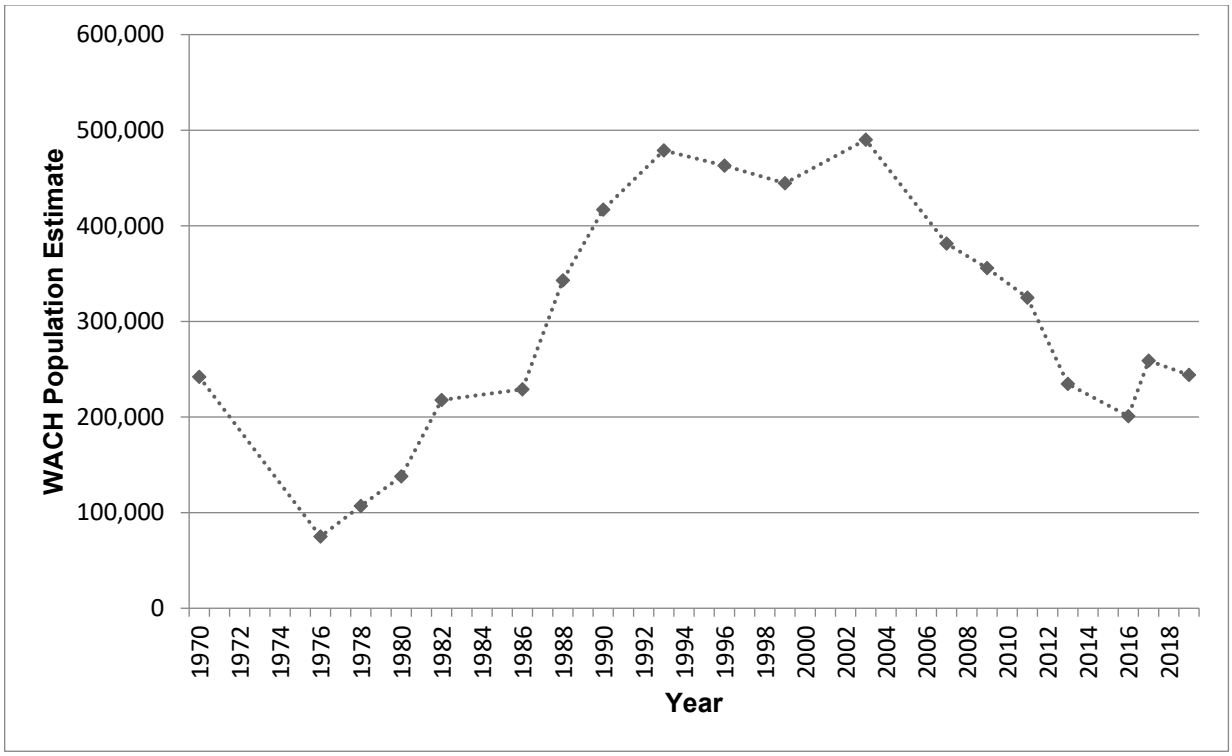


Figure 3. The WACH population estimates from 1970–2017. Population estimates from 1986–2017 are based on aerial photographs of groups of caribou that contained radio-collared animals (Dau 2011, 2013, 2014, Parrett 2016, 2017a, Hansen 2019a).

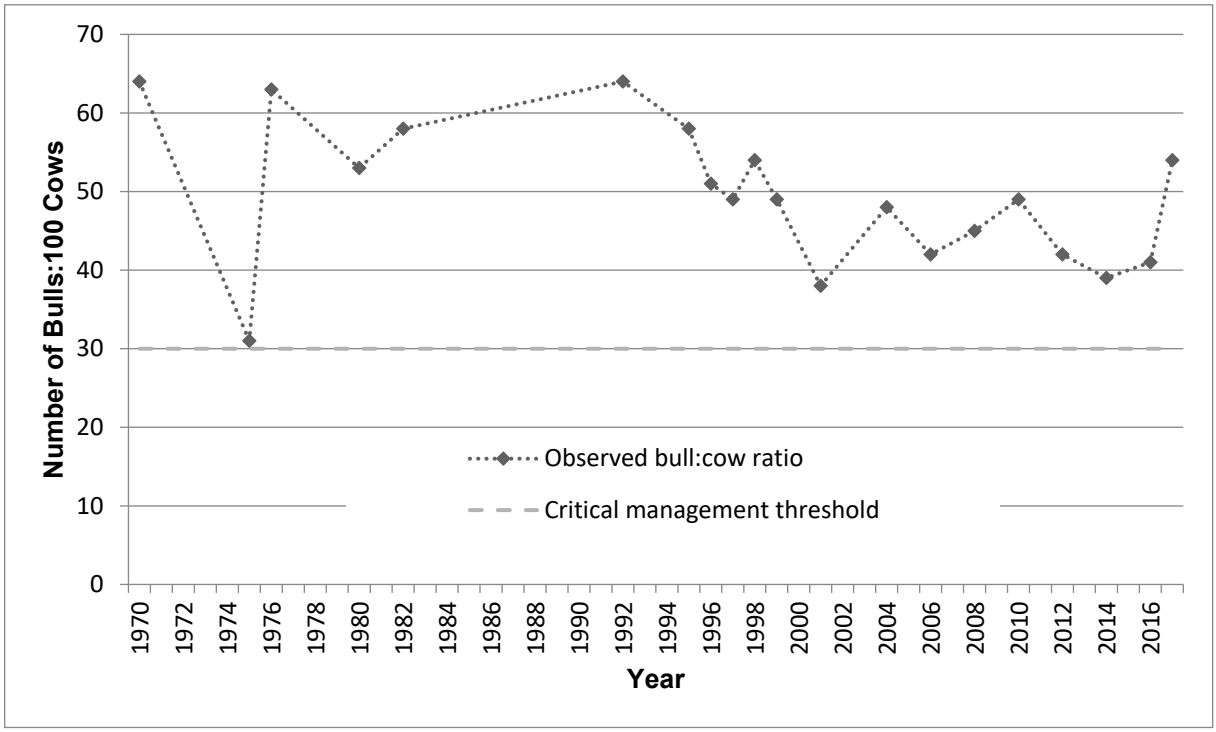


Figure 4. Bull:Cow ratios for the WACH (Dau 2015, ADF&G 2017c, Parrett 2017a).

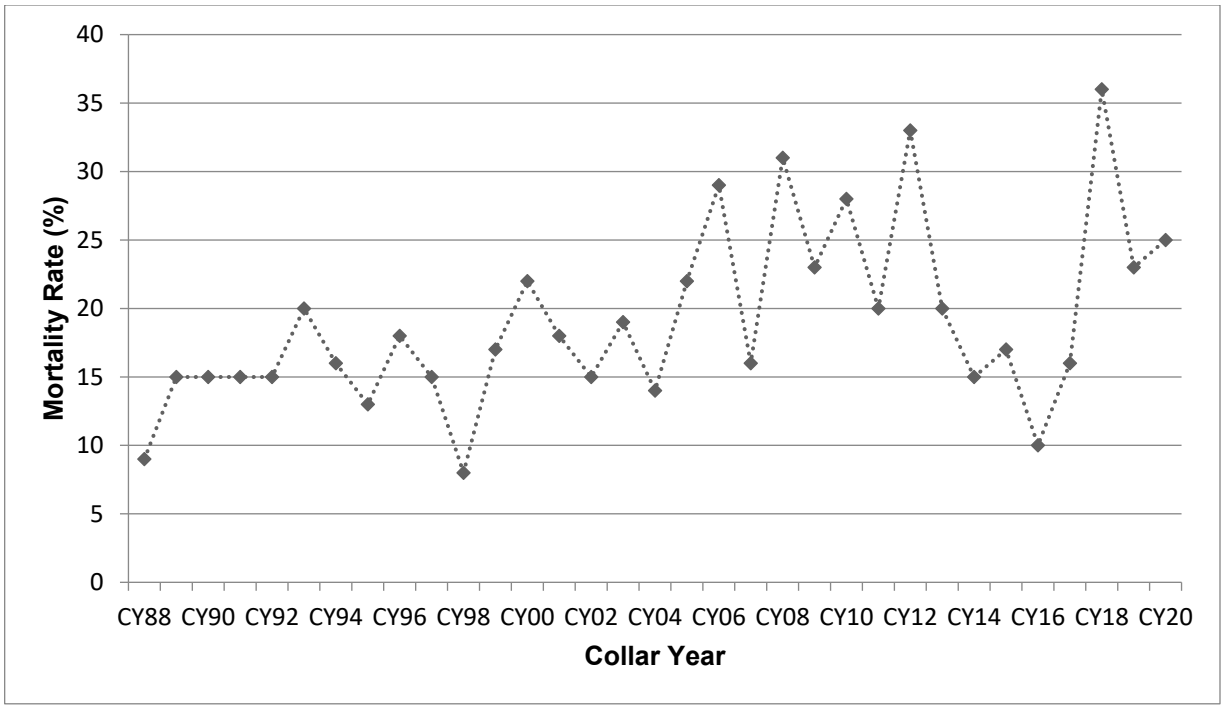


Figure 5. Mortality rate of radio-collared cow caribou in the Western Arctic caribou herd (Dau 2013, 2015, 2016b, NWARAC 2019a, WACHWG 2020). Collar Year = 1 Oct-Sep 30.

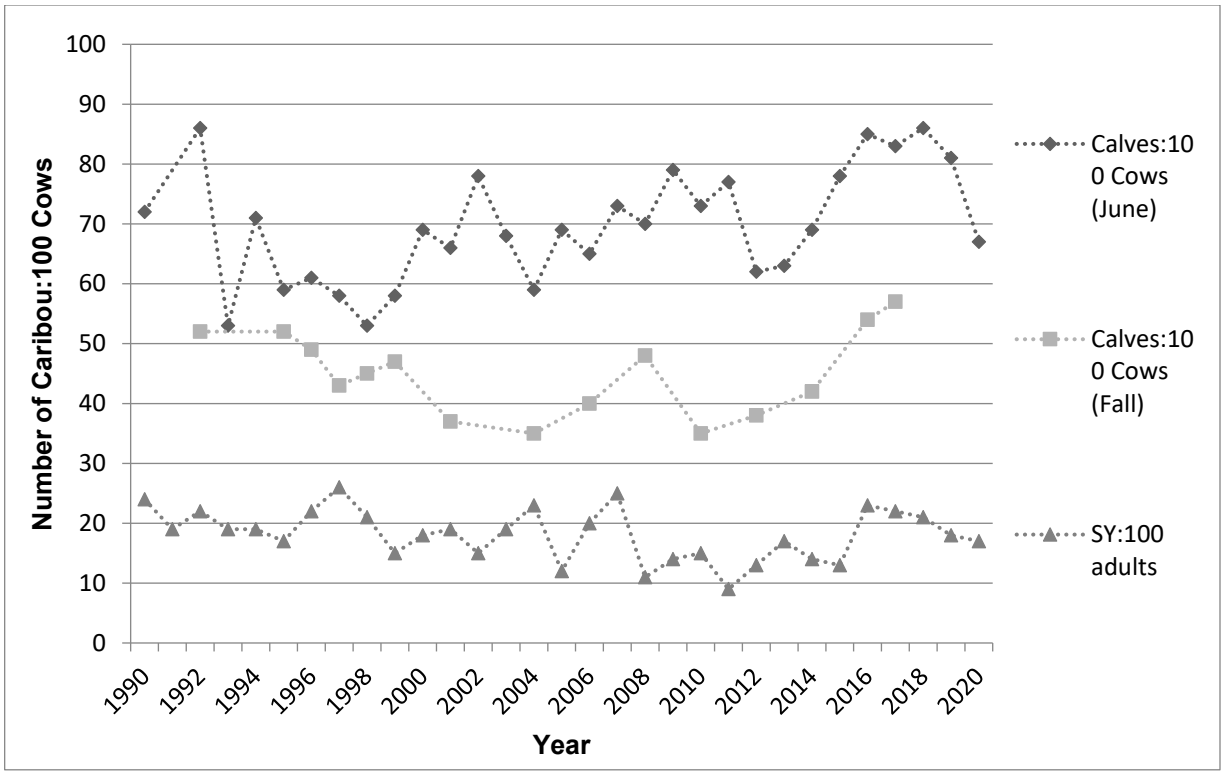


Figure 6. Calf:cow and short yearling (SY):adult ratios for the WACH (Dau 2013, 2015, 2016a, ADF&G 2017c, Parrett 2017a, NWARAC 2019a, WACHWG 2020). Short yearlings are 10-11 months old caribou.

Unit 23 Moose

Moose first appeared in eastern Unit 23 during the 1920s, expanding their range from the east. Over the next several decades, moose spread northwest across Unit 23 to the Chukchi Sea coast (**Map 8**) (LeResche et al. 1974, Tape et al. 2016, Westing 2012). The Unit 23 moose population grew through the late-1980s (Westing 2012). This rise in population was followed by severe winters and extensive flooding from 1988-1991 which, in conjunction with predation by brown bears and wolves, reduced the population and overall moose density (Westing 2012). State management objectives for moose in Unit 23 include (Saito 2014):

- Maintain a unit-wide adult moose population of 8,100-10,000 moose
- Noatak River and northern drainages 2,000-2,300 moose
- Upper Kobuk River drainage 600-800 moose
- Lower Kobuk River drainage 2,800-3,400 moose
- Northern Seward Peninsula drainages 700-1,000 moose
- Selawik River drainage 2,000-2,500 moose
- Maintain a minimum fall ratio of 40 bulls:100 cows, except in the Lower Kobuk where bull:cow ratios are skewed by its disproportional use by maternal cows. The higher bull:cow ratio goals are due to the low densities and wide distribution of moose throughout Unit 23 (Saito 2014).

The NPS, in cooperation with ADF&G, conducts spring population and fall composition surveys for moose in Unit 23. Surveys are conducted within census areas on a rotating basis with each census area being surveyed approximately every five years (**Map 9**, Alaska Board of Game 2017). Census areas have fluctuated throughout the years due to time and financial constraints as well as evolving survey techniques (Saito 2017, pers. comm.). In 2012, the Squirrel River drainage was moved from the Lower Noatak census area to the Lower Kobuk census area (Saito 2014). In 2014, the Upper Kobuk census area was expanded to include previously unsurveyed areas (Saito 2017, pers. comm.). Current census areas are static for the foreseeable future.

Moose density is primarily influenced by local factors such as snow depth, fire frequency, forage availability, and predators (Gasaway et al. 1992, Stephenson et al. 2006, Boertje et al. 2009, Street et al. 2015). Therefore, moose in Unit 23 are not evenly distributed across the landscape, with some drainages experiencing higher densities of moose than others. Between 2001 and 2017, total moose densities ranged across census areas from 0.03-0.7 moose/mi² while adult moose densities ranged from 0.03-0.59 moose/mi² (**Table 8**, Robison 2017, Saito 2014, 2016, pers. comm.).

Since 2009, the estimated moose population in almost every census area has declined (**Figure 7**). (Note: While the population estimate for the Selawik River drainage survey area increased between the 2016 and 2021 surveys, the increase is very small and still well below the 2011 estimate. The apparent decline in the Upper Kobuk is not statistically significant). The most recent population estimates are also well below State population objectives in every area except the Upper Kobuk, which just meets its lower State population objective (**Table 9**, Saito 2014, 2016a, pers. comm., Robison 2017, NWARAC

2019a). An estimated 70% of the Unit 23 moose population is found in the Selawik, Lower Kobuk, and Lower Noatak River census areas (NWARAC 2018a). All three of these areas have experienced substantial population declines. (Note: both the old (smaller) and new (larger) Upper Kobuk census areas were surveyed in 2014. The old census area data is depicted in **Figure 7** for better comparability across years while the new census area data is listed in **Table 9**).

In 2016 and 2017, ADF&G provided a unit-wide population estimate of 7,500 moose (ADF&G 2017a). In 2018, ADF&G estimated the Unit 23 moose population at 6,300 moose, representing a 16% decline (NWARAC 2018a). The most recent unit-wide moose population estimate was reported at 5,600 moose in a comment on WSA19-04 submitted by ADF&G. This represented an additional 11% decline in the population since the 2018 estimate. The Council and the public have also repeatedly reported at recent meetings that there are noticeably fewer moose than in the past (NWARAC 2017a, 2018a).

ADF&G conducts composition surveys in the fall to estimate bull:cow and calf:cow ratios. In 2008, ADF&G changed the methodology of fall composition surveys, and data are not comparable between survey methods (Saito 2014). From 2004-2007, Unit 23 bull:cow ratios averaged 39 bulls:100 cows. Since 2008, bull:cow ratios have ranged across survey areas from 34-54 bulls:100 cows, although composition surveys are conducted sporadically (**Table 10**) (Saito 2014, 2016a pers. comm., 2018 pers. comm.). In all census areas with multiple composition surveys since 2008, bull:cow ratios have declined and are below or near the State management objectives (**Table 10**). However, composition surveys are not a random sampling and are likely biased toward higher bull:cow ratios. This is because cows, particularly cows with calves, prefer more enclosed habitat for predator protection, which also makes them more difficult to see by aerial surveyors (Fronstin 2021, pers. comm.).

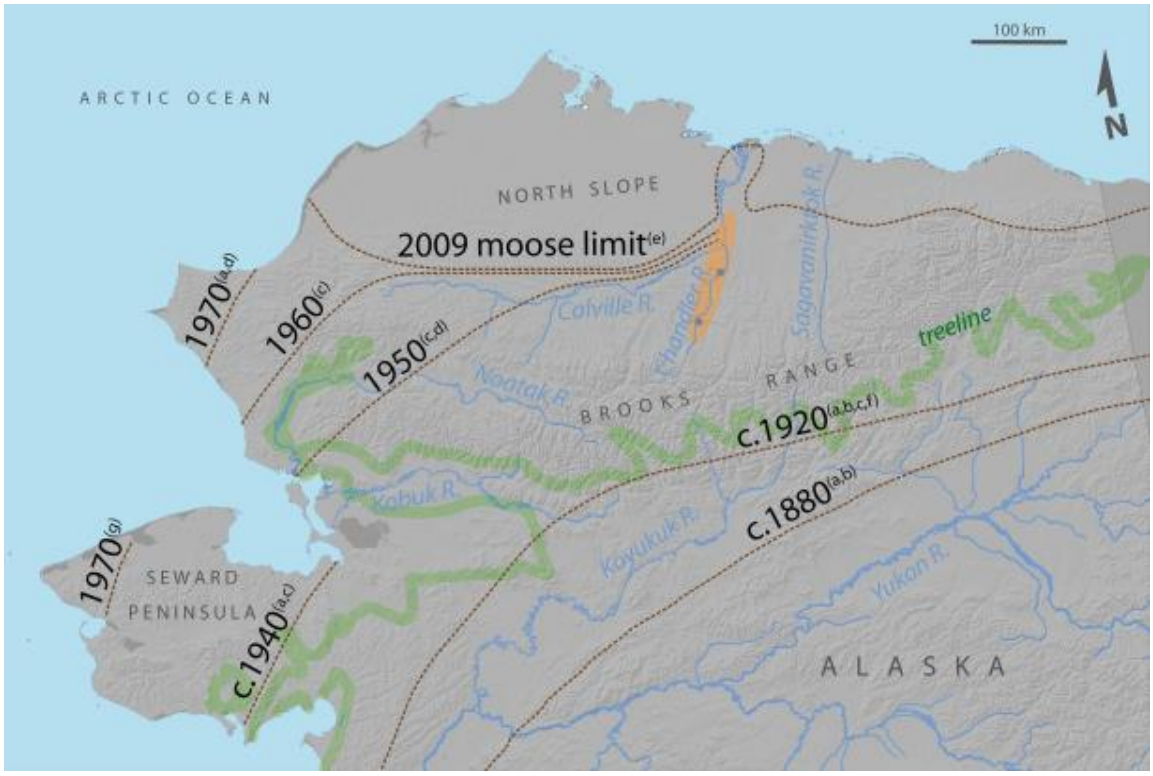
Fall calf:cow ratios of < 20 calves:100 cows, 20-40 calves:100 cows, and > 40 calves:100 cows may indicate declining, stable, and growing moose populations, respectively (Stout 2010). Since 2008, calf:cow ratios have ranged across survey areas from 4-24 calves:100 cows (**Table 10**) (Saito 2014, 2016a pers. comm., 2018 pers. comm.). These low calf:cow ratios suggest that the Unit 23 moose population is declining, with the possible exception being the Lower Kobuk survey area which has a larger percentage of maternal cows. During spring population surveys, ratios of calves:100 adults are also estimated as a measure of recruitment. Between 2001 and 2021, ratios ranged across survey areas from 7-23 calves:100 adults (Saito 2016a, pers. comm., 2018, pers. comm., Robison 2017, NWARAC 2019a, Fronstin 2021, pers. comm.). No clear trend is detectable with ratios increasing over time in some survey areas and decreasing or fluctuating in others.

While predation by brown bears, black bears, and wolves affects moose population dynamics in Unit 23, the overall level of impact of predators in relation to other factors such as weather, snow depth, disease, and human harvest is unknown, although deep snow and icing events limit moose movements, increasing their susceptibility to predation (Saito 2014, Fronstin 2018 pers. comm.). Relatively high moose densities and calf:cow ratios in the Kobuk River delta, where predator populations are lower due to its proximity to year-round human travel routes, suggest predators may be affecting moose in the more remote portions of the unit and that cows with calves may travel to the delta for safety (Saito

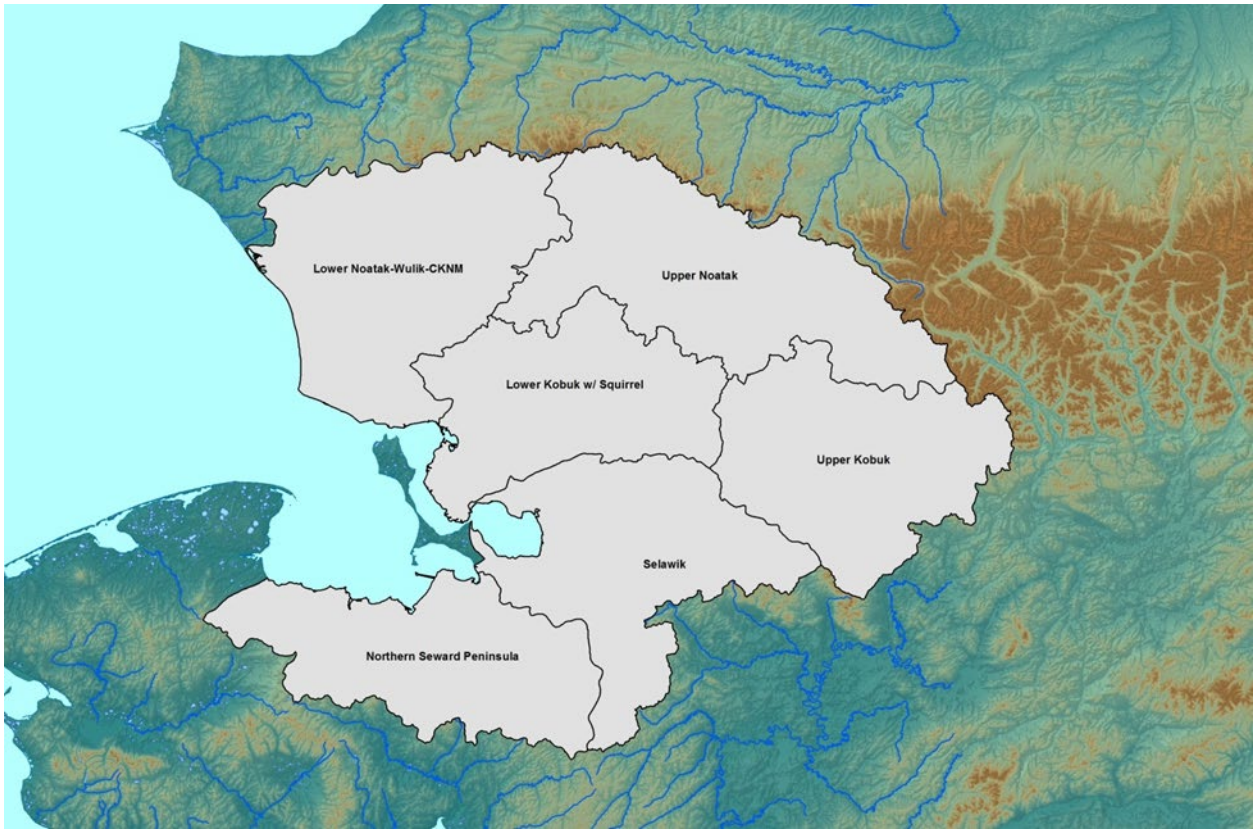
2014, Fronstin 2021, pers. comm.). However, preliminary results from a 3-year (2018-2020) calf survival study in the Lower Kobuk drainage indicate survival rates of around 65% for the first year with 77% of mortalities occurring from bear predation (108 out of 140 mortalities), which is comparable to other moose populations in Alaska (Hansen 2021, NWARAC 2018b). Further, the Lower Kobuk is primarily composed of the Kobuk River delta, which provides extensive riparian habitat. Thus, the situation mirrors the results from neighboring Unit 24, where moose productivity was higher where vegetative productivity was higher (Joly et al. 2017). As humans primarily harvest bull moose and bull:cow ratios have not substantially declined across years despite substantial population declines, human harvest may not be a limiting factor (NWARAC 2017b).

As moose are on the edge of their range in Unit 23, lower moose densities and habitat limitation are expected. However, the Unit 23 moose population does not appear to be nutritionally limited in the lower Kobuk survey area (Hansen 2021). A 2017 browse survey, completed in the Lower Kobuk, suggested that winter forage is not a limiting factor for moose populations with browse removal rates of only 19% (Hansen 2021, NWARAC 2018a). Twinning rates are another indicator of habitat and food limitations. From 2016-2020, 36-55% of cows surveyed in the Lower Kobuk had twins, further suggesting food is not a limiting factor and the population is not experiencing a density-dependent response (NWARAC 2018a). However, as stated above, the lower Kobuk area contains higher quality habitat and correspondingly higher moose densities than the rest of the unit.

Moose rely on willow and shrub habitats for browsing and for cover from predators. Shrub and willow productivity, height, and cover have increased and expanded in Unit 23 in response to rising average temperatures (Tape et al. 2016). Taller vegetation provides more suitable cover and increased available forage above the snowpack (Tape et al. 2016). Wildfire (the primary driver of boreal forest succession) frequency and shrub habitat is also forecasted to increase in Northern Alaska as the Arctic climate warms, resulting in more moose habitat in Unit 23 in the future (Joly et al. 2012, Swanson 2015). During a 2005 habitat survey in Unit 23, willows did not appear to be over-browsed by moose (Westing 2012).



Map 8. Temporal moose distribution changes in northern Alaska (figure from Tape et al. 2016).



Map 9. ADF&G moose census areas in 2017 (figure from Saito 2017, pers. comm.).

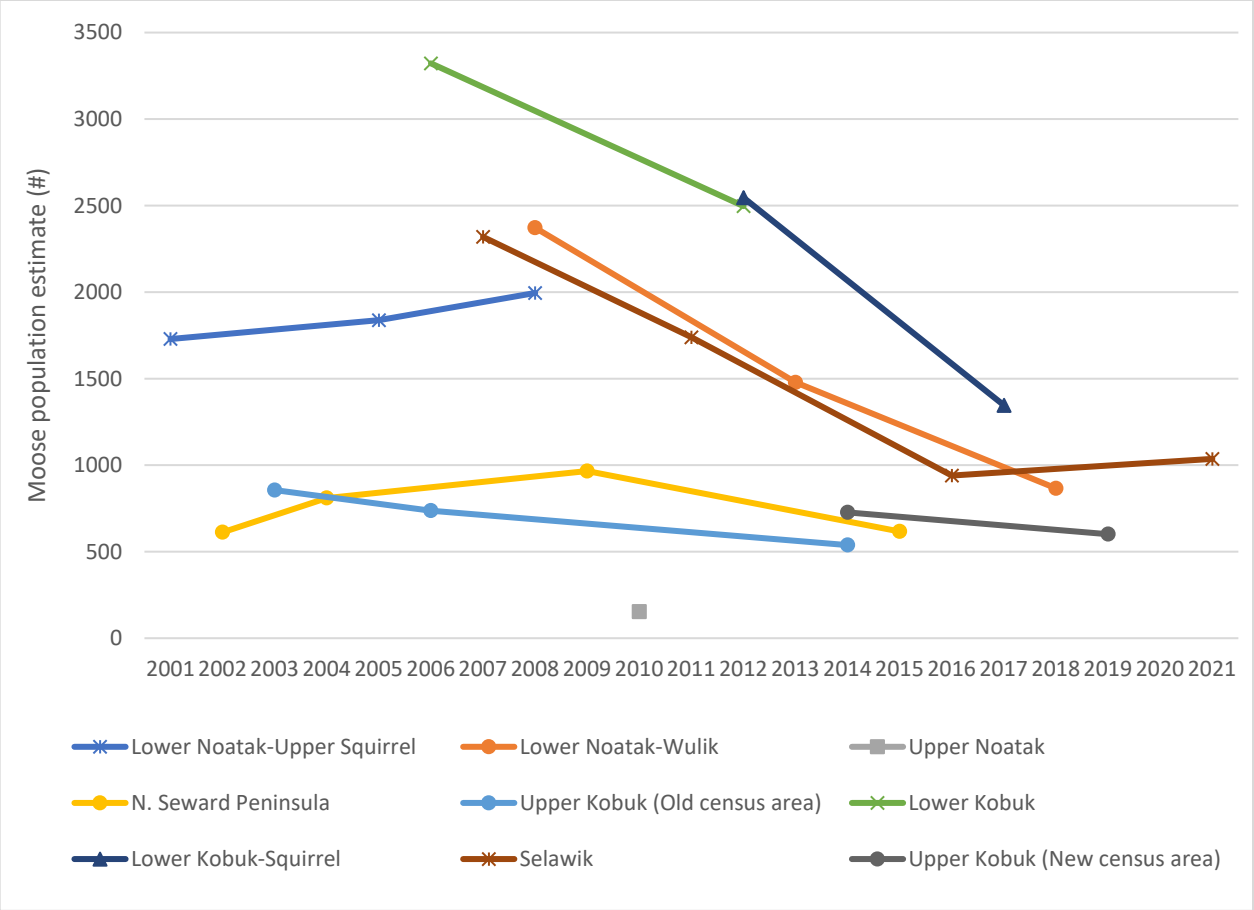


Figure 7. Total moose population estimates from 2001 to 2019 by census area. The old Upper Kobuk and new Upper Kobuk census area population estimates are both shown here (Fronstin 2021, pers. comm.).

Table 8. Moose population data collected during spring population census surveys in Unit 23 since 2001. The Upper Kobuk was surveyed in 2014 using both the older census area and the updated census area (Fronstin 2021, pers. comm.).

Census Area	Year	Moose Observed	Total Moose Estimated	Census Area (mi^2)	Area Surveyed (mi^2)	Total Density ($/mi^2$)	Adult Density ($/mi^2$)	Calves:100 adults
Lower Noatak-Upper Squirrel	2001	709	1,729	5,230.2	832	0.33	0.3	10
	2005	575	1,838	5,349.7	915.5	0.34	0.3	13
	2008	596	1,995	5,290.0	1,241.7	0.38	0.34	13
Lower Noatak-Wulik	2008	685	2,372	7,161.1	1,515.4	0.33	0.29	14
	2013	413	1,478	6,404.5	1,310.2	0.23	0.21	11
	2018	489	866	6,404.5	2,325.4	0.14	0.12	14
Upper Noatak	2010	100	153	4,485.6	1,972.1	0.03	0.03	12
Northern Seward Peninsula	2002	520	612	5,888.5	1,220.7	0.1	0.1	7
	2004	610	810	5,882.9	1,934.3	0.14	0.12	12
	2009	293	966	5,773.2	1,271.2	0.17	0.16	8
	2015	310	617	5,767.8	1,791.2	0.11	0.09	15
	2020	433	--	--	--	--	--	22
Upper Kobuk	2003	252	856	4,001.5	900.6	0.21	0.19	12
	2006	219	737	4,001.5	973.7	0.18	0.16	15
	2014	136	538	3,990.8	839.2	0.13	0.13	7
	2014	186	727	5,056.8	1,082.5	0.14	0.13	7
	2019	328	601	5,056.8	2,139.1	0.12	0.1	23
Lower Kobuk	2006	1,540	3,322	4,870.5	1,468.1	0.68	0.58	19
	2012	789	2,497	4,870.5	1,457.6	0.51	0.48	8
Lower Kobuk-Squirrel	2012	789	2,546	5,338.0	1,290.8	0.48	0.44	8
	2017	796	1,346	5,338.0	2165.2	0.25	0.22	15
Selawik	2007	678	2,319	6,580.1	1,845.2	0.35	0.32	10
	2011	448	1,739	6,559.0	1,289.1	0.27	0.24	11
	2016	520	940	6,559.0	2,273.0	0.14	0.13	14
	2021	--	1,036	--	--	--	--	10

Table 9. Comparisons across Unit 23 study areas of the most recent moose population estimates, population objectives, and harvestable surpluses. The harvestable surplus is calculated as 6% of the population. The Upper Kobuk census area represents the updated census area that was created in 2014. The spring 2017 and 2018 surveys in the Lower Kobuk and Lower Noatak-Wulik survey areas, respectively are incorporated in the table, but not into the extrapolated population total. Extrapolated total incorporates estimated populations in non-surveyed portions of Unit 23 (Robison 2017, Saito 2016a pers. comm., 2018 pers. comm., NWARAC 2018a, 2019, Fronstin 2021, pers. comm.).

Unit 23 Study Area	Most recent survey year	Population Estimate	Population Objective	Estimated Harvestable Surplus
Noatak River Drainages	2010 (Upper), 2018 (Lower)	1,019	2,000-2,300	61
Lower Kobuk River Drainage	2017	1,346	2,800-3,400	81
Upper Kobuk River Drainage	2019	601	600-800	36
Selawik River Drainage	2021	1,036	2,000-2,500	62
Northern Seward Peninsula	2015	617	700-1,000	37
Total		**4,619**		**277**
Extrapolated 2017 Total		**7,500**		**450**
Extrapolated 2018 Total		**6,300**		**378**
Extrapolated 2019 Total		**5,600**		**336**

Table 10. Bull:cow and calf:cow ratios in fall composition surveys conducted after 2007 (Saito 2014, 2016a pers. comm., 2018 pers. comm., Fronstin 2021, pers. comm.).

Survey Area	Year	Bulls:100 Cows	Calves:100 Cows
Selawik	2008	54	18
	2010	47	19
	2015	43	20
Lower Kobuk	2011	45	15
	2017	38	34
Lower Noatak	2013	53	4
	2018	41	17
Northern Seward Peninsula	2009	53	4
	2020	52	
Seward Peninsula	2014	34	16

Unit 26A Moose

Prior to the 1940s, moose were scarce along the North Slope. Subsequently, populations expanded along the limited riparian habitat of the major drainages (LeResche et al. 1974) and have become well established in the southeast portion of Unit 26A. The northern extent of the moose populations on the North Slope is thought to be limited by habitat availability. The moose in these areas tend to concentrate along riparian corridors where browse is most abundant. Nearly all the moose are confined to the riparian habitat along the large river corridors during the winter but during summer many of the moose disperse north across the coastal plain and south into the foothills of the Brooks Range (Klimstra and Daggett 2020).

Recommended State management objectives for moose in Units 26A are (Klimstra and Daggett 2020):

- Manage for a population of 600-800 moose
- Manage for a fall bull:cow ratio of ≥ 30:100
- Manage for a fall calf:cow ratio of ≥ 30:100
- Manage for ≥ to 20% short yearlings in spring

Since the late 1970s, ADF&G has conducted spring aerial surveys in all the major drainages of Unit 26A to assess population status and recruitment of short yearlings (10 to 11 months old) (Carroll 2000, 2010). These surveys produce a direct population count because the treeless landscape results in a sightability factor of one, and the deep spring snows concentrate moose in riparian corridors, which are all systematically surveyed. Of note, all the population counts included the Itkillik River, which is part of the Colville River drainage, but is in Unit 26B (Carroll 2010). Between 1970 and 2021, the Unit 26A moose population fluctuated, ranging from 294-1,535 moose (**Table 11**). Currently, the Unit 26A moose population is relatively low, but may be rebounding. Over the same time period, the percentage of short-yearlings ranged from 1-25% of the Unit 26A moose population (Klimstra and Daggett 2020, Daggett 2021, pers. comm.) (**Table 11**).

The periods of population declines resulted from poor calf survival and high adult mortality. Moose mortality was likely due to malnourishment, bacterial diseases, mineral deficiencies, predation from wolves and bears, weather factors, and competition with snowshoe hares for browse. In 2008, weights of short yearlings averaged 322 pounds, which was the lightest recorded in Alaska and an indicator of malnourishment. Human harvest of moose is very low and likely does not significantly influence abundance of the Unit 26A moose population (Klimstra and Daggett 2020).

ADF&G also periodically conducts fall composition surveys. Between 2010 and 2014, bull:cow ratios ranged from 42-97 bulls:100 cows, exceeding the State population goals. Over the same time period, the percentage of calves in the population ranged from 7-18% with the lowest calf:cow ratio occurring in 2014 (Klimstra and Daggett 2020). No composition surveys have been conducted since 2014 (Daggett 2021, pers. comm.).

Table 11. Moose observed during spring aerial censuses conducted in Unit 26A (Carroll 2010, OSM 2013, Klimstra and Daggett 2020, Daggett 2021, pers. comm.).

	Moose observed			
Year	**Adults**	**Short yearlings**	**Total[a]**	**% Short yearlings**
1970	911	308	1,219	25
1977	991	267	1,258	21
1984	1,145	302	1,447	21
1991	1,231	304	1,535	20
1995	746	11	757	1
1999	274	52	326	16
2002	502	74	576	13
2005	863	185	1,048	18
2008	1,023	157	1,180	13
2011[b]	545	64	609	11
2014	290	4	294	1
2017	285	63	348	17
2021	349	88	437	20

[a] Includes moose counted on the Itkillik River which is part of the Colville River drainage, but is in Unit 26B. In 2008, there were 64 moose, including 4 calves on the Itkillik River (Carroll 2010).
[b] Information provided by Geoff Carroll (Carroll 2013, pers. comm.)

Habitat

Moose in Unit 26, which are on the extreme edge of their distribution, are limited by marginal habitat and thus are more vulnerable to environmental variations than populations in more optimal locations and habitat. During the winter the moose in this area are confined to the riparian areas on the coastal plain. During the summer a majority of them will disperse from the river bottoms but usually remain near riparian habitat and during the fall, when the snow begins to accumulate, they move back to the riparian corridors of the large river systems (Carroll 2010).

A habitat study was initiated in April 2008 on the Colville River in areas where moose browsed between the mouth of the Killik River and Umiat to determine the quantity of browse available to moose in the riparian area in the winter. Results indicated a 12% browse removal rate, which was similar to other areas in the State which have moderate browsing and twinning rates. Thus it appears that the poor survival rate of collared animals, low weights of the short-yearlings, and apparent starvation of several moose during the 2008 capture season was not related to the quantity of browse in Unit 26A (Carroll 2010). Quantity and availability (willows covered up by snow drifts), accessibility (effects of deep snow on access), and

increased tannins in the willows (in response to snowshoe hares eating the bark) are factors which could contribute to malnourishment seen in some of the moose. In 2009, samples were taken to assess the quality of the browse but the results are not currently available (Carroll 2010).

Harvest History

Western Arctic Caribou Herd

The State manages the WACH on a sustained yield basis (i.e. managing current harvests to ensure future harvests). The harvestable surplus when the WACH population trend is declining is calculated as 6% of the estimated population (WACH Working Group 2011, Parrett 2017b, pers. comm.). In 2017, the WACH harvestable surplus was 15,540 caribou (6% of 259,000 caribou). Assuming the herd population remained stable in 2018 and 2019, the harvestable surplus remains 15,540 caribou. This is a substantial increase from the 2016 harvestable surplus of 12,056 caribou when harvest likely exceeded sustainable levels. However, there is substantial uncertainty in harvestable surplus estimates (Parrett 2015a, Dau 2015). Of particular concern is the overharvest of cows, which has probably occurred since 2010/11 (Dau 2015). Dau (2015:14-29) states, "even modest increases in the cow harvest above sustainable levels could have a significant effect on the population trajectory of the WACH."

Caribou harvest by local hunters is estimated from community harvest surveys, if available, and from models developed by A. Craig with ADF&G's Division of Wildlife Conservation Region V. These models incorporate factors such as community size, availability of caribou, and per capita harvests for each community, which are based on mean values from multiple community harvest surveys (Dau 2015). In 2015, Craig's models replaced models developed by Sutherland (2005), resulting in changes to local caribou harvest estimates from past years. While Craig's models accurately reflect harvest trends, they do not accurately reflect actual harvest numbers (Dau 2015). (Note: no model accurately reflects harvest numbers). This analysis only considers the updated harvest estimates using Craig's new model as cited in Dau (2015). Caribou harvest by nonlocal residents and nonresidents are based on harvest ticket reports (Dau 2015). Hunters considered local by ADF&G are functionally identical to Federally qualified subsistence users (e.g. Residents of St. Lawrence Island are technically Federally qualified subsistence users, but do not frequently harvest Western Arctic caribou) (**Map 2**).

From 1999–2017, the average estimated total harvest from the WACH was 14,119 caribou/year, ranging from 11,729-16,219 caribou/year (Hansen 2020, pers. comm., **Figure 8**). These harvest levels are within the conservative harvest level specified in the WACH Management Plan (**Table 6**). In 2015 and 2016, total local harvest estimates were 14,360 caribou and 14,971 caribou, respectively (Hansen 2019b, pers. comm.). While these harvest estimates are below the 2017-2019 harvestable surpluses, they exceed the 2016 harvestable surplus. Of note, harvest estimates do not include wounding loss, which may be hundreds of caribou (Dau 2015).

Local hunters account for approximately 95% of the total WACH harvest and residents of Unit 23 account for approximately 58% of the total harvest on average (**Figure 9**, ADF&G 2017c). Comparison of caribou harvest by community from household survey data (**Table 15)** with **Figure 2** demonstrates that local community harvests parallel WACH availability rather than population trends. For example, Ambler

only harvested 325 caribou when the WACH population peaked in 2003 but harvested 685 caribou in 2012 when most of the WACH migrated through eastern Unit 23. Similarly, Noatak only harvested 66 caribou in 2010 when no GPS-collared caribou migrated through western Unit 23. Harvest increased substantially (360 caribou) the following year when 37% of the GPS-collared caribou (and thus, a greater proportion of the WACH) migrated through western Unit 23.

Between 1998 and 2018, annual reported caribou harvest in Unit 23 ranged from 168-676 caribou (**Figure 10**). Over the same time period, reported harvest by non-Federally qualified users ranged from 131-657 caribou. The lowest reported harvest occurred in 2016 when all Federal public lands in Unit 23 were closed to non-Federally qualified users, but before harvest reporting was required for Federally qualified subsistence users living locally. Regardless, local compliance with reporting mandates is considered low but increasing. In 2017, the BOG began requiring registration permits, which is reflected in the greater number of reported caribou harvest by Federally qualified subsistence users (**Figure 10**). On average, 76% of WACH caribou harvested by nonlocals are harvested in Unit 23 (Dau 2015). Between 2016, when Federal lands closure began, and 2019, reported caribou harvest by non-local hunters in Unit 23 averaged 161 caribou (WinfoNet 2018, 2019).

From 1999-2013, 72% of nonlocal hunters on average accessed the WACH by plane. Most nonlocal harvest (85-90%) occurs between Aug. 25 and Oct. 7. In contrast, most local, subsistence hunters harvest WACH caribou whenever they are available using boats, 4-wheelers, and snowmachines (Dau 2015, Fix and Ackerman 2015). In Unit 23, caribou have historically been available during fall migration, but this has no longer been the case in recent years; caribou migration has occurred later in fall, resulting in subsistence harvest also occurring later, which in turn contributes to food insecurity.

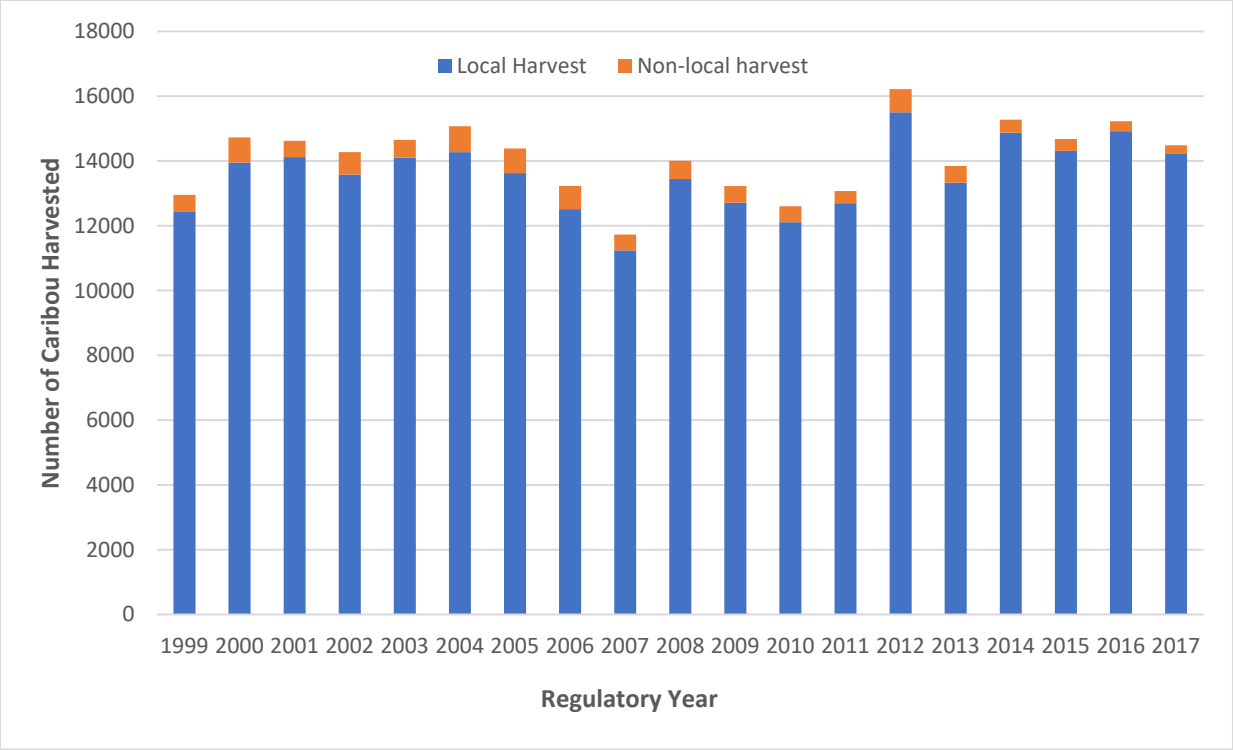


Figure 8. Estimated number of caribou harvested from the WACH by residency (Hansen 2020, pers. comm.). Local harvest is an estimate derived from models; non-local harvest is from harvest reports.

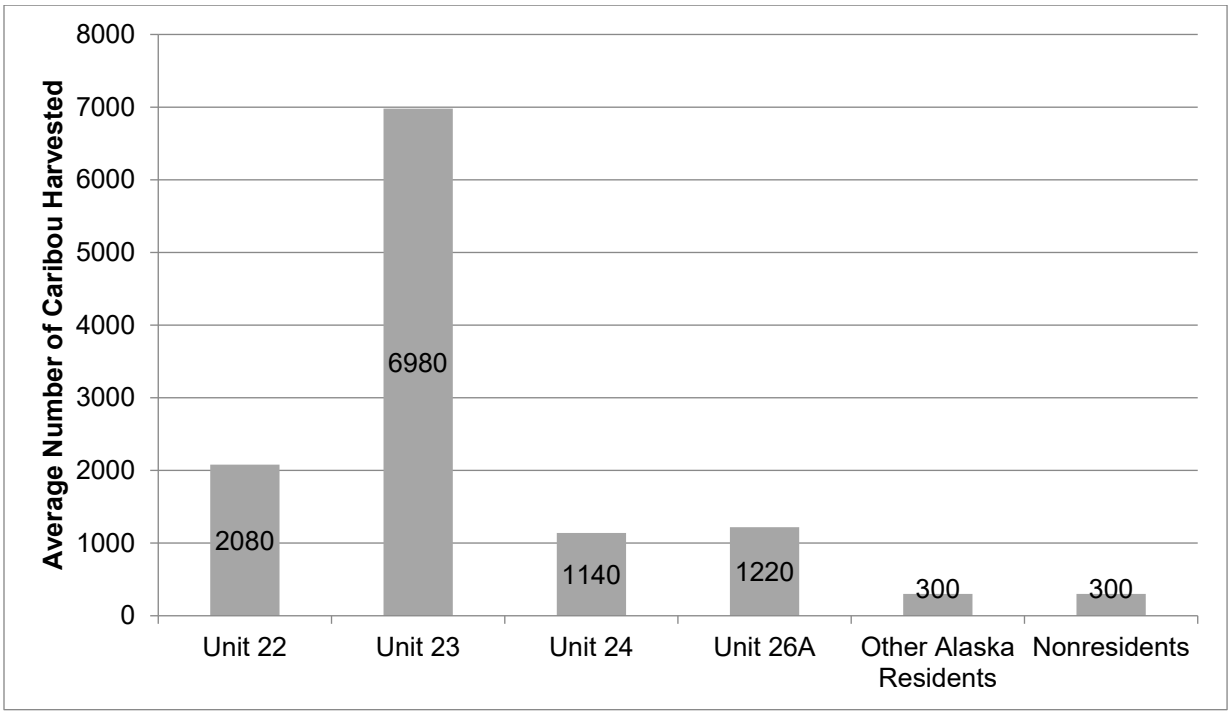


Figure 9. Average number of caribou harvested by unit and residency from 1998-2015 (ADF&G 2017c).

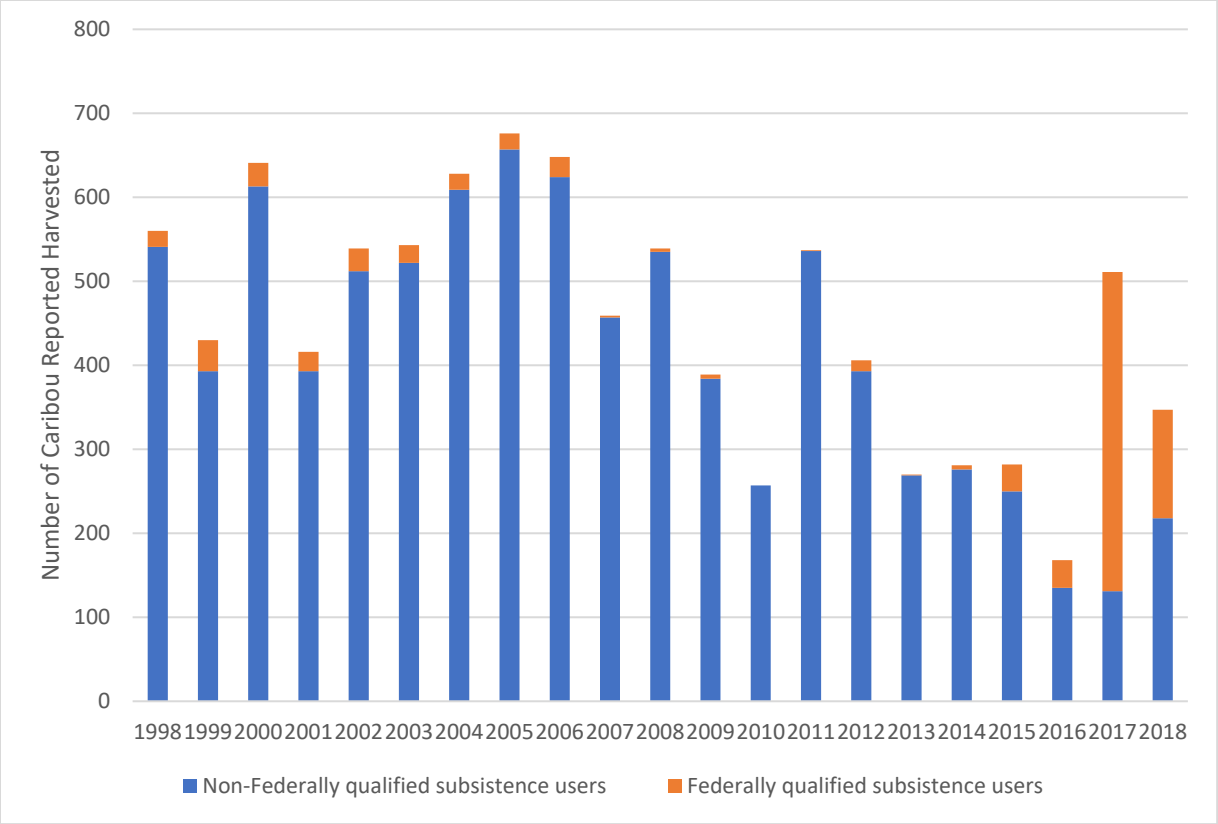


Figure 10. Reported caribou harvest in Unit 23 (WinfoNet 2018, 2019).

Unit 23 Moose

Harvest data is derived from State harvest reports and community household surveys. Community household surveys are used, in part, as a method to determine whether harvest is being reported accurately in State harvest reports. Harvest reports provide data on an annual basis. Community household surveys gather data from local communities pertaining to subsistence harvest on an irregular basis, with many communities only being visited once over a ten year time span. In Unit 23, community household surveys show that moose harvest is underreported by local users (users residing in Unit 23), but nonlocal user harvest can be assumed accurate based on the requirement of a registration permit (RM880) for the any-antlered bull resident harvest and drawing permits for non-resident harvest (before the non-resident hunt was closed). This section will discuss State harvest report data prior to reviewing community household survey data.

Between 2005 and 2019, total reported moose harvest in Unit 23 ranged from 55-189 moose, averaging 133 moose (**Table 12**) (ADF&G 2016, 2018a). The lowest reported harvest was in 2018, after ADF&G cancelled the nonresident moose season and Federal public lands were closed to moose harvest except by Federally qualified subsistence users for part of the December season (WSA18-04). Local resident (residents of Unit 23), nonlocal resident, and nonresident reported harvest averaged 72 moose (55%), 40 moose (30%), and 20 moose (15%) per year, respectively (**Table 12**) (ADF&G 2016, 2021). Cows comprised 7% of the annual reported harvest on average, with 1-21 cows being harvested each year, although the actual cow harvest is likely double what is reported (Alaska Board of Game 2017). The vast

majority of moose are harvested in September (**Figure 11**) (WINFONET 2017). Since 2006, more moose have been harvested from the Kobuk River drainage than from other drainages within Unit 23 (**Figure 12**) (ADF&G 2017a). Moose hunting is the primary activity by nonlocal users on Selawik National Wildlife Refuge (Georgette 2017, pers. comm.).

Since 2000, community household survey data has indicated 350-450 moose are harvested each year by local residents (Saito 2014). In regulatory year 2012/13 specifically, ADF&G estimated moose harvest by local residents as 342 moose (Saito 2014). When community harvest data is taken into account, local residents represent approximately 73% (2015) of the Unit 23 annual harvest, conservatively (NWARAC 2017b). The only community household survey data available for the number of cow moose harvested by local residents are for 2008 and 2009 in the villages of Noorvik, Shungnak, Ambler, Buckland, Kiana, and Kobuk. These data indicate 3 out of 67 total moose harvested were cows, although 6 moose were of unknown sex (ADF&G 2018b).

ADF&G calculates the harvestable surplus of moose in Unit 23 as 6% of the population (Saito 2016a, pers. comm.). As the 2018 unit-wide population estimate was 6,300 moose, 378 moose was the estimated harvestable surplus. In 2019, the population estimate and harvestable surplus declined to 5,600 moose and 336 moose, respectively. Reported harvest by nonlocal residents and nonresidents (~67 moose/year) combined with community household survey harvest estimates for local residents (350-450 moose/year) indicate that total Unit 23 moose harvests likely exceed the harvestable surplus. While the State has closed the nonresident season, and nonlocal resident reported harvest declined in 2016 and 2017 (**Table 12**), harvest estimates by local residents alone may still exceed the harvestable surplus (Saito 2014).

Harvest within individual drainages may be particularly high or have disproportionate effects on the population. For example, ADF&G estimates that approximately 70 moose are taken from Selawik drainage each year, which translates to a 7% harvest rate (**Figure 12**) (NWARAC 2016a). During winter months, large congregations of moose have been observed near villages, which can make these moose highly susceptible to harvest (Alaska Board of Game 2017). The Lower Kobuk River drainage hosts a disproportionate number of maternal cows, possibly because this area appears to support fewer large predators due to its proximity to human travel corridors (Saito 2014). More moose are also harvested from the Kobuk River drainage than any other drainage (**Figure 12**). This suggests cow moose in the Kobuk River drainage are particularly susceptible to harvest, although the taking of cows with calves is prohibited under both State and Federal regulations, and the cow moose hunt is now closed under both Federal and Subsistence regulations. While recent restrictions to State regulations have decreased reported moose harvest, decline of the Western Arctic Caribou Herd has likely increased moose harvest by local residents trying to meet their subsistence needs (Saito 2014, NWARAC 2017a, 2018a). During recent Council meetings, subsistence users have commented on the importance of moose as a subsistence resource, particularly when caribou are scarce (OSM 2017a, NWARAC 2017a, 2018a).

Table 12. Reported moose harvest in Unit 23 for 2005-2019 from ADF&G harvest ticket and permit reports (ADF&G 2021a).

Year	Local Resident Harvest	Nonlocal Resident Harvest	Nonresident Harvest	Total Harvest	Male	Female	Unknown
2005	65	41	41	148	137	10	1
2006	79	49	30	159	150	7	2
2007	64	29	25	123	116	7	0
2008	62	48	40	151	143	7	1
2009	80	50	23	155	144	10	1
2010	102	63	22	189	169	17	3
2011	72	45	26	144	133	11	0
2012	75	57	24	156	146	10	0
2013	88	53	21	164	151	12	1
2014	74	40	10	124	109	14	1
2015	85	59	20	165	144	21	0
2016	63	18	11	95	90	4	1
2017	66	18	0	84	78	5	1
2018	42	13	0	55	54	1	0
2019	61	15	0	76	76	0	0
Average	**72**	**40**	**20**	**132**	**123**	**9**	**1**

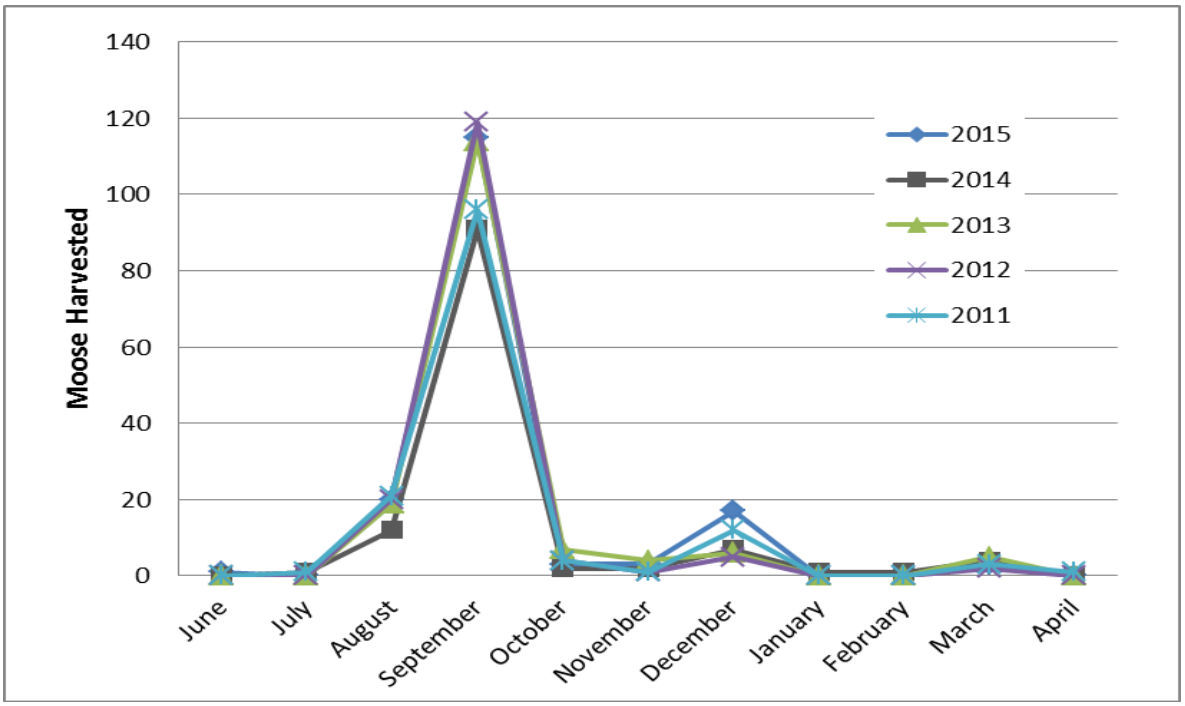


Figure 11. Moose harvest, by month, among users of Unit 23 from 2011-2015 according to State harvest reports (WINFONET 2017).

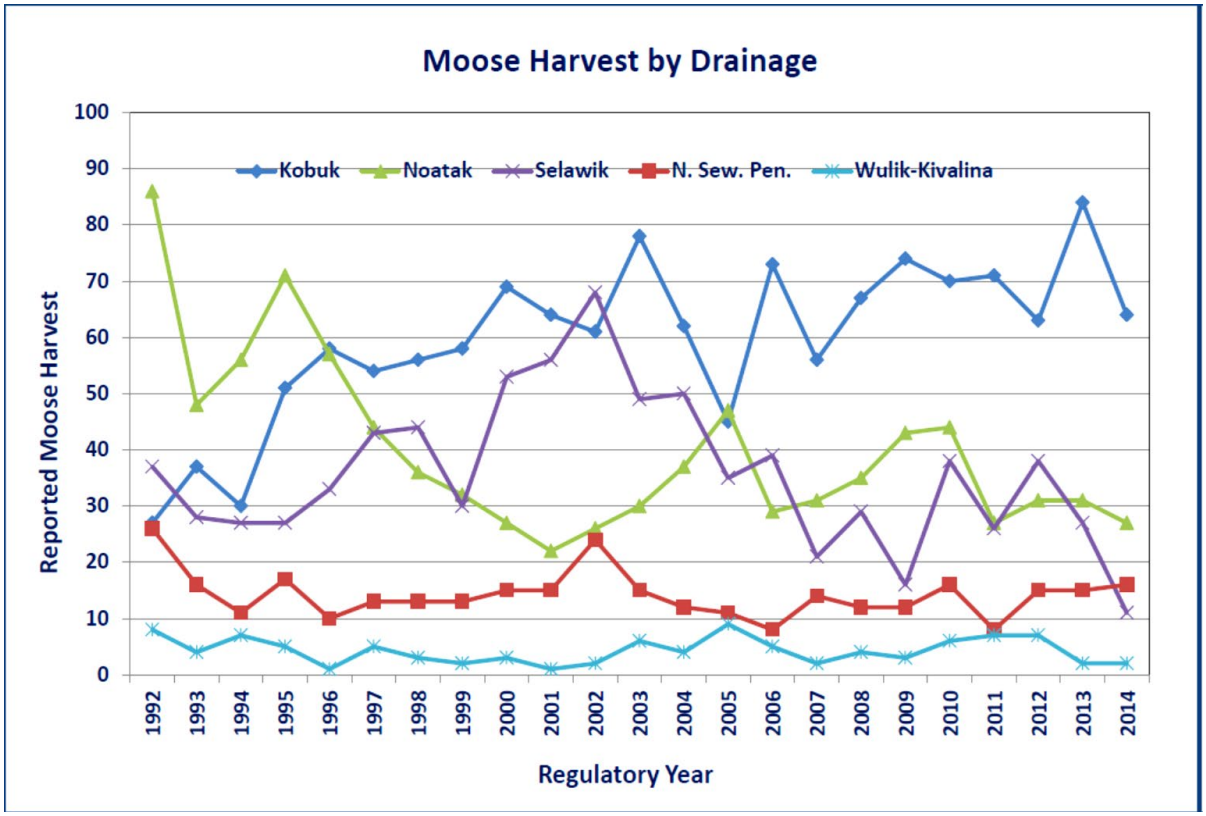


Figure 12. Moose harvest, by drainage, among users of Unit 23 from 1992-2014 according to State harvest reports (figure from ADF&G 2017a).

Unit 26A Moose

Moose harvest in all of Unit 26A averaged 57 per year until 1995, which was several years after the peak estimated abundance of the moose population in 1991. Although the trend area counts began to decline in 1992, the harvest remained at the higher levels for several years (Carroll 2010). In 1995, when more restrictive regulations were implemented, the harvest dropped to 14 moose, and then remained low between 1996 and 2004 at an average of 4 moose per year. One of the most important changes affecting harvest levels in this area was the ban on the use of aircraft beginning in 1996. In 2006, in response to an increasing moose population, the BOG allowed the use of aircraft to hunt moose in Unit 26A under a State draw permit hunt (DM980/981), but not under the general season by harvest ticket. However, the BOG discontinued the draw permit hunt, and therefore any use of aircraft, in 2015. Between 2009 and 2019, the average reported moose harvest was 3.73 moose per year (**Table 13**).

The non-resident moose hunt in Unit 26A has been closed since 2014. While the ADF&G harvest report website showed one moose harvested by non-residents in 2018 and 2019, this may be reported illegal harvest (Daggett 2021, pers. comm.). In recent years (2015-2019), non-local resident moose harvest has averaged 0.8 moose per year, while local resident harvest has averaged 1.4 moose per year (ADF&G 2021a).

Table 13. Reported moose harvest in Unit 26A for 2009-2019 from ADF&G harvest ticket and permit reports (ADF&G 2021a).

Regulatory Year	Local Resident Harvest	Nonlocal Resident Harvest	Nonresident Harvest	Unknown Residency Harvest	Total Harvest	Male	Female	Unknown
2009	2	0	1	0	3	2	1	0
2010	1	0	0	3	4	4	0	0
2011	2	0	0	0	2	2	0	0
2012	4	5	0	0	9	8	1	0
2013	2	2	0	0	5	5	0	0
2014	1	0	0	1	2	1	1	0
2015	0	0	0	3	3	2	1	0
2016	2	2	0	0	4	4	0	0
2017	3	0	0	0	3	3	0	0
2018	1	1	1	0	3	3	0	0
2019	1	1	1	0	3	3	0	0
Average	1.73	1	0.27	0.64	3.73	3.36	0.36	0

Commercial Use Authorization activity on National Park Service Lands in Unit 23

Table 14 shows several metrics of the presence of Commercial Use Authorization resulting activity in the Western Arctic National Parklands (WEAR). Each guide is limited to 12 clients a year (NWARAC 2020a). Hunting by non-locals in WEAR is only permitted in Noatak National Preserve.

In 2020, two guides and four transporters operated in WEAR, as well as six air taxi companies (NWARAC 2020a). In 2019, there were three guides operating, and a total of 11 companies holding

Commercial Use Authorizations (WEAR 2019). In 2018, there were three guide companies operating, and a total of 18 companies holding Commercial Use Authorizations (WEAR 2018).

Table 14 demonstrates that most of the transporter traffic occurs within Noatak National Preserve and is likely associated with hunting by non-Federally qualified users; Kobuk Valley National Park and Cape Krusenstern National Monument are only open to hunting by local residents. However, transporter traffic still occurs in Kobuk Valley National Park and Cape Krusenstern National Monument, and some of the traffic in Noatak National Preserve is likely not hunting related.

Table 14. Transporter and guide activity on National Park Service Lands in Unit 23. (WEAR 2017, 2018, 2019, 2020). CUA = Controlled Use Area.

Year	Number of Visitors via CUA/ Concessionaires	Number of Visitor Days via CUA/ Concessionaires	Number of Caribou harvested via Transporters and Guides	Number of Moose harvested via Transporters and Guides	Number of Air Taxi/ Transport Flights
Noatak National Preserve (NOAT)					
2020	456	3,324	366	1	361
2019	543	3,079	165	6	245
2018	319	1,724	66	2	119
2017	232	223	--	--	--
Kobuk Valley National Park (KOVA)					
2020	53	124	0	0	23
2019	496	946	0	0	144
2018	205	415	0	0	67
2017	212	73	0	0	--
Cape Krusenstern National Monument (CAKR)					
2020	11	11	0	0	5
2019	79	173	0	0	25
2018	73	120	0	0	25
2017	15	4	0	0	--
Western Arctic Parklands (NOAT, KOVA, and CAKR) TOTAL					
2020	520	11	366	1	389

Year	Number of Visitors via CUA/ Concessionaires	Number of Visitor Days via CUA/ Concessionaires	Number of Caribou harvested via Transporters and Guides	Number of Moose harvested via Transporters and Guides	Number of Air Taxi/ Transport Flights
2019	1,118	4,198	165	6	414
2018	597	2259	66	2	211
2017	459	300	---	--	--

Cultural Knowledge and Traditional Practices

The present-day human population in Unit 23 includes 11 regional Iñupiaq nations that were intact in the mid-19th century (Burch 1998). The estimated population of the Northwest Arctic Borough was 7,523 in 2019 (ADLWD 2019). Prior to 1840, the Iñupiat of the North Slope region, including what is now Unit 26A, were loosely organized in six groups or nations of small kin-based settlements (Burch 1980). These nations became less distinct by 1900 but communities still use the territories that preceded modern villages.

Caribou

Caribou have been a primary resource for the Iñupiat of the Northwest Arctic Region for thousands of years; caribou bones dating from 8,000 to 10,000 years ago have been excavated from archeological sites on the Kobuk River (Anderson 1968, 1988). Caribou were traditionally harvested any month of the year they were available in the Northwest Arctic Region. Hunt timing changed—and continues to change—from year to year according to the availability of caribou and their migration paths (Burch 2012; ADF&G 1991). Iñupiaq hunting values are based on the belief that hunter behavior can prevent a successful harvest and/or alter the caribou migration (Anderson 1998). Caribou continue to dominate the subsistence harvest in most communities in the region (Braem et al. 2015, Braem et al. 2017). In household harvest surveys conducted between 1964 and 2017, caribou were often the most harvested species, more than any other wild resource, in pounds of edible weight. Based on these surveys, the per capita harvest of caribou has been as high as 430 pounds per year in communities in Unit 23 (ADF&G 2021b; **Table 15**).

The objective of the fall hunt has historically been to acquire large quantities of high quality meat to freeze for winter (Burch 1994). Ideally, caribou harvesting occurs when the weather is cool enough to prevent spoilage of meat, but before freeze-up. Hunters search for caribou and attempt to intercept them at known river crossings, making the Kobuk and Noatak Rivers central to traditional hunt areas. But because of the variable range of the herd, the critical hunting sites changed each year. Noatak National Preserve was not only the hunting grounds of the people of the Noatak, it was also an alternative hunting site for people living on the Kobuk River, Selawik, and Kotzebue Sound" (Deur et al. 2019). At River crossings,

caribou can be selectively harvested with small caliber rifles. Caribou can be harvested in large numbers, when available, and transported back to villages by boat before freeze-up.

Communities in Unit 23 harvest caribou in the spring, fall, and winter, but fall is the preferred season for harvest. Prior to freeze-up, bulls have traditionally been preferred because they are fatter than cows (Georgette and Loon 1993). After freeze-up, cows are preferred, because bulls are typically skinnier and in rut by then; the meat smells bad and is of poor quality (Braem et al. 2015). For this reason, delayed migrations may result in a shift towards harvesting cows, as communities miss the opportunity to harvest fat bulls prior to freeze- up. Small groups of caribou that have over-wintered may be harvested by hunters in areas that are accessible by snowmachine.

Table 15 highlights variability in the number of caribou harvested annually by each community over time, which tends to correspond with local availability.

Table 15. Subsistence survey data showing four measures of use of caribou by Unit 23 communities between 1986 and 2017. (ADF&G 2015, 2021b; Mikow and Kostick 2016).

Community	Data year	Est Caribou Harvested	Number of Caribou per Capita	Pounds of Caribou per Capita	Percent of overall subsistence Harvest (when known)
Ambler	2012	685	2.54	330	55%
	2009	456	1.75	260	--
	2003	325	1.12	176	--
Buckland	2016	637	1.21	179	--
	2009	561	1.3	176	--
	2003	637	1.56	212	38%
Deering	2017	342	2.22	342	--
	2013	294	2.29	430	65%
	2007-2008	182	1.37	161	--
	1994	142	0.96	131	19%
Kiana	2009	440	1.18	149	--
	2006	306	0.77	108.5	31%
	1999	488	1.23	174	--
Kivalina	2010-2011	86	0.23	32	--
	2007	268	0.67	85	14%
	1992	351	0.49	138	18%
	1983	564	0.78	283.9	30%
	1982	346	0.48	179	23%
Kobuk	2012	119	0.84	98	32%
	2009	210	1.72	194	--
	2004-2005	134	1.06	148	--

Community	Data year	Est Caribou Harvested	Number of Caribou per Capita	Pounds of Caribou per Capita	Percent of overall subsistence Harvest (when known)
Kotzebue	2014	1286	0.43	59	29%
	2013	1,680	0.55	75	--
	2012	1803	0.59	78	--
	1986	1917	0.71	97	24%
Noatak	2016	337	0.59	80	--
	2010	66	0.12	16	--
	2007	441	0.9	114	31%
	2002	410	0.9	120	--
	1999	683	1.61	224	--
	1994	615	1.62	220	48%
Noorvik	2017	250	0.48	65	--
	2012	851	1.36	198	33%
	2008	767	1.19	173	--
	2002	988	1.46	181	--
Point Hope	2014	185	0.25	34	8%
	1994	355	0.5	67	23%
Selawik	2011	683	0.79	109	20%
	2006	934	1.11	165	--
	1999	1289	1.68	249	--
Shungnak	2012	396	1.47	196	53%
	2008	416	1.53	218	--
	2002	403	1.62	220	36%
	1998	561	2.17	312	--

Table 16 compares percentages of residents attempting to harvest caribou versus those succeeding in harvesting caribou in Unit 23 communities. In practice, attempted harvest depends on the presence of caribou in traditional harvest areas. It is worth noting that the percentage of individuals attempting to harvest caribou in any year may adjust to perceived abundance or availability, so the percentage attempting cannot be taken as a simple proxy of interest or need. However, the disparity between the percentage attempting to harvest and those harvesting can give us some limited information about whether people are getting as many caribou as they would like to meet their harvest goals; sharing redistributes caribou through the community in order to help meet need, and "percent receiving" is also included in **Table 16**.

Table 16. Households' attempted harvest, harvest, and sharing of caribou in Unit 23 between 1986 and 2017. (ADF&G 2021b).

Community	Year	Percent Attempting to Harvest Caribou	Percent Harvesting Caribou	Percent Receiving
Kotzebue	2014	39%	29%	72%
	2013	43%	34%	71%
	2012	44%	39%	60%
	1991	70%	63%	62%
	1986	50%	45%	58%
Selawik	2011	70%	54%	80%
	2006	65%	63%	--
	1999	61%	61%	84%
Kivalina	2010	66%	29%	73%
	2007	64%	64%	69%
	1992	77%	74%	67%
Noatak	2016	70%	51%	84%
	2010	20%	20%	45%
	2007	73%	66%	88%
	2002	76%	71%	64%
	1999	74%	72%	62%
	1994	84%	84%	50%
Lower Kobuk River Communities				
Noorvik	2017	59%	40%	40%
	2012	60%	60%	47%
	2008	70%	70%	37%
	2002	72%	71%	60%
Kiana	2009	83%	80%	60%
	2006	62%	57%	--
	1999	68%	65%	75%
Upper Kobuk River Communities				
Ambler	2012	70%	62%	60%
	2009	76%	74%	50%
	2003	74%	70%	50%
Shungnak	2012	52%	48%	74%
	2008	73%	68%	74%
	1998	74%	72%	35%

The most recent surveys conducted for communities in Unit 23 were conducted in 2017 (Deering, Noorvik), 2016 (Buckland), 2014 (Kotzebue), and 2012 (Ambler, Kobuk, Shungnak), and Kiana (2009). Therefore, harvest data from comprehensive surveys are not sufficiently up-to-date to provide accurate

information on the full impact of delayed caribou migration; new comprehensive subsistence surveys and key informant interviews are needed, particularly for Kiana, Ambler, Kobuk, Shungnak, and Kotzebue. For years in which subsistence surveys were conducted, the greatest difference between the percentage of residents attempting to harvest caribou and actually harvesting caribou occurred in Noorvik in 2017, Kotzebue in 2014, Ambler in 2012, Selawik in 2011, and Kivalina in 2010; for all five of these communities, the year with the greatest disparity was also the most recent year documented in subsistence surveys, supporting the fact that people have been having more difficulty harvesting caribou in these communities within the last decade.

User Conflict and Delayed Caribou Migration

While residents of Unit 23 rely on caribou for the majority of their subsistence harvest, non-locals are attracted to the region because of its extensive public lands and abundant wildlife. Previous discussions regarding the impacts of non-local users on the continuation of subsistence hunting for caribou in the Northwest Arctic and North Slope regions have considered the issue in the context of user conflict, defined as "persons competing for consumptive or non-consumptive uses of a finite resource" (Braem et al. 2015).

User conflicts between local and nonlocal hunters have been well documented in the Noatak National Preserve, the Squirrel River area, and along the upper Kobuk River (Georgette and Loon 1988, Jacobson 2008, Harrington and Fix 2009 *in* Fix and Ackerman 2015, Halas 2015, NWARAC 2015a, Braem et al. 2015), even during times of high caribou abundance. Since 2017, a targeted closure to non-Federally qualified users (Unit 23, within a 10 mile wide corridor (5 miles either side) along the Noatak River from the western boundary of Noatak National Preserve upstream to the confluence with the Cutler River; within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively; and within the Squirrel River drainage) has addressed some of these areas of localized high conflict. While there have been individual reports of user conflict throughout the range of the herd, other public lands such as Bering Land Bridge National Preserve, Selawik NWR, and GAAR do not have the same traditional knowledge-based record of caribou disruption. Braem at el. note that "The roots of [this] conflict are varied, but they involve displacement of local hunters from traditional hunting sites, hunt disruption (largely by aircraft traffic), and differences in hunting practices and culture" (2015:177).

The local practice of letting the first caribou go by, or not harvesting the leaders, is one of the most widely held and commonly repeated traditional "laws" to this day. For example, in *Uqausriptigun: In our own words*, a Selawik Refuge publication based on 2003 interviews, elder Ralph Ramoth Sr. states "you must let the first caribou go by. Let the first bunch go by and the rest of them will follow…For example, if the caribou start coming down those hills right there, and if I go out and hunt them right now, I could re-route them away." The widely held opinion that this traditional law is being broken by non-local hunters, and the attribution of the delayed migration to this cause, is key in this issue. Local subsistence users take umbrage with the location and timing of the non-local harvest in particular, rather than the number of animals taken.

Past management has focused on addressing short-term interruptions to caribou movement and displacement of local hunters in high conflict harvest and air travel areas; local complaints that the presence of non-local activity may be contributing to large scale delay, diversion, or cessation of the herd's migration on a long-term basis suggests that management actions to date (partial closures and Controlled Use Areas) have not been sufficient to ensure continuation of subsistence.

Concerns over delayed caribou migration—and the potential role of non-local hunting activities in diverting and delaying migration—is well documented through repeated Regional Advisory Council testimony and sharing of local and traditional knowledge (e.g. NWARAC 2015a, 2015b, 2016a, 2015b, 2017a, 2017b, 2018a, 2018b, 2019a, 2019b, 2020a, 2021b, 2021). In areas of high conflict, local hunters have expressed concerns over aircraft and nonlocal hunters disrupting caribou migration by scaring caribou away from river crossings, landing and camping along migration routes, and shooting lead caribou (Halas 2015, Fix and Ackerman 2015, NWARAC 2015a). During key informant interviews conducted by ADF&G Division of Subsistence in Noorvik between 2012 and 2014:

> Several residents expressed concern for specific human actions that could result in changes to caribou migratory patterns: patterns which largely determine if caribou will be accessible or not to Noorvik hunters in any given year. Specific examples included hunters harvesting the first caribou to migrate (which are widely perceived as leading the entire migrating herd, usually in fairly predictable patterns when not disturbed), inexperienced hunters harvesting caribou at river crossings "just when they get in the water, instead of waiting until they are mid-stream" and thereby pushing the caribou herd back on land, and sport hunters or biologists disturbing caribou herds with airplane traffic (Braem at al. 2017:142).

Some studies and local observations of WACH caribou response to aircraft have suggested that animal response is limited in temporal and spatial scale (Fullman et al. 2017) and that many factors contribute to larger scale shifts in migration. Dau (2015) noted that substantial transporter traffic in the Anisak drainage, which is within the Noatak National Preserve, has not diverted migrating WACH caribou. Fullman et al. (2017) studied the effects of environmental features and sport hunting on caribou migration in northwestern Alaska. These authors found that caribou tended to avoid rugged terrain and that the migration of caribou through Noatak NP does not appear to be hindered by sport hunting activity. They indicated that their results do not preclude the possibility of short-term effects (< 8 hours) altering the availability of caribou for individual hunters, and that the lack of observed influence of hunting activity could be related to limitations in the telemetry and sport hunter datasets used in the study (i.e. caribou locations were only recorded every 8 hours, not every sport hunter camp was included, and only landings events from transporter aircraft were considered). However, the issue of cumulative effects of air traffic on caribou migration as well as subsistence access and hunter behavior has not received adequate attention in the literature (Stinchcomb et al. 2019).

Delays in caribou migration are known to have created difficulty for virtually all communities in Unit 23 (Dau 2015, Braem et al. 2015, NWARAC 2020a, 2021). Local WACH harvest has been relatively stable in Unit 23 since the 1990s, but residents of some communities have had to "greatly increase their expenditure of money and effort to maintain these harvest levels" (Dau 2015:14-30). This is due in part to

having to travel farther, more frequently, and for longer durations to find caribou (Halas 2015; Gonzalez et al. 2018), which corresponds with reduced success rate as reported in the most recent comprehensive subsistence surveys (ADF&G 2021b). In addition, regardless of specific timing, variability from year to year places additional uncertainty and stress on communities regarding their food supply, as has occurred in Shungnak on the upper Kobuk River (Braem et al. 2015).

According to a review of grey literature on aircraft-subsistence user conflict, "Specific reports or observations about aircraft activity harassing wildlife, changing caribou (*Rangifer tarandus*) migration routes, and frustrating harvesters have been increasing [in the Alaskan Arctic] since the early 2000s" (Stinchcomb et al. 2019:132). Simultaneously, research on the cumulative impact of changes to soundscapes on both caribou and the behavior of subsistence hunters is growing (Stinchcomb 2017; Stinchcomb et al 2020). Halas (2015) and Stinchcomb et al. (2019) note that even when the question of whether or not migration patterns are affected by aircraft in the long term is put aside, aircraft activity can lead to changes in harvesting behavior. Subsistence hunters avoid areas with air traffic; this displacement in turn prevents continued use of traditional areas and can even accelerate loss of place-based traditional knowledge. The authors also found that avoidance of high air-traffic areas results in longer trips and higher fuel costs for harvesters (Stinchcomb et al. 2019), consistent with testimony from the Northwest Arctic Regional Advisory Council (NWARAC 2020a, 2021).

Concerns about the impact of non-local hunters on caribou migration led to a unit wide closure in 2016 and targeted closure of Federal public lands along the Noatak River, within the northern and southern boundaries of the Eli and Agashashok River drainages, respectively, and within the Squirrel River drainage to non-Federally qualified users beginning in 2017. According to interviews conducted by Gonzalez et al. in Noatak following the closures, "Some residents…felt that the closure of federal lands to non-Federally-qualified users in Unit 23 helped hunters from the community harvest caribou. Others commented that the herd was a great distance from the community and the expenses to reach it limited attempts to harvest" (2018:19). Key informant interviews have not been conducted by ADF&G Division of Subsistence since 2017 in any Unit 23 communities, so additional information about the effects of the partial closure must be gleaned from transcripts of Northwest Arctic Regional Advisory Council meetings.

Other areas previously identified as high conflict in Unit 23 which remain open to non-Federally qualified users include the Upper Kobuk River, although this area is surrounded by State-managed lands, so Federal lands closure would not affect this area. Delayed migrations and arrival at the Kobuk River have been noted since 2000 (Dau 2015). Federal lands occurring within Kobuk Valley National Park, as well as other National Parks and Monuments in the Unit, are already closed to non-Federally qualified users, open only to local resident zone communities. Selawik National Wildlife Refuge, BELA, most BLM lands, the portion of Gates of the Arctic National Preserve within Unit 23, and small areas of the Alaska Maritime National Refuge within the unit remain open to non-Federally qualified users. However, caribou are often no longer present in some of these areas during the fall season, and aircraft restrictions in some of these areas mean that air traffic is limited in some of these remaining open areas. Specifically, in the far Western portion of Noatak National Preserve and in a portion of Selawik National Wildlife Refuge (**Map 5, Table 5**).

User conflict on the North Slope has centered primarily on the caribou migration patterns in the vicinity of Anaktuvuk Pass. A long-held cultural practice in the region requires that lead adult female caribou be allowed to establish migratory paths unhindered by human activity. Dau (2015) suggests that once lead caribou establish migration routes, the caribou behind them will follow regardless of hunting or other disturbances such as aircraft. In response to complaints from Anaktuvuk Pass residents about caribou migration being affected by nonsubsistence hunter activity, ADF&G attempted to document such effects from 1991-93, but none were found (OSM 1995). However, residents of Anaktuvuk Pass stated that the closure of Federal public lands to non-Federally qualified users for caribou hunting in Unit 23 during the 2016/17 regulatory year was perceived as having improved the situation, allowing for the resumption of historical migration patterns and harvest activities (OSM 2017a, 2017b).

The proponents of this request also expressed concern over non-local hunting activity in Unit 26A disrupting and delaying caribou migration through Unit 23. Concerns over the Federal lands closure in Unit 23 also included displacement of non-local caribou hunters into adjacent units, including Unit 26A.

Moose

Moose are a relatively recent addition to both the Northwest Arctic and North Slope regions and have been incorporated into subsistence diets as their ranges have expanded. Archaeological sites in tundra and northern tree-line areas of Alaska demonstrate few moose remains until the mid-20th century, and this is consistent with historical accounts and minor representation in Iñupiat culture (Hall 1973, Coady 1980, Tape et al. 2016).

Shifts in caribou herd migration and size cause variability in their availability to communities, with harvest strategies for other available species, such as moose, often changing accordingly over time (Georgette and Loon 1993). Because moose harvest increases and decreases in response to the availability of other resources such as caribou and marine mammals, data from subsistence surveys need to be understood in the context of flexible subsistence strategies over time. A single year of data may over or under-represent a community's dependence on moose during times when caribou or marine mammals are less available.

Unit 23

In the upper Kobuk River in northwest Alaska, moose did not appear until the 1920s but soon thereafter populated the entirety of the drainage. Moose were present in the tributaries of the upper and middle Noatak River in the 1940s and became more common downriver after 1960. The presence of moose is especially recent in lowland and coastal areas; by the 1980s, moose were present in suitable habitat throughout northwest Alaska (Georgette and Loon 1993).

According to Georgette and Loon (1993), residents of Kotzebue continued to consider moose as secondary to caribou in their importance and desirability as a subsistence food; they were taken to add dietary variety. Residents hunted moose in the fall, but moose were also harvested throughout the winter as needed. The relative size of moose made them more difficult to butcher and pack than caribou, and

hunters often preferred to harvest the species as close as possible to the edge of a river or a lake in proximity to their boat (Georgette and Loon 1993).

In many parts of the Northwest Arctic, shifts in caribou herd migration and size cause variability in their availability to communities, with harvest strategies for other available species, such as moose, often changing accordingly over time (Georgette and Loon 1993). On the North Slope coastal communities, more moose may be harvested in years with poor whale or caribou harvests. Because moose harvest increases and decreases in response to the availability of other resources data from subsistence surveys needs to be understood in the context of flexible subsistence strategies over time. A single year of data may underrepresent a community's dependence on moose during times when caribou or marine mammals are less available. For this same reason, trends in moose availability most likely cannot be reliably deduced based on trends in numbers of moose taken as reported in subsistence surveys or harvest reports.

The average per capita harvest of moose in Kotzebue in 2014, the most recent survey year, was 14.6 pounds, accounting for only 7% of the average household harvest (**Table 17**, ADF&G 2021b). Approximately 22% of Kotzebue households attempted to harvest moose, and 10% of Kotzebue households successfully harvested moose (compared to 29% harvesting caribou) (**Table 18**, ADF&G 2021b). Despite the small percentage of households harvesting moose, sharing of this resource was widespread with approximately 50% of households using it (**Table 17**, ADF&G 2021b,).

The harvest and use of a resource in regional hubs with larger populations may be different than that of a rural village since the former tends to be more heterogeneous in "culture, birthplace, education, employment, and length of residency" (Georgette and Loon 1993: 4). In 2012 (the most recent survey year), the rural northwest arctic community of Ambler harvested approximately 27 pounds of moose per capita, with 19% of households harvesting the resource (compared to 62% harvesting caribou) and 49% of households using the resource (ADF&G 2021b).

Georgette and Loon (1993) suggested that future declines in caribou availability in the region could result in increased reliance on moose to meet the subsistence harvest demands of Kotzebue residents. Given recent declines in the Western Arctic Caribou Herd (Dau 2015), moose may already be becoming a more prominently sought after resource for meeting subsistence needs in the region. **Table 18** compares the percentage of community residents attempting to harvest moose, successfully harvesting moose, and receiving moose from others, according to comprehensive subsistence surveys. There does appear to be a general increase over time in the percentage of community members attempting to harvest moose, except in the upper Kobuk River communities; however, sufficiently recent data is not available to substantiate a trend. An increase in the percentage of community members attempting to harvest moose could reflect several different variables, such as moose availability and the need to offset lack of caribou. **Table 17** tracks trends in the percentage of community residents using moose, pounds per capita of moose used, and the percentage of the overall subsistence harvest comprised by moose, according to comprehensive subsistence surveys. A clear trend does not emerge from these data on use of moose use by residents of Unit 23, but a pattern may emerge when updated subsistence survey data becomes available. Declining moose populations may temper the availability of this resource to offset lower availability of caribou.

Table 17. Subsistence survey data showing three measures of use of moose by Unit 23 communities between 1986 and 2017 (ADF&G 2021b).

Community	Year	Percent Using Moose	Pounds of Moose per Capita	Percent of Total Harvest (when known)
Kotzebue	2014	52%	14.6	7%
	2013	43%	13	15%
	2012	37%	12.5	14%
	1991	62%	34.6	--
	1986	42%	13	--
Selawik	2011	75%	24.8	5%
	2006	Unknown	32.4	--
	1999	55%	48.5	--
Kivalina	2010	49%	18.8	37%
	2007	31%	4.8	--
	1992	48%	26.4	--
Noatak	2016	24%	8.4	9%
	2010	27%	8.6	32%
	2007	46%	10.8	3%
	2002	22%	4	--
	1999	18%	5.7	--
	1994	12%	3.5	--
Lower Kobuk River communities				
Noorvik	2017	54%	38	36%
	2012	66%	22	4%
	2008	37%	22	11%
	2002	68%	41	--
Kiana	2006	40%	22.5	--
	1999	30%	10.1	--
Upper Kobuk River communities				
Ambler	2012	49%	27.3	5%
	2003	52%	23.2	--
Shungnak	2012	52%	8.8	--
	2008	55%	23.5	--
	2002	73%	22.8	--
	1998	50%	45.6	--
Kobuk	2012	50%	11.8	4%
	2004	64%	30.6	16%

Table 18. Attempted harvest, harvest, and sharing of moose in Unit 23 between 1986 and 2017 (ADF&G 2021b).

Community	Year	Percent Attempting to Harvest Moose	Percent Harvesting Moose	Percent Receiving Moose
Kotzebue	2014	22%	10%	46%
	2013	15%	7%	36%
	2012	18%	9%	30%
	1991	33%	27%	45%
	1986	27%	8%	34%
Selawik	2011	50%	23%	65%
	2006	25%	24%	--
	1999	33%	41%	38%
Kivalina	2010	35%	13%	43%
	2007	14%	10%	29%
	1992	30%	23%	31%
Noatak	2016	15%	6%	9%
	2010	12%	5%	23%
	2007	16%	9%	46%
	2002	8%	3%	20%
	1999	4%	3%	14%
	1994	7%	3%	8%
Lower Kobuk River communities				
Noorvik	2017	38%	23%	45%
	2012	23%	17%	52%
	2008	18%	15%	23%
	2002	44%	28%	54%
Kiana	2006	21%	14%	--
	1999	13%	8%	22%
Upper Kobuk River communities				
Ambler	2012	28%	19%	40%
	2003	30%	15%	45%
Shungnak	2012	11%	7%	48%
	2008	27%	23%	34%
	1998	32%	30%	20%
Kobuk	2012	30%	10%	43%
	2004	70%	22%	61%

Alternatives Considered

An alternative to closing Federal public lands in all of Units 23 and 26A to the harvest of caribou by non-Federally qualified users Aug. 1 to Sep. 30 is to expand the current targeted closure to the rest of Unit 23 only, or to an expanded portion of Unit 23, while stopping short of closing Federal public lands in both Units. Key Federal public lands in Unit 23 which currently remain open and may be candidates for partial closures include additional river corridors within Noatak National Preserve or all of Noatak National Preserve, and BLM lands in the portion of the unit north of the Kobuk River. Subsequently, additional Federal public lands in Unit 23 and portions of the National Petroleum Reserve in Unit 26A could be closed if the initial stepped closure is not sufficient to ensure continuation of subsistence hunting for caribou within Unit 23. This alternative was considered and rejected because there is not yet adequate evidence that closing Federal public lands would definitively result in caribou migrating to the Kobuk River communities earlier in the fall. Additionally, this alternative runs the risk of concentrating non-local users on State land around some communities.

Effects of the Proposal

According to Section 815(3) of the Alaska National Interest Lands Conservation Act (ANILCA), public lands may be temporarily closed to the harvest of a specified wildlife population for nonsubsistence uses if "necessary for the conservation of healthy populations of fish and wildlife, for the reasons set forth in section 816, to continue subsistence uses of such populations, or pursuant to other applicable law." The Code of Federal Regulations 50 CFR 100.19(b)(1) further specifies that for temporary special actions, such closures should not be "an unnecessary restriction on nonsubsistence users" or "be detrimental to the long-term subsistence use of fish or wildlife resources."

Caribou in Units 23 and 26A

If this special action request is approved, Federal public lands in Unit 23 and Unit 26A will be closed to the harvest of caribou by non-Federally qualified users from Aug. 1-Sep. 30, 2021. Only Federally qualified subsistence users—those with a customary and traditional use determination for caribou in Units 23 and Unit 26A—would be able to harvest caribou on Federal public lands in these units.

This may increase hunting pressure on State or private lands. State lands comprise 19% of Unit 23 and also encompass many of the villages in the unit (**Map 1)**. If this proposal is adopted, user conflicts and concern about the effects of non-local hunters on caribou migration may increase on State lands, particularly along the upper Kobuk River. If only Unit 23 is closed to non-Federally qualified users, these users may be displaced onto Federal public lands in adjacent units (i.e. Unit 26A), which could impact hunting and harvest in those units.

If this special action request is approved, those with a history of residency and family connection in Unit 23 who are now residing in nonrural areas would not be able to harvest caribou on Federal public lands in Units 23 and 26A Aug. 1-Sep. 30, 2021, as they are not Federally qualified subsistence users. Non-Federally qualified users who are Native corporation shareholders would still be able to hunt on Native corporation lands under State regulations.

While the number of people and planes on Federal public lands may decrease substantially, user conflicts would not be fully eliminated since other users (i.e. hunters seeking species other than caribou, photographers, recreational boaters, private planes) would still be able to fly over and access Federal public lands. Additionally, non-Federally qualified users would still be able to access and harvest caribou on gravel bars below the mean high water mark within Federal public lands as these areas are considered State land. Reports from law enforcement and nonlocal hunters indicate caribou are commonly harvested on such gravel bars, which may suggest limited impacts of the closure. As the rationale for this request focuses on the effect of non-local aircraft activity on caribou migration, closure of Federal public lands could represent an unnecessary restriction on the approximately 28% of non-Federally qualified users who do not access the WACH by plane (Dau 2015).

Attempts to mitigate user conflicts in Unit 23 have already been implemented by the NPS (delayed entry zone in Noatak NP), ADF&G (Noatak Controlled Use Area), Selawik NWR (closure of certain areas to commercial use), and the Board (partial Federal lands closure in Unit 23). Controlled Use Area dates have been extended to accommodate the delayed caribou migration under both State and Federal regulations: in 2009 the Noatak Controlled Use Area dates were changed to Aug. 15-Sep. 30, and in 2020 the Noatak National Preserve Delayed Entry Area date was changed to Sep. 22.

However, more can still be done by individual Federal agencies as well as the State to further address user conflict (e.g. establishing new Controlled Use Areas in zones where caribou migration may be deflected, modifying the dates or extent of the NPS delayed entry zone, further restricting the number and activities of permitted transporters and guides, and additional education and outreach, etc.). A non-resident caribou hunt remains open in Units 23 and 26A; the State can be encouraged to improve education of non-resident as well as non-local resident hunters about Traditional Ecological Knowledge regarding caribou behavior, and cultural norms surrounding human-caribou interactions. The National Park Service could stop allowing transporters to bring hunters into Noatak National Preserve. However, there is not currently adequate evidence that ceasing transport of non-local hunters into Noatak National Preserve would result in caribou resuming their previous migration pattern. Additionally, this alternative runs the risk of concentrating non-local users on State land around some communities.

Because there are already several Controlled Use Areas in place for Units 23 and 26A, closure to non-Federally qualified users may not reduce air traffic in areas already covered by Controlled Use Areas targeting hunter activity associated with the same species. It could, however, reduce other forms of non-local hunter presence and associated activity and noise on areas already covered by Controlled Use Areas, as well as all Federal public lands. This proposal would also likely reduce air traffic over areas and during times not currently covered by Controlled Use Areas.

Approving this request may result in increased subsistence opportunity for Federally qualified subsistence users. Reducing non-local hunting, as well as air traffic and noise associated with hunting, may remove one factor possibly contributing to delay, diversion, or cessation of the caribou migration into traditional harvest areas. The role of these activities on caribou migration is currently poorly understood, particularly in combination with the impact of climate change on caribou migration and habitat use. However, Fullman et al. (2017) suggests that while aircraft can affect caribou behavior in the short-term (< 8 hours),

which can impact hunting success, aircraft are unlikely to have long-term impacts on caribou migration through the Noatak NP. The WACH have migrated through Unit 23 for thousands of years, although specific migration routes change annually (**Figure 1**). The long-held Iñupiaq tradition of letting lead caribou pass unmolested in order to establish migration routes also suggests that once migration routes are established, other caribou will follow regardless of hunting or other disturbances such as airplanes (Dau 2015).

Some discussion regarding this closure has focused on current herd numbers and classification under State and Western Arctic Caribou Herd Working Group management levels; the herd is currently being managed at the "conservative declining" level (**Table 6**), and under these frameworks, closure to non-Federally qualified subsistence users is not recommended until the herd is at the "preservative" management level, as indicated by population estimates and bull:cow rations. However, the rationale for the request to close to non-Federally qualified users is not the current population metrics of the herd, but the continuation of subsistence uses. Specifically, the availability of the herd to Federally qualified subsistence users, and how the activity, presence, noise, and caribou-human interactions associated with non-local hunters may be affecting that availability. Traditional Ecological Knowledge indicates that interacting with caribou in particular ways, such as flying low, not letting the leader pass, or simply creating excessive noise can hinder their movement, and that such effects may not be purely transitory, or could be cumulative in nature. Therefore, it is currently unclear whether closing Federal public lands to non-Federally qualified subsistence users in either Unit 23 or Unit 26A, or both, could contribute to restoration of historic migration routes and phenology. Fullman et al (2017) suggests that while individual caribou movements can be affected by human activity, it likely does not affect long-term caribou migration through Noatak NP. However, Local and Traditional Ecological knowledge holders suggest that repeated disruption to migratory pathways may approach a tipping point, beyond which herd memory of these routes can be lost (Baltensperger and Joly 2019; Nicholson et al. 2016). Thus, acting to protect migratory pathways may be time critical.

The entirety of Unit 23 was closed to caribou hunting by non-Federally qualified subsistence users during the 2016/17 regulatory year. Testimony from the Northwest Arctic Subsistence Regional Advisory Council in the fall of 2016, following implementation of this closure, indicated that the action had a positive effect on the availability of caribou for local communities. Council members also stated that the closure allowed communities to carry out subsistence practices without tension from conflicts with non-local hunters (NWARAC 2016a).

Since 2017, there has instead been a geographically targeted closure for caribou hunting by non-Federally qualified subsistence users along the Noatak, Eli, Agashashok, and Squirrel Rivers. This targeted closure focused on mitigating user conflicts around Noatak and resulted from extensive analysis and conversations with the Northwest Arctic Council representative from Noatak. Testimony from the Northwest Arctic Council indicates that this closure has been successful in mitigating a high-conflict area and allowing residents of Noatak to harvest caribou (NWARAC 2017a). While the current closure reduced user conflicts around Noatak, including limiting on-the-ground interactions between user groups, it does not address caribou migration and availability throughout Unit 23, the focus of the current request.

The primary reason the Norwest Arctic Council submitted this special action was because of delayed caribou migration, which has prevented many subsistence users from harvesting caribou during the fall. At their fall 2020 meeting, Council members stated that only Noatak had harvested caribou. Since 2016, according to GPS-collared caribou, crossing of the Kobuk and Selawik Rivers has been delayed, while crossing of the Noatak River has remained relatively consistent (Joly and Cameron 2020, **Figure 1, Table 7**). This suggests that closing areas south of the Noatak River and north of the Kobuk River may have the greatest impact on caribou migration phenology. However, western portions of Noatak National Preserve, BLM lands within the Squirrel River drainage, Kobuk Valley NP, CAKR, and GAAR are all already closed to non-Federally qualified users. Additionally, Council members from Ambler have expressed concern in the past over closure of all Federal public lands due to the potential to concentrate non-local hunters around the Upper Kobuk villages, which are surrounded by State lands. The closure of Selawik NWR, Bering Land Bridge NP, and the BLM lands south of the Kobuk River would not have any effect on encouraging migrating caribou to cross the Kobuk River earlier in the fall.

Moose 23

If this request is approved, Federal public lands in Unit 23 will be closed to the harvest of moose by non-Federally qualified users from August 1-September 30, 2021. Only Federally qualified subsistence users—those with a customary and traditional use determination for moose in Unit 23—would be able to harvest moose on Federal public lands in Unit 23. This request seeks to reduce moose harvest by non-Federally qualified users to protect a declining population that is important to Federally qualified subsistence users.

There are substantial conservation concerns that threaten the viability of the population. Surveys indicate substantial declines in almost every survey area, and population estimates are below State objectives. Additionally, the harvestable surplus has likely been exceeded. Regulatory changes made to reduce moose harvest since 2017 under State regulations include ending the hunt for non-residents of Alaska and elimination of the antlerless moose season. Regulatory changes made under Federal regulations since 2018 include combining the Noatak River drainage and remainder hunt areas, shortening seasons, closure of the cow moose season and changing the Unit 23 harvest limit to one antlered bull. However, moose populations have continued to decline. Federally qualified subsistence users have taken steps to limit their own harvest, and the Northwest Arctic Council voted to support these restrictions. Additionally Federal public lands were closed to moose harvest by non-Federally qualified users in December 2018 via special action due to conservation and population viability concerns.

Local use and dependence on moose may increase as availability of caribou, the most important subsistence resource for residents of Unit 23, becomes less predictable due to changes in migration routes and timing. However, moose are not a traditionally preferred food in the region. Approval of this request could aid in the recovery of the Unit 23 moose population by reducing moose harvest by non-Federally qualified users and offsetting a potential increase in use of moose by Federally qualified subsistence users on Federal public lands.

If this special action request is approved, those with a history of residency and family connection in Unit 23 who are now residing outside the region would not be able to harvest moose on Federal public lands in Unit 23 Aug. 1-Sep. 30, 2021, as they are not Federally qualified subsistence users. Non-Federally qualified users who are Native corporation shareholders would still be able to hunt on Native corporation lands under State regulations.

Hunting of moose, by non-Federally qualified users, would still be permitted on State lands in the unit as well as below the mean high water line on many waterways within Federal lands (**Map 1)**. Many State lands are located adjacent to Native lands, which could cause more non-Federally qualified users to harvest moose near these areas; this concern has been expressed by communities within Unit 23 in discussion about potential closures to non-Federally qualified users. Non-Federally qualified users hunting moose may still traverse Federal public lands to access State lands if this Special Action Request is approved. If all non-Federally qualified users harvest moose on State lands, this could lead to overcrowding, increasing user conflicts. The RM880 permit already requires those hunting moose in Unit 23 under State regulations to obtain their permit in the unit in July, requiring an extra trip for non-local hunters. However, there is still an option for hunting by harvest ticket for a bull with a more limited season and additional antler restrictions (50-inch antlers or antlers with 4 or more brow tines on at least one side), which does not require that hunters obtain a permit in the unit.

Moose 26A

If this request is approved, Federal public lands in Unit 26A will be closed to the harvest of moose by non-Federally qualified users from Aug. 1-Sept. 30, 2021. Only Federally qualified subsistence users—those with a customary and traditional use determination for moose in Unit 26—would be able to harvest moose on Federal public lands in Unit 26A. Hunting of moose, by non-Federally qualified users, would still be permitted on State lands in the unit as well as below the mean high water line on many waterways within Federal lands. Currently, the State's non-resident season is closed and harvest by non-local residents is Unit 26A is very low, at an average of less than one per year (**Table 13)**. Therefore, approving this request would probably not contribute to conserving the moose population.

If this special action request is approved, those with a history of residency and family connection in Unit 26A who are now residing outside of the region would not be able to harvest moose on Federal public lands in Unit 26A Aug. 1-Sep. 30, 2021, as they are not Federally qualified subsistence users. Non-Federally qualified users who are Native corporation shareholders would still be able to hunt on Native corporation lands under State regulations.

Closing to non-Federally qualified users would alleviate concerns on the part of Federally qualified subsistence users about the impact of non-local moose hunters on the moose population, as well as possible effects of non-local hunters—including those seeking out moose—on the behavior of migrating caribou. However, the Unit 26A Controlled Use Area is already in effect in this subunit under State regulations. The Unit 26A Controlled Use Area is closed to the use of aircraft for hunting moose from Jul. 1-Sep. 30 (covering the proposed closure of Aug.1-Sep. 30), as well as Jan. 1-Mar. 31. This Controlled Use Area does not apply to use of aircraft between publicly owned airports for hunting moose. The

additional effect of this closure would be to stop foot and boat traffic associated with the single moose harvested on average per year by non-local users in Unit 26A.

OSM CONCLUSION

Support WSA21-01 **with modification** to only close moose hunting to non-Federally qualified users in Unit 23 from Aug. 1-Sep. 30, 2021.

Justification

Caribou in Units 23 and Unit 26A

While aircraft and non-local hunting activity can affect caribou behavior in the short-term, they have not been shown to have long-term impacts on caribou migration through the Noatak NP. While the factors affecting caribou migration are poorly understood and warrant additional research, the closure of Federal public lands is not currently warranted.

The Board has already closed areas of historically high user conflicts around Noatak in Unit 23 to caribou hunting by non-Federally qualified users, while national parks (CAKR, GAAR, KOVA) in the unit are always closed. Testimony from subsistence users and GPS-collared caribou data indicate delays in caribou crossing the Kobuk River, but not the Noatak River. Therefore, closure of the Federal lands south of the Kobuk River, including Selawik NWR, BELA, and some BLM lands would not affect the timing of caribou migrating between the Noatak and Kobuk Rivers, while most Federal lands north of the Kobuk and south of the Noatak River in Unit 23 (other than the eastern portion of Noatak National Preserve) are already closed. Additionally, closure of lands in Unit 26A are not expected to prevent delays in fall migration south of the Noatak River as these lands are located north of the Noatak River.

If Units 23 and 26A are closed to the harvest of caribou by non-Federally qualified subsistence users for August and September of 2021, user conflicts and disruption of caribou movement may increase on State lands, particularly along the upper Kobuk River. Additionally, non-Federally qualified users would still be able to access and harvest caribou on gravel bars below the mean high water mark within Federal public lands as these areas are considered State land. A closure based on the disruption of aircraft traffic on migrating caribou would also pose an unnecessary restriction on non-Federally qualified users accessing these units by means other than airplanes. Aircraft traffic from other users such as recreational boaters would still occur.

Moose in Unit 23

This request seeks to reduce moose harvest during the peak of the hunting season by non-Federally qualified users to protect a declining population that is important to Federally qualified subsistence users. There are substantial conservation concerns that threaten the viability of the population. Surveys indicate substantial declines in almost every survey area, and population estimates are below State objectives. Additionally, the harvestable surplus has likely been exceeded. Regulatory changes have been made to reduce moose harvest and promote population recovery in Unit 23 under both Federal and State regulations since 2017. However, moose populations have continued to decline. Approval of this request

could aid in the recovery of the Unit 23 moose population by reducing moose harvest by non-Federally qualified users.

Moose in Unit 26A

Currently, harvest by non-local residents is Unit 26A is very low, at an average of one per year. Therefore, approval of this request would probably not contribute to conserving the moose population. The Unit 26A Controlled Use Area is already closed to the use of aircraft for hunting moose from July 1 to September 30 as well as January 1 to March 31.

LITERATURE CITED

ADF&G. 1988. Regulatory proposals submitted to the Alaska Board of Game, March 1988. Division of Boards, Juneau, AK.

ADF&G. 1991. Customary and traditional worksheets: Arctic Region: North Slope area: GMU's 23, 24, 26. Division of Subsistence, Juneau, AK.

ADF&G. 2009. Summary of Alaska Board of Game Arctic/Western region meeting. Nome, AK. November 13-16, 2009. http://www.adfg.alaska.gov/index.cfm?adfg=gameboard.meetinginfo&date=11-13-2009&meeting=arctic. Retrieved: May 31, 2021.

ADF&G. 2015. RC069. Estimated total caribou harvest by community, per capita caribou harvest by community, and data sources, GMUs 21, 22, 23, 24 and 26: Western Arctic caribou herd and Teshekpuk caribou herd. Alaska Board of Game Meeting Information. Southcentral Region, March 13-18, 2015. http://www.adfg.alaska.gov/static/regulations/regprocess/gameboard/pdfs/2014-2015/Southcentral_03_13_15/rcs/rc069_ADFG_Caribou_harvest_data.pdf. Retrieved: February 22, 2016.

ADF&G. 2016. Community subsistence information system (CSIS). http://www.adfg.alaska.gov/sb/CSIS/. Retrieved: March 16, 2021.

ADF&G. 2017a. Board of Game Arctic and Western Region Meeting Materials. January 6-9, 2017. Bethel, AK.

ADF&G. 2017b. 2016-2017 draw supplement. https://www.adfg.alaska.gov/static/license/huntlicense/pdfs/2016-2017_draw_supplement.pdf. Retrieved: February 1, 2017.

ADF&G 2017c. Region V caribou overview. Alaska Board of Game. Arctic and western region. Jan. 6-9, 2017. Bethel, AK. http://www.adfg.alaska.gov/static/regulations/regprocess/gameboard/pdfs/2016-2017/aw/Tab_1.3_RegionV_Caribou_Overview.pdf. Accessed January 20, 2017.

ADF&G. 2021a. General harvest reports. https://secure.wildlife.alaska.gov/index.cfm?fuseaction=harvestreports.main. Retrieved: April 7, 2021.

ADF&G. 2021b. CSIS: Community subsistence information system. http://www.adfg.alaska.gov/sb/CSIS/. Retrieved: April 8, 2021.

ADLWD (Alaska Department of Labor and Workforce Development). 2019. Alaska population overview: 2019 estimates. https://live.laborstats.alaska.gov/pop/estimates/pub/19popover.pdf. Retrieved: March 16, 2020.

Alaska Board of Game. 2017. Audio of the Alaska Board of Game Meeting proceedings. January 9, 2017. Bethel, AK. ADF&G. Juneau, AK.

Anderson, D. D. 1968. A stone age campsite at the gateway to America. Scientific American 218(6): 24–33.

Anderson, D. D. 1988. Onion Portage: the archaeology of a stratified site from the Kobuk River, Northwest Alaska. Anthropological papers of the University of Alaska. 22 (1-2): 1-163.

Anderson, D.D. 1998. Kuuvanmiut subsistence: traditional Eskimo life in the latter twentieth century. National Park Service, Department of the Interior.

Atkinson, H. 2021. Anthropologist: Personal communication: email. Western Artic National Parklands. National Park Service. Kotzebue, AK.

Baltensperger, A.P. and K. Joly. 2019. Using seasonal landscape models to predict space use and migratory patterns of an arctic ungulate. Movement ecology 7(1): 1-19.

Betchkal, D. 2015. Acoustic monitoring report, Noatak National Preserve – 2013 and 2014. National Park Service. https://science.nature.nps.gov/im/units/cakn/vitalsign.cfm?vsid=71. Retrieved: February 1, 2017.

Boertje, R. D., M. A. Keech, D. D. Young, K. A. Kellie, and T. C. Seaton. 2009. Managing for elevated yield of moose in Interior Alaska. Journal of Wildlife Management 73(3): 314-327.

Braem, N.M, E.H Mikow, S.J Wilson, and M.L. Kostick. 2015. Wild food harvests in 3 Upper Kobuk River communities: Ambler, Shungnak, and Kobuk. ADF&G, Div. of Subsistence Tech. Paper No. 402. Fairbanks, AK

Braem, N. M, E.H Mikow, M.L. Kostick; contributors: A. Brenner, A.R. Godduhn, and B. Retherford. 2017. Chukchi Sea and Norton Sound observation network: harvest and use of wild resources in 9 communities in arctic Alaska, 2012–2014. ADF&G, Div. of Subsistence Tech. Paper No. 403. Fairbanks, AK.

Burch, Jr., E.S. 1980. Traditional Eskimo societies in northwest Alaska. Senri Ethnological Studies 4:253-304.

Burch, Jr., E. S. 1994. The cultural and natural heritage of Northwest Alaska. Volume V. Nana Museum of the Arctic, Kotzebue, Alaska and U.S. National Park Service, Alaska Region. Anchorage, AK.

Burch, Jr., E.S. 1998. The Inupiaq Eskimo nations of Northwest Alaska. University of Alaska Press. Fairbanks, AK.

Burch, Jr., E. S. 2012. Caribou herds of Northwest Alaska 1850-2000. Edited by Krupnik Igor and Jim Dau. University of Alaska Press. Fairbanks, AK.

Caribou Trails. 2014. News from the Western Arctic Caribou Herd Working Group. Western Arctic Caribou Herd Working Group, Nome, AK. Issue 14. http://westernarcticcaribou.org/wp-content/uploads/2014/07/CT2014_FINAL_lowres.pdf. Retrieved: June 23, 2015.

Carroll, G. 2000. Moose survey-inventory management report. Pages 523-637 *in* M.V. Hicks, editor. Report of survey–inventory activities, 1997-1999. ADF&G. Federal Aid in Wildlife Restoration. Progress Report. Grants W-27-1, W-27-2. Juneau, AK.

Carroll, G. 2010. Unit 26A moose management report. Pages 643-665 *in* P. Harper, editor. Moose management report of survey and inventory activities 1 July 2007 –30 June 2009. ADF&G. Juneau, AK.

Carroll, G. 2013. Wildlife Biologist. Personal communication: email. ADF&G. Anchorage, AK.

Coady J. 1980. History of moose in northern Alaska and adjacent regions. Canadian Field Naturalist 94: 61–68.

Daggett, C. 2021. North Slope Area Biologist. Personal communication: email. ADF&G. Utqiagvik, AK.

Dau, J. 2011. Units 21D, 22A, 22B, 22C, 22D, 22E, 23, 24, and 26A caribou management report. Pages 187-250 *in* P. Harper, editor. Caribou management report of survey and inventory activities July 1, 2008–30 June 30, 2010. ADF&G. Juneau, AK.

Dau, J. 2013. Units 21D, 22A, 22B, 22C, 22D, 22E, 23, 24, and 26A caribou management report. Pages 201-280 *in* P. Harper, editor. Caribou management report of survey and inventory activities July 1, 2010–30 June 30, 2012. ADF&G. Juneau, AK.

Dau, J. 2014. Wildlife Biologist. Western Arctic Caribou herd presentation. Western Arctic Caribou Herd (WACH) Working Group Meeting, December 17-18, 2014. Anchorage, Alaska. ADF&G. Nome, AK.

Dau, J. 2015. Units 21D, 22A, 22B, 22C, 22D, 22E, 23, 24 and 26A. Chapter 14, pages 14-1 through 14-89 i*n* P. Harper, and Laura A. McCarthy, eds. Caribou management report of survey and inventory activities 1 July 2012–30 June 2014. Alaska Department of Fish and Game, Species Management Report ADF&G/DWC/SMR-2015-4, Juneau, AK.

Dau, J. 2016a. Memorandum to S. Machida dated June 21, 2016. 2016 Western arctic caribou herd calving survey: 4-12 June. ADF&G Division of Wildlife Conservation, Fairbanks, AK.

Dau, J. 2016b. Memorandum to S. Machida dated April 26, 2016. 2016 Western Arctic caribou herd recruitment survey: 31 March and 5, 19, and 21 April. ADF&G Division of Wildlife Conservation, Fairbanks, AK.

Deur, D.D., J. Hebert and H. Atkinson. 2019. Noatak National Preserve: traditional use study. Draft phase I report (unpublished). Portland State University Department of Anthropology and the National Park Service.

Fall, J.A. 1990. The Division of Subsistence of the Alaska Department of Fish and Game: An overview of its research program and findings: 1980-1990. Arctic Anthropology 27(2): 68-92.

Fix, P.J. and A. Ackerman. 2015. Noatak National Preserve sport hunter survey. Caribou hunters from 2010-2013. Natural resources report. National Park Service.

Fronstin, R. 2018. Wildlife Biologist. Personal communication: e-mail. Western Artic National Parklands. National Park Service. Kotzebue, AK.

Fronstin, R. 2021. Wildlife Biologist. Personal communication: e-mail. Western Artic National Parklands. National Park Service. Kotzebue, AK.

Fullman, T.J., K. Joly, A. Ackerman. 2017. Effects of environmental features and sport hunting on caribou migration in northwestern Alaska. Movement Ecology 5(1): 1-11.

USFWS. 2011. Selawik National Wildlife Refuge. Revised comprehensive conservation plan. National Wildlife Refuge System. Alaska Region of the U.S. Fish and Wildlife. Service.https://www.fws.gov/uploadedFiles/Region_7/NWRS/Zone_2/Selawik/PDF/CCP_Full_Final_Document.pdf. Retrieved: March 28, 2017.

USFWS. 2014. FY2014 annual report reply to the Norwest Arctic Subsistence Regional Advisory Council. Office of Subsistence Management, USFWS. Anchorage, AK.

Gasaway, W. C., R. D. Boertje, D. V Grangaard, D. G. Kelleyhouse, R. O. Stephenson, and D. G. Larsen. 1992. The role of predation in limiting moose at low densities in Alaska and Yukon and implications for conservation. wildlife monographs. Wildlife Monographs No. 120: 3-59.

Georgette, S., and H. Loon. 1988. The Noatak River: Fall caribou hunting and airplane use. ADF&G Div. of Subsistence Tech. Paper No. 162. Kotzebue, AK.

Georgette, S., and H. Loon. 1993. Subsistence use of fish and wildlife in Kotzebue, a Northwest Alaska regional center. ADF&G, Div. of Subsistence Tech. Paper No. 167. Fairbanks, AK.

Georgette, S. 2017. Selawik National Wildlife Refuge Manager. Personal communication: email. USFWS, Kotzebue, AK.

Gonzalez, D., E. H. Mikow, and M. L Kostick. 2018. Subsistence wildlife harvests in Buckland, Koyuk, and Noatak, Alaska 2016-2017. ADF&G, Div. of Subsistence Special Publication SP2018-05. Fairbanks, AK.

Gunn, A. 2001. Voles, lemmings and caribou – population cycles revisited? Rangifer, Special Issue 14: 105-111.

Gurarie, E., P.R. Thompson, A.P. Kelly, N.C. Larter, W.F. Fagan, and K. Joly. 2020. For everything there is a season: estimating periodic hazard functions with the cyclomort R package. Methods in Ecology and Evolution 11 (1): 129-138. DOI: 10.1111/2041-210X.13305.

Halas, G. 2015. Caribou migration, subsistence hunting, and user group conflicts in Northwest Alaska: A traditional knowledge perspective. University of Fairbanks-Alaska. Fairbanks, AK.

Hall E.S. 1973. Archaeological and recent evidence for expansion of moose range in northern Alaska. Journal of Mammalogy 54: 294–295.

Hansen, D.A. 2019a. 2019 Western Arctic Caribou Herd – herd population status, other metrics. Presentation to Western Arctic Caribou Herd Working Group Technical Committee. December 10, 2019. https://westernarcticcaribou.net/.

Hansen, D.A. 2019b. Wildlife Biologist. Personal communication: e-mail. Alaska Department of Fish and Game. Kotzebue, AK.

Hansen, D.A. 2020. Wildlife Biologist. Personal communication: e-mail. Alaska Department of Fish and Game. Kotzebue, AK.

Hansen, W. 2021. Unit 23 Moose Neonate Survival hand-out. Alaska Department of Fish and Game. Nome, AK.

Holand, O., R.B. Weladji, A. Mysterud, K. Roed, E. Reimers, M. Nieminen. 2012. Induced orphaning reveals post-weaning maternal care in reindeer. European Journal of Wildlife Research. 58: 589-596.

Jacobson, D. 2008. Fall hunting in game management unit 23: assessment of issues and proposals for a planning process. ADF&G. Unpublished report. Juneau, AK.

Joly, K. 2000. Orphan caribou, *Rangifer tarandus*, calves: a re-evaluation of overwinter survival data. The Canadian field naturalist 114: 322-323.

Joly, K. 2015. Wildlife Biologist, Gates of the Arctic National Park and Preserve. Personal communication: e-mail NPS. Fairbanks, AK.

Joly, K. 2021. Wildlife Biologist, Gates of the Arctic National Park and Preserve. Personal communication: e-mail NPS. Fairbanks, AK.Joly, K., R.R. Jandt, C.R. Meyers, and J.M. Cole. 2007. Changes in vegetative cover on the Western Arctic herd winter range from 1981–2005: potential effects of grazing and climate change. Rangifer Special Issue 17:199-207.

Joly, K., and M. D. Cameron. 2018. Early fall and late winter diets of migratory caribou in northwest Alaska. Rangifer 38 (1): 27-38. DOI: 10.7557/2.38.1.4107.

Joly, K., and M.D. Cameron. 2020. Caribou vital sign annual report for the Arctic Network Inventory and Monitoring Program, September 2019-August 2020. Natural resource report. National Park Service.

Joly, K., T. Craig, M.D. Cameron, A.E. Gall, M.S. Sorum. 2017. Lying in wait: limiting factors on a low-density ungulate population and the latent traits that can facilitate escape from them. Acta Oecologica 85: 174-183. DOI: 10.1016/j.actao.2017.11.004.

Joly, K., P.A. Duffy, and T.S. Rupp. 2012. Simulating the effects of climate change on fire regimes in Arctic biomes: implications for caribou and moose habitat. Ecosphere 3(5): 36.

Joly, K., R.R. Jandt, C.R. Meyers, and J.M. Cole. 2007. Changes in vegetative cover on the Western Arctic herd winter range from 1981–2005: potential effects of grazing and climate change. Rangifer Special Issue 17:199-207.

Joly, K., D.R. Klein, D.L. Verbyla, T.S. Rupp, and F.S. Chapin, III. 2011. Linkages between large-scale climate patterns and the dynamics of Arctic caribou populations. Ecography 34: 345-352.

Klimstra, R. and C. Daggett. 2020. Moose management report and plan, Game Management Unit 26A: report period 1 July 2010–30 June 2015, and plan period 1 July 2015–30 June 2020. Species management report and plan ADF&G/DWC/SMR&P–2020–9. ADF&G. Juneau, AK.

LeResche, R.E., R.H. Bishop, and J.W. Coady. 1974. Distribution and habitats of moose in Alaska. Le Naturaliste Canadian, Vol. 101: 143-178.

Lenart, E. A. 2011. Units 26B and 26C caribou. Pages 315-345 *in* P. Harper, ed. Caribou management report of survey and inventory activities 1 July 2008–30 June 2010. ADF&G. Project 3.0. Juneau, AK.

Mikow, E.H. and M.L. Kostick. 2016. Subsistence Wildlife Harvests in Kotzebue, Alaska, 2013-2014. ADF&G, Div. of Subsistence Special Publication No. 2016-02. Fairbanks, AK.

Miller, F.L. 2003. Caribou (*Rangifer tarandus*). Pages 965-997 *in* Feldhamer, B.C. Thompson, and J.A. Chapman, *eds.* Wild mammals of North America- biology, management, and conservation. John Hopkins University Press. Baltimore, Maryland.

Nicholson, K.L., S.M. Arthur, J.S. Horne, E.O. Garton, and P.A. Del Vecchio. 2016. Modeling caribou movements: seasonal ranges and migration routes of the Central Arctic Herd. PLoS ONE 11(4): e0150333. https://doi.org/10.1371/journal.pone.0150333.

NPS. 2020. Commercial use authorization stipulations: 2020 park specific regulations—Western Arctic Parklands. https://www.nps.gov/locations/alaska/stips-wear.htm. Retrieved April 2, 2021.

NWARAC. 2015a. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, October 6-7, 2015 in Buckland, AK. Office of Subsistence Management, FWS. Anchorage, AK.

NWARAC. 2015b. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, March 9-10, 2015 in Kotzebue, AK. Office of Subsistence Management, FWS. Anchorage, AK.

NWARAC. 2016a. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, October 5-6, 2016 in Selawik, AK. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2016b. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, March 10, 2016 in Anchorage, AK. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2017a. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, October 25-26, 2017 in Kotzebue, AK. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2017b. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, March 1-2, 2017 in Kotzebue, AK. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2018a. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, February 28-March 1, 2018 in Kotzebue, AK. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2018b. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, October 24-25, 2018 in Kotzebue, AK. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2019a. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, April 9-10, 2019 in Kotzebue, AK. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2019b. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, October 28-29, 2019 in Kotzebue, AK. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2020a. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, November 3, 2020. Teleconference. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2020b. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, March 16, 2020. Teleconference. Office of Subsistence Management, USFWS. Anchorage, AK.

NWARAC. 2021. Transcripts of the Northwest Arctic Subsistence Regional Advisory Council proceedings, February 18, 2021. Teleconference. Office of Subsistence Management, USFWS. Anchorage, AK.

OSM. 1995. Staff analysis WP95-62. OSM database. Office of Subsistence Management. Anchorage, AK.

OSM. 2017a. Staff analysis WSA16-03. Pages 563-649 *in* Federal Subsistence Board Meeting Materials January 10-12, 2017. Office of Subsistence Management, USFWS. Anchorage, AK.

OSM. 2017b. Staff analysis WSA17-03. OSM database. Office of Subsistence Management. Anchorage, AK.

Parrett, L.S. 2011. Units 26A, Teshekpuk caribou herd. Pages 283-314 *in* P. Harper, ed. Caribou management report of survey and inventory activities 1 July 2008–30 June 2010. ADF&G.. Project 3.0. Juneau, AK.

Parrett, L.S. 2015a. Western Arctic Caribou Herd Overview presentation. Presented at the Western Arctic Caribou Herd Working Group meeting. December 16-17. Anchorage, AK.

Parrett, L.S. 2015b. Memorandum to P. Bente, Management Coordinator, dated October 29, 2015. 2015 Western Arctic Herd (WAH) captured conducted September 15-17, 2015. ADF&G Division of Wildlife Conservation, Fairbanks, AK.

Parrett, L.S., 2015c. Unit 26A, Teshekpuk caribou herd. Chapter 17, pages 17-1 through 17-28 *in* P. Harper and L.A. McCarthy, eds. Caribou management report of survey and inventory activities 1 July 2012-30 June 2014. ADF&G, Species Management Report ADF&G /DWC?SMR-2015-4, Juneau, AK.

Parrett, L.S. 2015d. Memorandum to P. Bente, Management Coordinator, dated December 31, 2015. Summary of Teshekpuk Caribou Herd photocensus conducted July 6, 2015. ADF&G Division of Wildlife Conservation. Fairbanks, AK.

Parrett, L.S. 2016. Memorandum for distribution, dated August 25, 2016. Summary of Western Arctic Caribou Herd photocensus conducted July 1, 2016. ADF&G Division of Wildlife Conservation, Fairbanks, AK.

Parrett, L.S. 2017a. WAH Caribou Overview. Western Arctic Caribou Herd Working Group Meeting. December 2017. https://westernarcticcaribounet.files.wordpress.com/2017/12/2017-complete-wg-meeting-binder-dec-13-14-2017-for-webpost.pdf. Retrieved December 20, 2017.

Parrett, L.S. 2017b. Wildlife Biologist IV. Personal communication: phone and e-mail. Alaska Department of Fish and Game. Fairbanks, AK.

Prichard, A.K. 2009. Development of a preliminary model for the Western Arctic Caribou Herd. ABR, Inc. – Environmental Research and Services. Fairbanks, AK.

Prichard, A.K., K. Joly and J. Dau. 2012. Quantifying telemetry collar bias when age is unknown: a simulation study with a long-lived ungulate. Journal of Wildlife Management 76 (7): 1441-1449. DOI: 10.1002/jwmg.394.

Robison, H. 2017. National Park Service wildlife update. November 2017. NPS. Kotzebue, AK.

Rughetti, M., M. Festa-Bianchet. 2014. Effects of selective harvest of non-lactating females on chamois population dynamics. Journal of applied ecology. 51: 1075-1084.

Russell, D.E., S.G. Fancy, K.R. Whitten, R.G. White. 1991. Overwinter survival of orphan caribou, *Rangifer tarandus*, calves. Canadian field naturalist. 105: 103-105.

Saito, B. 2014. Unit 23 moose management report. Pages 32-1 through 32-21 i*n* P. Harper, ed. Moose management report of survey and inventory activities 1 July 2009-30 June 2011. ADF&G Species Management Report ADF&G/DWC/SMR-2015-5, Juneau, AK.

Saito, B. 2016. Wildlife biologist/Area biologist. Personal communication: e-mail. ADF&G. Kotzebue, AK.

Saito, B. 2017. Wildlife biologist/Area biologist. Personal communication: e-mail. ADF&G. Kotzebue, AK.

Saito, B. 2018. Wildlife biologist/Area biologist. Personal communication: e-mail. ADF&G. Kotzebue, AK.

Stephenson, T. R., V. Van Ballenberghe, J. M. Peek, and J. G. MacCracken. 2006. Spatio-Temporal constraints on moose habitat and carrying capacity in coastal Alaska: vegetation succession and climate. Rangeland Ecology & Management 59(4), 359-372.

Stinchcomb, T.R., 2017. Social-ecological soundscapes: examining aircraft-harvester-caribou conflict in arctic Alaska. University of Alaska Fairbanks.

Stinchcomb, T. R., T. J. Brinkman, and S.A. Fritz. 2019. A review of aircraft-subsistence harvester conflict in arctic Alaska." Arctic 72(2): 131–50. https://doi.org/10.14430/arctic68228.

Stinchcomb, T.R., T.J. Brinkman, and D. Betchkal. 2020. Extensive aircraft activity impacts subsistence areas: acoustic evidence from arctic Alaska. Environmental Research Letters 15(11): 115005.

Street, G. M., A. R. Rodgers, T. Avgar, and J. M. Fryxell. 2015. Characterizing demographic parameters across environmental gradients: a case study with Ontario moose (*Alces alces*). Ecosphere 6: 1-13.

Stout, G. W. 2010. Unit 21D moose. Pages 477–521 *in* P. Harper, ed. Moose management report of survey and inventory activities 1 July 2007–30 June 2009. ADF&G, Division of Wildlife Conservation, Federal Aid in Wildlife Restoration Project 1.0, Juneau, AK.

Sutherland, R. 2005. Harvest estimates of the Western Arctic caribou herd, Alaska. Proceedings of the 10th North American Caribou Workshop. Girdwood, AK. May 4-6, 2004. Rangifer special issue 16:177-184.

Swanson, D.W. 2015. Environmental limits of tall shrubs in Alaska's arctic national parks. PLoS ONE. 10(9): 1-34.

Taillon, J., V. Brodeur, M. Festa-Bianchet, S.D. Cote. 2011. Variation in body condition of migratory caribou at calving and weaning: which measures should we use? Ecoscience 18(3): 295-303.

Tape, K.D., D.D. Gustine, R.W. Ruess, L.G. Adams and J.A. Clark. 2016. Range expansion of moose in arctic Alaska linked to warming and increased shrub habitat. PLoS ONE 11(4): 1-12.

WACH (Western Arctic Caribou Herd) Working Group. 2011. Western Arctic Caribou Herd Cooperative Management Plan – Revised December 2011. Nome, AK.

WACH (Western Arctic Caribou Herd) Working Group. 2015. Western Arctic Caribou Herd Cooperative Management Plan. Table 1 Revision – Dec. 2015. https://westernarcticcaribou.net/herd-management/. Accessed June 1, 2017.

WACH (Western Arctic Caribou Herd) Working Group. 2019. Western Arctic Caribou Herd Working Group Meeting. December 10-12, 2019. Anchorage, AK.

WACH (Western Arctic Caribou Herd) Working Group. 2020. Western Arctic Caribou Herd Working Group Meeting December 9, 2020. Teleconference.

WEAR. 2017. Western Arctic Parklands commercial use authorization activity report: 2017. National Park Service, Anchorage, AK.

WEAR. 2018. Western Arctic Parklands commercial use authorization activity report: 2018. National Park Service, Anchorage, AK.

WEAR. 2019. Western Arctic Parklands commercial use authorization activity report: 2019. National Park Service, Anchorage, AK.

WEAR. 2020. Western Arctic Parklands commercial use authorization activity report: 2020. National Park Service, Anchorage, AK.

Westing, C. 2012. Unit 23 moose management report. Pages 560-582 *in* P. Harper, ed. Moose management report of survey and inventory activities 1 July 2009-30 June 2011. ADF&G species management report ADF&G/DWC/SMR-2012-5, Juneau, AK.

WINFONET. 2017. Wildlife information network. ADF&G. Anchorage, AK. https://winfonet.alaska.gov/. Retrieved: February 7, 2017.

WINFONET. 2018. Wildlife information network. ADF&G. Anchorage, AK. https://winfonet.alaska.gov/. Retrieved: November 2018.

WINFONET. 2019. Wildlife information network. ADF&G. Anchorage, AK. https://winfonet.alaska.gov/. Retrieved: July 2019.

INTERAGENCY STAFF RECOMMENDATION

Approve Temporary Wildlife Special Action Request WSA21-01 **as modified by OSM** to close moose hunting to non-Federally qualified users in Unit 23 Aug.1 – Sept. 30, 2021.

Justification

We acknowledge the vital concerns voiced by Federally qualified subsistence users in Units 23 and 26A regarding food security and the continuation of subsistence uses. To help mitigate the situation, we recommend collaborative cross-agency efforts to better understand the patterns of migration in the Western Arctic Caribou Herd, including impacts of external factors. We also encourage that co-equal attention be given to traditional knowledge and western science in understanding and managing subsistence resources in the region.

As indicated in the staff analysis for WSA21-01, closure of caribou hunting to non-Federally qualified users in Units 23 and 26A is not warranted at this time. The long-term effects of aircraft and non-local hunting activity on caribou migration remain unclear, though short-term effects on individual harvest success by Federally qualified subsistence users may be occurring. The Board has already closed areas of historically high user conflicts in Unit 23 along a portion of the Noatak River, the Squirrel , Eli, and Agashashok River drainages to caribou hunting by non-Federally qualified users, while national parks and monuments within the unit are already closed to this user group. Furthermore, closure of Federal public lands in these units may serve to concentrate non-Federally qualified users onto State lands, which are often located close to villages, and may increase user conflicts in these areas; and non-Federally qualified users would still be able to access and harvest caribou on gravel bars below the mean high-water mark along navigable rivers within Federal public lands as these areas are considered State land. Finally, aircraft traffic from other users such as recreational boaters and hikers would still occur if a closure was enacted.

A closure to moose hunting in Unit 26A to non-Federally qualified users is also not warranted. Moose harvest by non-Federally qualified users is very low in the unit and closure of moose hunting to this user group would not aid in the conservation of moose populations. Additionally, moose populations are at the edge of their distribution range in Unit 26A and are limited by marginal habitat available in the area. Finally, the Unit 26A Controlled Use Area is already closed to the use of aircraft for hunting moose from July 1 to Sept. 14 as well as Jan. 1 to Mar. 31, which already limits moose hunting opportunities by non-Federally qualified users.

A closure to moose hunting in Unit 23 to non-Federally qualified users is warranted. As shown in the analysis, there are substantial conservation concerns that threaten the moose population in the unit. Surveys indicate substantial declines in almost every survey area, and population estimates are below State objectives. Additionally, the harvestable surplus has likely been exceeded. Regulatory changes have been made to reduce moose harvest and promote population recovery in Unit 23 under both Federal and State regulations since 2017. Despite these efforts, moose populations have continued to decline. Closure

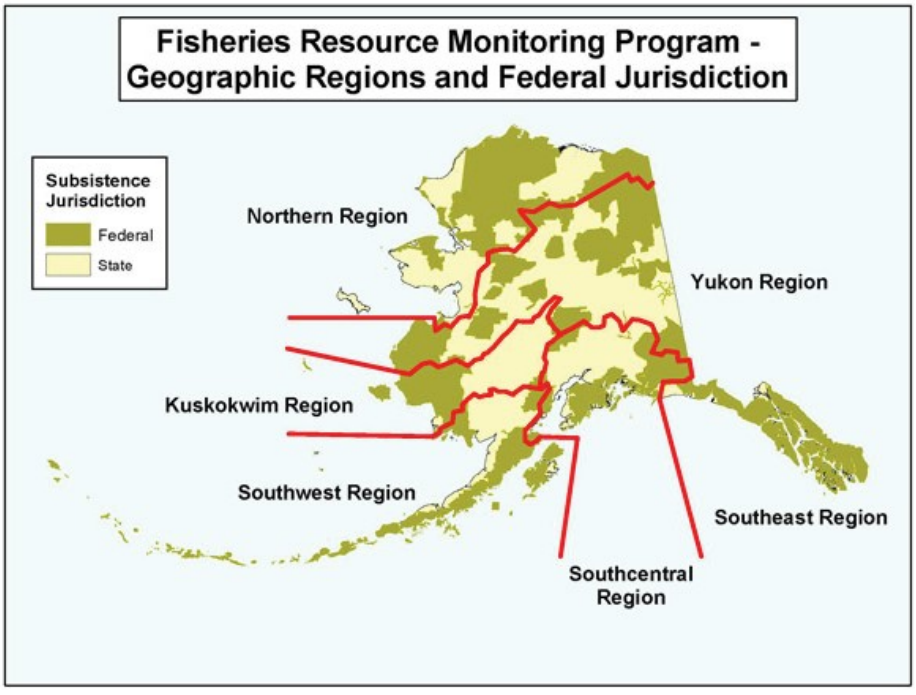
of moose hunting to non-Federally qualified users in Unit 23 may aid in the recovery of the moose population, may provide additional harvest opportunities for Federally qualified subsistence users, and is warranted under Section 815(3) of ANILCA and under 50 CFR 100.10(d)(4)(vi).

FISHERIES RESOURCE MONITORING PROGRAM

BACKGROUND

Section 812 of the Alaska National Interest Lands Conservation Act (ANILCA) directs the Departments of the Interior and Agriculture, cooperating with other Federal agencies, the State of Alaska, and Alaska Native and other rural organizations, to research fish and wildlife subsistence uses on Federal public lands and to seek data from, consult with, and make use of the knowledge of local residents engaged in subsistence. When the Federal government assumed responsibility for management of subsistence fisheries on Federal public lands and waters in Alaska in 1999, the Secretaries of the Interior and Agriculture made a commitment to increase the quantity and quality of information available to manage subsistence fisheries, to increase quality and quantity of meaningful involvement by Alaska Native and other rural organizations, and to increase collaboration among Federal, State, Alaska Native, and rural organizations. The Fisheries Resource Monitoring Program (Monitoring Program) is a collaborative, interagency, interdisciplinary approach to enhance fisheries research and data in Alaska and effectively communicate information needed for subsistence fisheries management on Federal public lands and waters.

Every two years, the Office of Subsistence Management announces a funding opportunity for investigation plans addressing subsistence fisheries on Federal public lands. The 2022 Notice of Funding Opportunity focused on priority information needs developed by the Subsistence Regional Advisory Councils with input from strategic plans and subject matter specialists. The Monitoring Program is administered through regions to align with stock, harvest, and community issues common to a geographic area. The six Monitoring Program regions are shown below.



Strategic plans sponsored by the Monitoring Program have been developed by workgroups of fisheries managers, researchers, Subsistence Regional Advisory Councils, and by other stakeholders for three of the six regions: Southeast, Southcentral (excluding Cook Inlet Area), and Southwest Alaska, and for Yukon and Kuskokwim drainages whitefish (available for viewing at the Monitoring Program webpage at https://www.doi.gov/subsistence/frmp/plans). These plans identify prioritized information needs for each major subsistence fishery. Individual copies of plans are available from the Office of Subsistence Management by calling (907) 786-3888 or toll Free: (800) 478-1456 or by email subsistence@fws.gov. An independent strategic plan was completed for the Kuskokwim Region for salmon in 2006 and can be viewed at the Alaska-Yukon-Kuskokwim Sustainable Salmon Initiative website at https://www.aykssi.org/salmon-research-plans/.

Investigation plans are reviewed and evaluated by Office of Subsistence Management and U.S. Forest Service staff, and then scored by the Technical Review Committee. The Technical Review Committee's function is to provide evaluation, technical oversight, and strategic direction to the Monitoring Program. Each investigation plan is scored on the following five criteria: strategic priority, technical and scientific merit, investigator ability and resources, partnership and capacity building, and cost/benefit.

Project executive summaries are assembled into a draft 2022 Fisheries Resources Monitoring Plan. The draft plan is distributed for public review and comment through Subsistence Regional Advisory Council meetings, beginning in September 2021. The Federal Subsistence Board will review the draft plan and will accept written and oral comments at its January 2022 meeting. The Federal Subsistence Board forwards its comments to the Assistant Regional Director of the Office of Subsistence Management. Final funding approval lies with the Assistant Regional Director of the Office of Subsistence Management. Investigators are subsequently notified in writing of the status of their proposals.

HISTORICAL OVERVIEW

The Monitoring Program was first implemented in 2000 with an initial allocation of $5 million. Since 2000, a total of $127 million has been allocated for the Monitoring Program to fund a total of 494 projects (**Figure 1** and **Figure 2**).

During each two-year funding cycle, the Monitoring Program budget funds ongoing multi-year projects (2, 3, or 4 years) as well as new projects. Budget guidelines are established by geographic region (**Table 1**). The regional guidelines were developed using six criteria that included level of risk to species, level of threat to conservation units, amount of subsistence needs not being met, amount of information available to support subsistence management, importance of a species to subsistence harvest, and level of user concerns regarding subsistence harvest. Budget guidelines provide an initial target for planning; however, they are not final allocations and are adjusted annually as needed (**Figure 3)**.

Figure 1. Monitoring Program Funds Distributed, by Organization Type, Since 2000

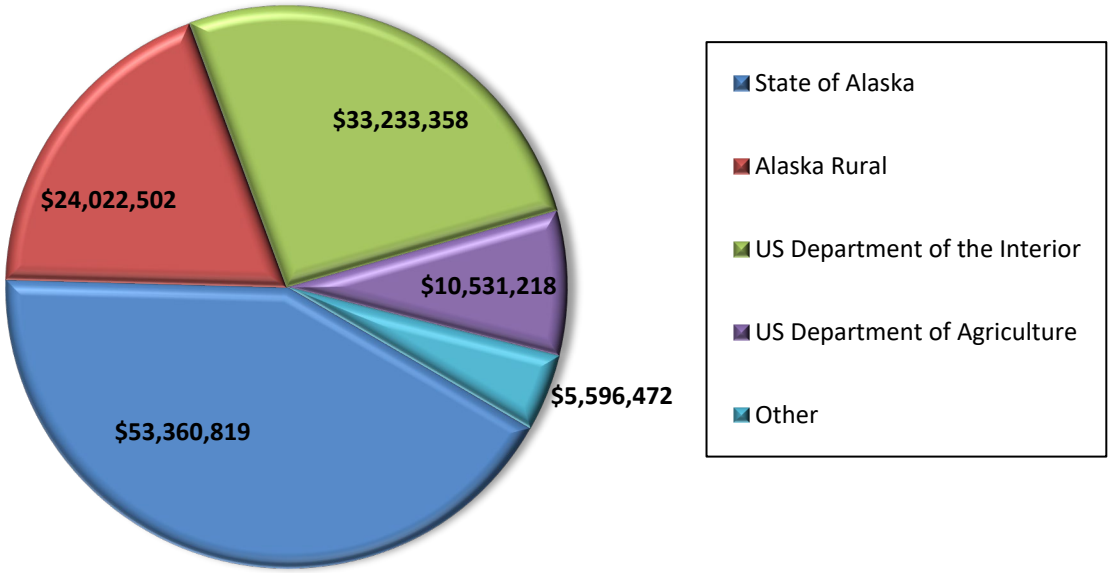


Figure 2. Number of Monitoring Program Projects Funded, by Organization Type, since 2000

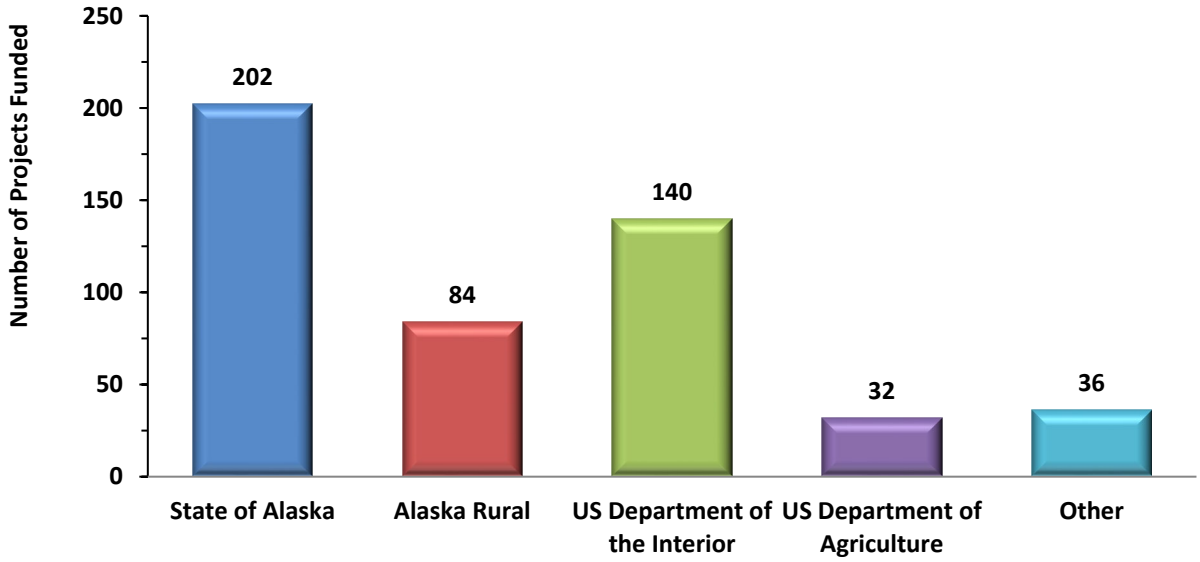
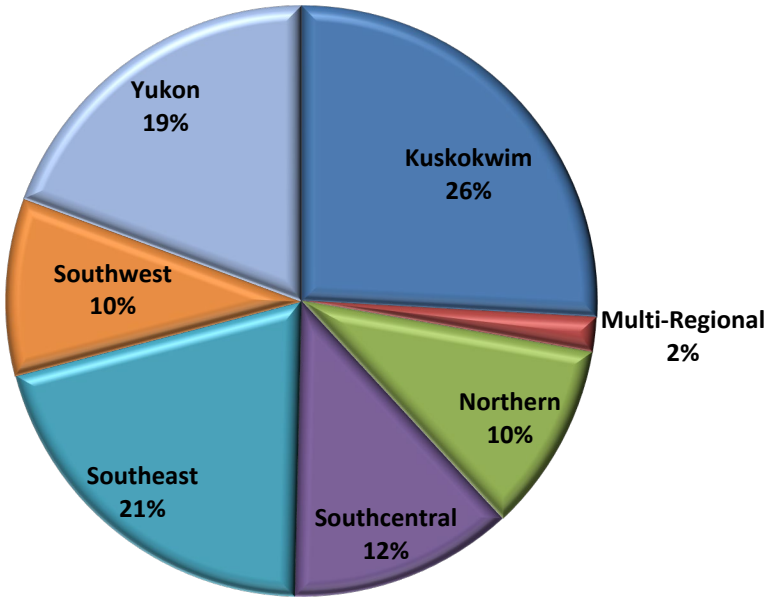


Table 1. Regional allocation guideline for Fisheries Resource Monitoring Program Funds.

Region	U.S. Department of the Interior Funds	U.S. Department of Agriculture Funds
Northern Alaska	17%	0%
Yukon Drainage	29%	0%
Kuskokwim Drainage	29%	0%
Southwest Alaska	15%	0%
Southcentral Alaska	5%	33%
Southeast Alaska	0%	67%
Multi-Regional	5%	0%

Figure 3. Percentage of Monitoring Program Funding Distributed to Each Region since 2000



The following three broad categories of information that are solicited for the Monitoring Program: (1) harvest monitoring, (2) traditional ecological knowledge, and (3) stock status and trends. Projects that combine these approaches are encouraged. Definitions of these three categories of information are listed below.

Harvest monitoring studies provide information on numbers and species of fish harvested, locations of harvests, and gear types used. Methods used to gather information on subsistence harvest patterns may include harvest calendars, mail-in questionnaires, household interviews, subsistence permit reports, and telephone interviews.

Traditional ecological knowledge studies are investigations of local knowledge directed at collecting and analyzing information on a variety of topics such as the sociocultural aspects of subsistence, fish ecology, species identification, local names, life history, taxonomy, seasonal movements, harvests, spawning and rearing areas, population trends, environmental observations, and traditional management systems. Methods used to document traditional ecological knowledge include ethnographic fieldwork, key respondent interviews with local experts, place name mapping, and open-ended surveys.

Stock status and trends studies provide information on abundance and run timing; age, size, and sex composition; migration and geographic distribution; survival of juveniles or adults; stock production; genetic stock identification; and mixed stock analyses. Methods used to gather information on stock status and trends include aerial and ground surveys, test fishing, towers, weirs, sonar, video, genetics, mark-recapture, and telemetry.

PROJECT EVALUATION PROCESS

The Monitoring Program prioritizes high quality projects that address critical subsistence and conservation concerns. Projects are selected for funding through an evaluation and review process that is designed to advance projects that are strategically important for the Federal Subsistence Management Program, technically sound, administratively competent, promoting partnerships and capacity building, and are cost effective. Projects are first evaluated by a panel called the Technical Review Committee. This committee is a standing interagency committee of senior technical experts. The Technical Review Committee reviews, evaluates, and makes recommendations about proposed projects that are consistent with the mission of the Monitoring Program. Fisheries and Anthropology staff from the Office of Subsistence Management provide support for the Technical Review Committee. Recommendations from the Technical Review Committee provide the basis for further comments from Subsistence Regional Advisory Councils, the public, the Interagency Staff Committee, and the Federal Subsistence Board, with final approval of the Monitoring Plan by the Assistant Regional Director of the Office of Subsistence Management.

To be considered for funding under the Monitoring Program, a proposed project must have a nexus to Federal subsistence fishery management. Proposed projects must have a direct association to a Federal subsistence fishery, and the subsistence fishery or fish stocks in question must occur in or pass-through waters within or adjacent to Federal public lands in Alaska (National Wildlife Refuges, National Forests, National Parks and Preserves, National Conservation Areas, National Wild and Scenic River Systems, National Petroleum Reserves, and National Recreation Areas). A complete project package must be submitted on time and must address the following five specific criteria to be considered a high-quality project.

1. ***Strategic Priorities***—Studies should be responsive to information needs identified in the 2022 Priority Information Needs available at the Monitoring Program webpage at https://www.doi.gov/subsistence/frmp/funding. All projects must have a direct linkage to Federal public lands and/or waters to be eligible for funding under the Monitoring Program. To assist in evaluation of submittals for projects previously funded under the Monitoring Program, investigators must summarize project findings in their investigation plans. This summary should clearly and concisely document project performance, key findings, and uses of collected information for Federal subsistence management. Projects should address the following topics to demonstrate links to strategic priorities:

    - Federal jurisdiction—The extent of Federal public waters in or nearby the project area
    - Direct subsistence fisheries management implications
    - Conservation mandate—Threat or risk to conservation of species and populations that support subsistence fisheries
    - Potential impacts on the subsistence priority—Risk that subsistence harvest users' goals will not be met
    - Data gaps—Amount of information available to support subsistence management and how a project answers specific questions related to these gaps
    - Role of the resource—Contribution of a species to a subsistence harvest (number of villages affected, pounds of fish harvested, miles of river) and qualitative significance (cultural value, unique seasonal role)
    - Local concern—Level of user concerns over subsistence harvests (upstream vs. downstream allocation, effects of recreational use, changes in fish abundance and population characteristics)

2. ***Technical-Scientific Merit***—Technical quality of the study design must meet accepted standards for information collection, compilation, analysis, and reporting. To demonstrate technical and scientific merit, applicants should describe how projects will:

    - Advance science
    - Answer immediate subsistence management or conservation concerns
    - Have rigorous sampling and/or research designs
    - Have specific, measurable, realistic, clearly stated, and achievable (attainable within the proposed project period) objectives
    - Incorporate traditional knowledge and methods

    Data collection, compilation, analysis, and reporting procedures should be clearly stated. Analytical procedures should be understandable to the non-scientific community. To assist in evaluation of submittals for continuing projects previously funded under the Monitoring

Program, summarize project findings and justify continuation of the project, placing the proposed work in context with the ongoing work being accomplished.

3. ***Investigator Ability and Resources***—Investigators must show they are capable of successfully completing the proposed project by providing information on the ability (training, education, experience, and letters of support) and resources (technical and administrative) they possess to conduct the work. Investigators that have received funding in the past, via the Monitoring Program or other sources, are evaluated and scored on their past performance, including fulfillment of meeting deliverable and financial accountability deadlines. A record of failure to submit reports or delinquent submittal of reports will be taken into account when rating investigator ability and resources.

4. ***Partnership and Capacity Building***—Investigators must demonstrate that capacity building has already reached the communication or partnership development stage during proposal development and, ideally, include a strategy to develop capacity building to higher levels, recognizing, however, that in some situations higher level involvement may not be desired or feasible by local organizations.

   Investigators are requested to include a strategy for integrating local capacity development in their study plans or research designs. Investigators should inform communities and regional organizations in the area where work is to be conducted about their project plans. They should also consult and communicate with local communities to ensure that local knowledge is utilized and concerns are addressed. Investigators and their organizations should demonstrate their ability to maintain effective local relationships and commitment to capacity building. This includes a plan to facilitate and develop partnerships so that investigators, communities, and regional organizations can pursue and achieve the most meaningful level of involvement. Proposals demonstrating multiple, highly collaborative efforts with rural community members or Alaska Native Organizations are encouraged.

   Successful capacity building requires developing trust and dialogue among investigators, local communities, and regional organizations. Investigators need to be flexible in modifying their work plan in response to local knowledge, issues, and concerns, and must also understand that capacity building is a reciprocal process in which all participants share and gain valuable knowledge. The reciprocal nature of the capacity building component(s) should be clearly demonstrated in proposals. Investigators are encouraged to develop the highest level of community and regional collaboration that is practical including joining as co-investigators.

   Capacity can be built by increasing the technical capabilities of rural communities and Alaska Native organizations. This can be accomplished via several methods, including increased technical experience for individuals and the acquisition of necessary gear and equipment. Increased technical experience would include all areas of project management including logistics, financial accountability, implementation, and administration. Other examples may include internships or providing opportunities within the project for outreach, modeling, sampling design,

or project specific training. Another would be the acquisition of equipment that could be transferred to rural communities and tribal organizations upon the conclusion of the project.

A "meaningful partner" is a partner that is actively engaged in one or more aspects of project design, logistics, implementation and reporting requirements. Someone who simply agrees with the concept or provides a cursory look at the proposal is not a meaningful partner.

5. ***Cost/Benefit*—**This criterion evaluates the reasonableness (what a prudent person would pay) of the funding requested to provide benefits to the Federal Subsistence Management Program. Benefits could be tangible or intangible. Examples of tangible outcomes include data sets that directly inform management decisions or fill knowledge gaps and opportunities for youth or local resident involvement in monitoring, research and/or resource management efforts. Examples of possible intangible goals and objectives include enhanced relationships and communications between managers and communities, partnerships and collaborations on critical resource issues, and potential for increased capacity within both communities and agencies.

   Applicants should be aware that the Government shall perform a "best value analysis" and the selection for award shall be made to the applicant whose proposal is most advantageous to the Government. The Office of Subsistence Management strives to maximize program efficiency by encouraging cost sharing, partnerships, and collaboration.

POLICY AND FUNDING GUIDELINES

Several policies have been developed to aid in implementing funding. These policies include:

- Projects of up to four years in duration may be considered
- Proposals requesting Monitoring Program funding that exceeds $215,000 in any one year are not eligible for funding
- Studies must not duplicate existing projects
- Long term projects will be considered on a case-by-case basis

Activities that are not eligible for funding include:

- Habitat protection, mitigation, restoration, and enhancement
- Hatchery propagation, restoration, enhancement, and supplementation
- Contaminant assessment, evaluation, and monitoring
- Projects where the primary or only objective is outreach and education (for example, science camps, technician training, and intern programs), rather than information collection

The rationale behind these policy and funding guidelines is to ensure that existing responsibilities and efforts by government agencies are not duplicated under the Monitoring Program. Land management or regulatory agencies already have direct responsibility, as well as specific programs, to address these activities. However, the Monitoring Program may fund research to determine how these activities affect Federal subsistence fisheries or fishery resources.

The Monitoring Program may fund assessments of key Federal subsistence fishery stocks in decline or that may decline due to climatological, environmental, habitat displacement, or other drivers; however, applicants must show how this knowledge would contribute to Federal subsistence fisheries management. Similarly, the Monitoring Program may legitimately fund projects that assess whether migratory barriers (e.g., falls, beaver dams) significantly affect spawning success or distribution; however, it would be inappropriate to fund projects to build fish passes, remove beaver dams, or otherwise alter or enhance habitat.

2022 FISHERIES RESOURCE MONITORING PLAN

For 2022, a total of 42 investigation plans were received and all are considered eligible for funding. For 2022, the Department of the Interior, through the U.S. Fish and Wildlife Service, will provide an anticipated $1.5 million in funding for new projects. The U.S. Department of Agriculture, through the U.S. Forest Service, will provide an anticipated $750,000 in funding.

FISHERIES RESOURCE MONITORING PROGRAM
NORTHERN ALASKA REGION OVERVIEW

Since the inception of the Monitoring Program in 2000, a total of 55 projects have been undertaken in the Northern Alaska Region costing $13.5 million (**Figure 1**). Of these, the State of Alaska received funds to conduct 31 projects, the Department of the Interior conducted 16 projects, Alaska Rural Organizations conducted five projects, and other organizations conducted three projects (**Figure 2**). See **Appendix 1** for more information on Northern Alaska Region projects completed since 2000.

Figure 1. Monitoring Program Funds Distributed, by Orginization Type, in the Northern Alaska Region since 2000

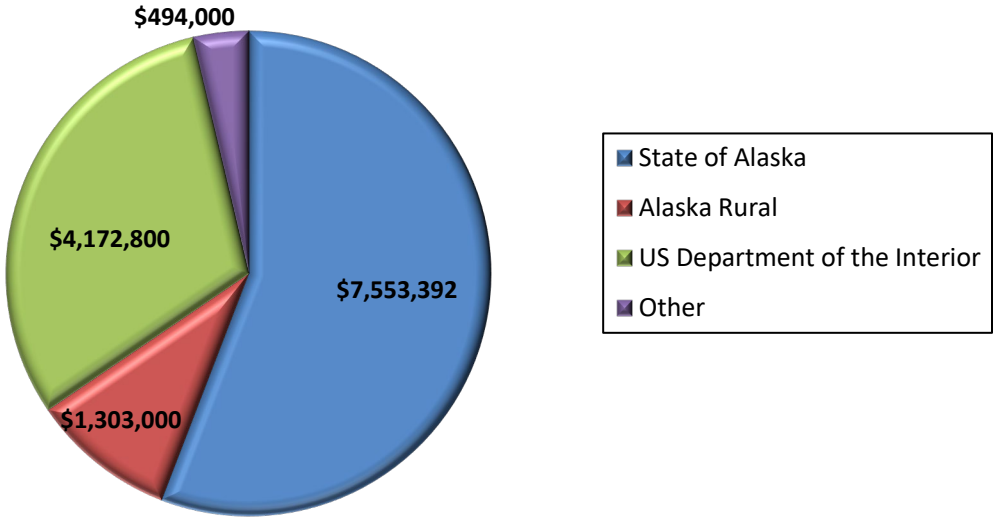
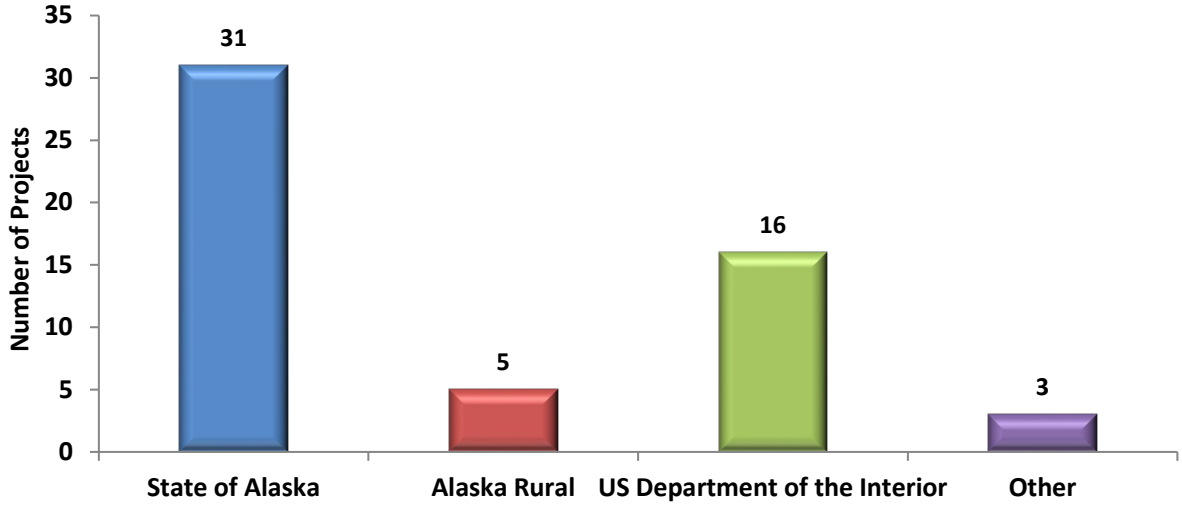


Figure 2. The Number of Monitoring Program Projects Funded, by Organization Type, in the Northern Alaska Region Since 2000



PRIORITY INFORMATION NEEDS

The 2022 Notice of Funding Opportunity for the Northern Alaska Region identified the following 16 priority information needs:

- Chinook, Chum and Coho Salmon abundance estimate for Boston, Fish, Pargon and Wagon Wheel Rivers.

- Summer and Fall Chum Salmon abundance estimates for the Agiapuk River drainage including American River and Igloo Creek.

- Chinook Salmon abundance estimate for the Unalakleet River.

- Chinook, Chum and Coho abundance estimate for the Pikmiktalik River.

- Changes in Grayling, Dolly Varden and Sheefish populations related to climate change.

- Inventory and baseline data of fish assemblages in major rivers tied to subsistence use in Northwest Alaska. When possible, applicants are encouraged to include fisheries proximal to the communities of Shishmaref, Buckland, Deering, Kivalina, Point Hope and villages along Kobuk and Noatak rivers.

- Changes in species compositions, abundance, migration timing, especially of Dolly Varden, Lake Trout and whitefish species in the Northwest Arctic, to address changing availability of subsistence fishery resources.

- Evaluate changing salmon distribution, abundance, migration, and timing in river drainages of Kotzebue Sound (the Noatak and Kobuk River Drainages).

- Identifying spawning areas, critical habitat and range expansion in major rivers tied to subsistence for Broad Whitefish, Least Cisco, Northern Pike, salmon, Grayling, Dolly Varden and Sheefish in the Northwest Alaska Region.

- Evaluate changes in water temperature in major river systems associated with subsistence fishery resources in the Northwest Arctic Region and how these changes will affect subsistence resources.

- The effects of expanding beaver populations and range on subsistence fisheries in the Northwest Arctic Region. Include effects of dams on fish migration and effects of changes to water quality on fish health.

- Using traditional ecological knowledge and harvest monitoring, document new fish species and changes in abundance, size, timing, and distribution of existing fish species, and impacts of new or expanding species on other fish that are important to subsistence in the North Slope Region.

- Document and investigate the possible causes of mold, disease, and discoloration on Broad Whitefish in the Colville River. Investigators are encouraged to draw on both stock status and trends and traditional ecological knowledge research methods.

- Effects of climate change, including late freeze-up on subsistence access, practices, and fish preservation, and the impact of these changes on continuity of traditions and food security for communities on the North Slope. Studies including Ikpikpuk River are of particular interest.

- Monitoring and documentation of changing subsistence fish harvest and consumption, as well as subsistence user concerns, in the community of Nuiqsut.

- Baseline fish habitat and water quality monitoring (especially temperature, dissolved oxygen, and silt) on the rivers and tributaries important to subsistence fishing for communities of the North Slope Region. Investigators are encouraged to include overwintering areas.

AVAILABLE FUNDS

Federal Subsistence Board guidelines direct initial distribution of funds among regions. Regional budget guidelines provide an initial target for planning. For 2022, the U.S. Department of the Interior and U.S. Department of Agriculture, through the U.S. Fish and Wildlife Service and the U.S. Forest Service, will provide an anticipated $2.25 million in funding statewide for new projects.

ROLE OF THE TECHNICAL REVIEW COMMITTEE

The mission of the Monitoring Program is to identify and provide information needed to sustain subsistence fisheries on Federal public lands for rural Alaskans through a multidisciplinary and collaborative program. It is the responsibility of the Technical Review Committee to develop the strongest possible Monitoring Plan for each region and across the entire state.

For the 2022 Monitoring Program, four proposals were submitted for the Northern Alaska Region. The Technical Review Committee evaluated and scored each proposal on Strategic Priority, Technical and Scientific Merit, Investigator Ability and Resources, Partnership and Capacity Building, and Cost/Benefit (**Table 1**). These scores remain confidential. An executive summary for each proposal submitted to the 2022 Monitoring Program for the Northern Alaska Region is in **Appendix 2**.

Table 1. Projects submitted for the Northern Alaska Region, 2022 Monitoring Program, including total funds requested and average annual funding requests.

Project Number	Title	Total Project Request	Average Annual Request
22-101	Kotzebue Sound Sheefish-Describing Coastal Movement, Temperature Preference, and Potential Range Expansion	$232,911	$77,637
22-103	Unalakleet River Chinook Salmon Escapement Assessment-Continuation	$706,329	$176,582
22-104	Selawik River Inconnu Spawning Population Age Structure Evaluation and Spawner Recruitment Response to a 2004 Permafrost Thaw Slump	$281,534	$93,844
22-150	Traditional Ecological Knowledge of Salmon in the River Drainages of Kotzebue Sound	$282,091	$141,046
	Total	**$1,502,865**	**$489,109**

TECHNICAL REVIEW COMMITTEE JUSTIFICATIONS FOR PROJECT SCORES

Project Number: 22-101
Project Title: Kotzebue Sound Sheefish-Describing Coastal Movement, Temperature Preference, and Potential Range Expansion

Technical Review Committee Justification: This proposal addresses parts of three 2022 priority needs for the Northern Alaska Region. The proposal is directly linked to subsistence resources in multiple Federal conservation units, and Sheefish are an important subsistence resource for the people living in the communities of this region. The investigator proposes using satellite tags to gain knowledge about Sheefish behavior in fresh, brackish and saltwater. This information will build upon previous work and has the potential to help managers and scientists better understand the relationship between Sheefish and the coastal habitat in the Kotzebue area. The investigator has experience working in Northwestern Alaska and will be engaging the Native Village of Kotzebue's Environmental Program Director in an advisory capacity and to assist with local hire. The budget is reasonable for a project of this magnitude and the National Park Service will be contributing travel funds to reduce the overall project costs.

Project Number: 22-103
Project Title: Unalakleet River Chinook Salmon Escapement Assessment-Continuation

Technical Review Committee Justification: This proposal directly addresses a priority information need: Assessment of Unalakleet River Chinook Salmon escapement. The investigator requests continuation funding of a long-term project to monitor Chinook Salmon escapement using a resistance board-floating weir in the Unalakleet River. Chinook Salmon stocks have been depressed since 2000, and Federal waters of the Unalakleet River have been closed to the retention of Chinook Salmon since 2009. Estimates from the weir provide Chinook Salmon daily passage and run timing which is used to make inseason and post-season fishery management decisions. In addition, this information was reviewed by

the Seward Peninsula Regional Subsistence Advisory Council and Federal Subsistence Board to support a continued closure of Federal public waters of the Unalakleet River to the retention of Chinook Salmon. While the principal investigator is new to the project, the two co-investigator have been on the project since its inception and all the investigator are experienced fisheries biologists. The project represents a working a partnership between State and Federal agencies and a regional organization. The Native Village of Unalakleet is no longer a co-investigator resulting in a loss of local representation on the project. The cost of the proposal is in line with previous years funding and is typical for a large weirs (320 ft. weir). The investigators are leveraging outside resources from Alaska Department of Fish and Game and Bureau of Land Management to reduce the overall cost of operating the weir.

Project Number: 22-104
Project Title: Selawik River Inconnu Spawning Population Age Structure Evaluation and Spawner Recruitment Response to a 2004 Permafrost Thaw Slump

Technical Review Committee Justification: The proposed work addresses the 2022 priority information need, Changes in Grayling, Dolly Varden and Inconnu populations related to Climate Change. The work focuses on an important subsistence Inconnu fishery associated with Selawik National Wildlife Refuge. The investigators request continued funding to study the effect of a permafrost slump located about 40 km upstream from the Inconnu spawning area in the Selawik River. In 2004, the permafrost slump began emitting large amounts of sediment into the river. In 2010, the investigators began monitor the annual abundance and age structure of the Selawik River Inconnu spawning population to determine if the sediment emitted from the permafrost slump resulted in an identifiable impact to the Inconnu population over time. Through that research the data did not establish an effect of the permafrost slump on Inconnu recruitment. Information collected from this project would confirm the previous study and may be useful on a wide scale for interpreting the effect of climate change on other white fish populations. Capacity building consists of engaging a local hire via a contract, youth involvement and consulting with stakeholders. This project propose involving two local youth internships (university and high school) with the goal of introducing young individuals to fisheries resource management. Investigators have successfully completed multiple years of work funded through Monitoring Plan. They have a history of fisheries research in the Arctic and have been involved in many Inconnu studies.

Project Number: 22-150
Project Title: Traditional Ecological Knowledge of Salmon in the River Drainages of Kotzebue Sound

Technical Review Committee Justification: This two-year project will contribute to understanding of the effects of environmental change on salmon in the Northwest Arctic, as well as the shifting capacity for subsistence users in Ambler, Noorvik, and Kotzebue to harvest them. This project would directly address the 2022 Priority Information Need: “Evaluate changing salmon distribution, abundance, migration, and timing in river drainages of Kotzebue Sound (the Noatak and Kobuk River Drainages).” The investigators would have strengthened their response to the Priority Information Need by combining TEK with Stock Status and Trends work. Federal nexus is provided by the Noatak National Preserve and Kobuk Valley National Park. Ms. Mikow will rely on well-established social science methods, employing participant

observation and semi-structured interviews that integrate mapping. Local research assistants will be hired to assist with fieldwork and community meetings, as well as presentations on research to the communities. A letter of support was provided from the Native Village of Kotzebue, which has a history of coordinating regional research.

APPENDIX 1
PROJECTS FUNDED IN THE NORTHERN ALASKA REGION SINCE 2000

Project Number	Project Title	Investigators
	North Slope	
00-002	Eastern NS Dolly Varden Spawning and Over-wintering Assessment	ADF&G, USFWS
01-113	Eastern NS Dolly Varden Genetic Stock ID Stock Assessment	ADF&G, USFWS
01-101	Eastern NS (Kaktovik) Subsistence Fish Harvest Assessment	AD&FG, KIC
02-050	NS (Anaktuvuk Pass) Subsistence Fish Harvest Assessment	ADF&G, NSB, AKP
03-012	SST of Arctic Cisco and Dolly Varden in Kaktovik Lagoons	USFWS
04-103	North Slope Dolly Varden Sonar Feasibility	USFWS
06-108	North Slope Dolly Varden Aerial Monitoring	ADF&G
07-105	North Slope Dolly Varden Genetic Baseline Completion	USFWS
07-107	Hulahula River Dolly Varden Sonar Enumeration	USFWS
12-154	North Slope Salmon Fishery HM/TEK	ADF&G
14-103	Beaufort Sea Dolly Varden Dispersal Patterns	UAF
16-101	Arctic Dolly Varden Telemetry	USFWS
16-106	Aerial Monitoring of Dolly Varden Overwintering Abundance	ADF&G, USFWS
16-107	Chandler Lake Trout Abundance Estimation	ADF&G
16-152	Meade River Changes in Subsistence Fisheries	ADF&G
18-100	Colville River Grayling Habitat and Migration	ADF&G
	Northwest Arctic	
00-001	Northwestern Dolly Varden and Arctic Char Stock Identification	ADF&G, USFWS
00-020	Hotham Inlet Kotzebue Winter Subsistence Sheefish Harvest	ADF&G
01-136	Northwestern Alaska Dolly Varden Genetic Diversity	ADF&G, USFWS
01-137	Northwestern Alaska Dolly Varden Spawning Stock Assessment	ADF&G
02-023	Qaluich Nigingnaqtuat: Fish That We Eat	AJ
02-040	Kotzebue Sound Whitefish Traditional Knowledge	ADF&G, MQ
03-016	Selawik River Harvest ID, Spring and Fall Subsistence Fisheries	USFWS
04-101	Selawik River Inconnu Spawning Abundance	USFWS
04-102	Selawik Refuge Whitefish Migration and Habitat Use	USFWS
04-109	Wulik River Dolly Varden Wintering Stocks	USFWS, ADF&G
04-157	Exploring Approaches to Sustainable Fisheries Harvest Assessment	ADF&G, MQ

Project Number	Project Title	Investigators
07-151	Northwest Alaska Subsistence Fish Harvest Patterns and Trends	ADF&G, MQ
08-103	Kobuk River Sheefish Spawning and Run Timing	ADF&G, USFWS
10-100	Selawik Drainage Sheefish Winter Movement Patterns	UAF, USGS, USFWS, NVK
10-104	Hotham Inlet Kotzebue Winter Subsistence Sheefish Harvest	USFWS
10-152	Climate Change and Subsistence Fisheries in Northwest Alaska	UAF
12-100	Selawik River Sheefish Spawning Abundance and Age Structure	USFWS
12-103	Kobuk River Sheefish Spawning Frequency, Location, and Run Timing	ADF&G, USFWS
12-104	Noatak River Dolly Varden Evaluation of Overwintering Populations	ADF&G, NPS
12-153	NW AK Key Subsistence Fisheries Harvest Monitoring Program	ADF&G, MQ
14-104	Selawik R Inconnu Spawning Population Abundance	USFWS
16-103	Kobuk River Dolly Varden Genetics	ADF&G, USFWS
16-104	Selawik Sheefish Age Structure and Spawning Population	USFWS
16-105	Kobuk River Sheefish Abundance	ADF&G
18-101	Kobuk River Dolly Varden Genetic Diversity	ADF&G, USFWS
20-101	Life-history variability and mixed-stock analysis of Dolly Varden in the Noatak River.	ADF&G
20-150	Traditional Ecological Knowledge of Dolly Varden and whitefish species in Northwest Alaska	ADF&G
	Seward Peninsula	
01-224	Nome Sub-district Subsistence Salmon Survey	ADF&G, KI
02-020	Pikmiktalik River Salmon Site Surveys and Enumeration	USFWS, NPS, STB, KI
04-105	Pikmiktalik River Chum and Coho Salmon Enumeration	KI
04-151	Customary Trade of Fish in the Seward Peninsula Area	ADF&G, KI
05-101	Unalakleet River Coho Salmon Distribution and Abundance	ADF&G, NVU
06-101	Pikmiktalik River Chum and Coho Salmon Enumeration	KI
10-102	Unalakleet River Chinook Salmon Abundance Estimate	ADF&G, BLM, NSEDC
10-151	Local Ecological Knowledge of Non-Salmon Fish in the Bering Strait	KI
14-101	Unalakleet River Chinook Salmon Abundance Estimate	NSEDC,NVU
18-103	Unalakleet River Chinook Salmon Escapement Assessment	ADF&G, BLM NSEDC,NVU
20-100	Fish Assemblages and Genetic Stock Determination of Salmon in Bering Land Bridge National Preserve	ADF&G, BLM NPS

Abbreviations used for investigators are: **ADF&G** = Alaska Department of Fish and Game, **AJ** = Anore Jones, **AKP** = City of Anaktuvuk Pass, **BLM** = Bureau of Land Management, **KI** = Kawarek Inc., **KIC** = Kaktovik Inupiat Corp., **MQ** = Maniilaq, **NSEDC** = Norton Sound Economic Development Corporation, **NVU** = Native Village of Unalakleet, **NSB** = North Slope Borough, **STB** = Stebbins IRA, **SWCA** = SWCA Environmental Consultants, **UAF** = University Alaska Fairbanks, **USFWS** = U.S. Fish and Wildlife Service, and **USGS** = U.S. Geological Survey.

APPENDIX 2
EXECUTIVE SUMMARIES

The following executive summaries were written by principal investigators and were submitted to the Office of Subsistence Management as part of proposal packages. They may not reflect the opinions of the Office of Subsistence Management or the Technical Review Committee.

Project Number:	22-101
Title:	Kotzebue Sound Sheefish-Describing Coastal Movement, Temperature Preference, and Potential Range Expansion
Geographic Region:	Northern Alaska Region
Data Type:	Stock Status and Trends
Principal Investigator:	Dr. Kevin Fraley, Wildlife Conservation Society
Co-investigator:	None
Project Cost:	**2022:** $154,515 **2023:** $58,796 **2024:** $19,600 **2025:** $0
Total Cost:	$232,911

Issue: Our project will address the sheefish portion of three Priority Information Needs identified by the 2022 Fisheries Resource Monitoring Program through information gathered in Subsistence Regional Advisory Committee meetings:

1) Changes in Arctic grayling, Dolly Varden, and sheefish populations related to Climate Change.

2) Changes in species compositions, abundance, migration timing, especially of Dolly Varden, lake trout and whitefish species in the Northwest Arctic, to address changing availability of subsistence fishery resources.

3) Identifying spawning areas, critical habitat and range expansion in major rivers tied to subsistence for broad whitefish, least cisco, northern pike, salmon, Arctic grayling, Dolly Varden and sheefish in the Northwest Alaska Region.

Based on the multiple 2022 Priority Information Needs that address sheefish (or whitefish) populations, migrations, and range expansions, it is clear that more information is needed to answer questions posed by local fishermen, the Northwest Arctic Subsistence Regional Advisory Council, and fisheries researchers about sheefish ecology in Northwest Alaska. Given this need, we have designed a project that will answer several of the important questions posed regarding sheefish migration, distribution, and potential new feeding or spawning areas. The findings from our project will enhance the current information known about the species, allowing federal subsistence managers to make informed decisions in the future based on the abundance, movements, and availability of these fish along the Chukchi Sea Coast. Additionally, the results from this project will be of great interest to subsistence fishers, particularly given recent reports of poor sheefish harvests and changes in abundance. Subsistence fishermen harvest over 25,000 sheefish annually in the Kotzebue region, thus the population health of the species is vital to local food security.

Objectives:

1) Identify the seasonal movements and northern range extent of sheefish found along the southern Chukchi Sea coast north of their typical overwintering areas (Hotham Inlet) and feeding range (Kotzebue Sound) with the use of pop-up archival satellite tags (PSATs).

2) Identify previously unknown or recently colonized sheefish spawning, feeding, or overwintering habitats.

3) Identify sheefish water temperature occupancy in coastal habitats and freshwater.

Methods: To assess sheefish movements and behavior, first, in 2022-2023 we will catch fish in coastal lagoons in Cape Krusenstern National Monument, Alaska (north of the typical range of the species) via fyke net, beach seine, and gillnet during annual WCS fisheries monitoring efforts. Next, we will attach pop-up satellite archival tags to 20 adult sheefish. The tags will record water temperature, depth, and light intensity experienced by the fish, will release and float to the water surface after several months, and will transmit data to researchers via the Argos Satellite Network. Data will be used to determine locations, movements, water temperature occupied, and depths of each fish over the time it was tagged. Information will be summarized to quantify the extent of sheefish northerly movements, seasonal migration patterns, habitat preferences, and novel feeding or spawning areas in and around Kotzebue Sound.

Partnerships/Capacity Building: This project will be a collaborative effort between the Native Village of Kotzebue, the Wildlife Conservation Society, University of Alaska Fairbanks, Alaska Department of Fish and Game, Selawik National Wildlife Refuge, and the National Park Service. Collaborating with local communities is paramount to the success of this project and is a guiding principal for all WCS work. The Native Village of Kotzebue, through their Environmental Program Director Alex Whiting, was involved in the study design, helped shape the outreach approach, and will continue to be an equal partner in the continued project efforts. Additionally, during project implementation, we will hire a local field technician through the Native Village of Kotzebue to assist with the study.

Project Number:	22-103
Title:	Unalakleet River Chinook Salmon Escapement Assessment-Continuation
Geographic Region:	Northern Alaska Region
Data Type:	Stock Status and Trends
Principal Investigator:	Kevin Clark, Alaska Department of Fish and Game
Co-investigator:	Wes Jones, Norton Sound Economic Development Corporation Merlyn Schelske, U.S. Bureau of Land Management
Project Cost:	**2022:** $173,204 **2023:** $184,108 **2024: $**197,115 **2025:** $151,902
Total Cost:	$706,329

Issue: The Unalakleet River supports the largest Chinook salmon subsistence fishery in Norton Sound. Unalakleet River Chinook salmon total annual run averaged 20,790 fish prior to 2000 and 6,058 fish since 2000, a 64% decrease. Failure to consistently meet the escapement goal lead the Alaskan Board of Fisheries to declare Unalakleet River Chinook salmon a stock of yield concern in 2004, which has continued through 2021.

Prior to 2010, management decisions depended on an enumeration tower on the North River and radiotelemetry studies conducted in 1998–1999 and 2009 to estimate the total escapement to the Unalakleet River drainage. Inconsistent operation of the counting tower and uncertainties concerning the number of spawners in the North River versus the Unalakleet River called into question the ability of the project to inform fishery management decisions. In 2010, the Unalakleet River weir was initiated to provide: 1) a reliable annual estimate of Chinook salmon escapement and 2) unbiased age, sex, and length (ASL) composition for Chinook salmon escapement.

The Unalakleet River weir project has been renewed twice by OSM for continued operations. The Unalakleet River weir escapement estimates and ASL data are being used to manage Chinook salmon subsistence, commercial, and sport fisheries in Subdistrict 6, develop outlooks of run abundance, evaluate brood year productivity, and examine effects of harvest practices on spawning escapement. Though the data collected during weir operations have improved management precision, several more years of data are needed before recruit-per-spawner analyses can produce a reliable escapement goal for the Unalakleet River drainage.

Objectives:

1) Estimate daily and total Unalakleet River Chinook salmon escapement from mid-June to August 15 each year.

2) Describe the timing of Unalakleet River Chinook salmon run.

3) Estimate ASL composition of the Unalakleet River Chinook salmon escapement such that the age composition estimate is within 20% of the actual estimate 90% of the time and the sex composition estimate is within 10% of the actual estimate 95% of the time.

Methods: A resistance board weir will be installed approximately 22 kilometers upstream from the Unalakleet River mouth, which is below identified Chinook salmon spawning habitat. The Unalakleet River weir will be installed in mid-June and operate until August 15. Two passage chute/live trap assemblies will allow project staff to count Chinook salmon and will be configured with an angled high visibility flash panel to enhance visibility. Counting periods will consist of three 8-hour shifts. Salmon will be identified by species, enumerated, and summed to estimate a total daily passage by species. Counts will be conducted 24 hours a day with flood lamps used during low-light conditions. Counting schedules can be adjusted for changes in diurnal migratory patterns or operational constraints. Missed daily counts for Chinook salmon will be interpolated using a hierarchical Bayesian estimation technique.

Active sampling techniques will be utilized to capture Chinook salmon for data collection. Salmon will be measured to the nearest millimeter from mid-eye to tail fork and sex will determined by examining external characteristics. Three scales will be taken from each Chinook salmon using standard protocols, mounted on gummed cards, and sent to the Nome ADF&G office for processing. Sampling protocols can be adjusted inseason to address differences between expected and observed run abundance and timing. Stream and ambient air temperature, relative water level, and atmospheric observations will be recorded twice daily. Additionally, a HOBO Pro v2 data logger will record stream temperature at 6-hour intervals.

Partnerships/Capacity Building: ADF&G holds annual community meetings in Unalakleet to share information and address concerns about the project from area residents. The goal is to work with Unalakleet residents to minimize the effects of the weir on individuals using the river for subsistence harvest and to collect sound biological information. Additionally, ADF&G attends the Seward Peninsula Subsistence Regional Advisory Council Meeting to present information and address questions.

Currently two local organizations participate in the operation of the Unalakleet River weir: Norton Sound Economic Development (NSEDC) and Unalakleet Native Corporation (UNC). Weir oversight is provided by ADF&G with daily operations conducted by a Fish and Wildlife Technician III crew leader, ADF&G Fish and Wildlife Technician II, and one locally hired Fishery Technician (NSEDC). Locally hired technicians learn fish sampling skills which include proper salmon scale collection, standardized length measurement and sex determination, installation and operation of a weir, and accurate collection, recording, and reporting of data. Local-hire emphasis fosters involvement of resource users as active participants in fisheries assessment and management. A BLM fishery biologist and student intern will participate in setting up and removing the weir. The field camp is situated on UNC land.

In addition to improving management tools and filling data gaps, the Unalakleet River weir project promotes communication, data sharing, and interaction between subsistence users, Federally recognized tribes, organizations, communities, and agencies.

Letters of support from NSEDC and UNC have been included.

Project Number:	22-104
Title:	Selawik River Inconnu Spawning Population Age Structure Evaluation and Spawner Recruitment Response to a 2004 Permafrost Thaw Slump
Geographic Region:	Northern Alaska Region
Data Type:	Stock Status and Trends
Principal Investigator:	Raymond Hander, USFWS Fairbanks Fish and Wildlife Conservation Office
Co-investigator:	Dr. Randy J. Brown, USFWS, Fairbanks Fish and Wildlife Conservation Office William K. Carter III, USFWS, Selawik National Wildlife Refuge Catherine Bradley, USFWS, Conservation Genetics Laboratory
Project Cost:	**2022:** $0 **2023:** $120,816 **2024:** $34,036 **2025:** $281,534
Total Cost:	$281,534

Issue Addressed: This project addresses priority issues identified for the Northern Alaska Region in the Fisheries Resource Monitoring Program (FRMP): most prominently from 2021's list, "Changes in Grayling, Dolly Varden and Sheefish populations related to Climate Change". This project benefits from information provided by FRMP projects 16-104,14-104,12-100, 04-101, 03-016, 02-040, 00-020.

In the Kotzebue Sound region of northwest Alaska, two Inconnu spawning populations have been identified, one in the upper Kobuk River and the other in the upper Selawik River within the Selawik National Wildlife Refuge. Inconnu is one of the most important food resources in the Kotzebue region where 20,000 or more are harvested each year in subsistence, sport, and commercial fisheries.

A large permafrost thaw slump (slump), located about 50 rkm upstream from the Inconnu spawning area on the Selawik River, began releasing large amounts of sediment into the river in 2004. From approximately 2004 to 2011 the Selawik River flowed turbid through the spawning area during the summer months and at times the gravel bars in the spawning area became layered in fine sediment and mud. As of 2012, more than 580,000 m^3 of sediment had thawed with approximately two-thirds of that volume mobilized into the Selawik River. During the summers of 2009–2011, measured turbidity at the slump outflow averaged 34 times greater than a reference site upstream from the slump, and turbidity near the Inconnu spawning area was about 11 times greater than a reference site. Turbid water conditions have been observed at the mouth of the Tagagawik River, 150 rkm downstream from the slump, but were rarely observed in the lower Selawik River, 100 rkm farther downstream. It was clear that the sediment released by the slump has been progressively and steadily deposited onto the riverbed. By 2016 the slump had stabilized and its floor and deposition fan were almost completely vegetated with grasses and shrubs. In mid-July 2019, however, the slump began thawing again and delivering sediment into the Selawik River and continued during summer 2020. Based on similar slumps longevity, we assume that the Selawik River slump could continue for some time.

Sediment additions to rivers, whether natural or human caused, are known to be detrimental to river-spawning fishes. Habitat qualities of the Inconnu spawning area in the Selawik River have undoubtedly been changed because of the dramatically increased sediment exposure. Habitat changes may reduce the proportion of fertilized eggs that develop successfully and produce young. If production is reduced but not eliminated the Inconnu population would be expected to decline over time. If production is eliminated

the population would be expected to become extinct as existing fish gradually die off. The increased sediment in the upper Selawik River is an environmental factor that may have a profound effect on the Inconnu population that spawns there as well as the subsistence fishers that depend on them.

Objectives:

1) Collect Inconnu age and length data from male Inconnu from the Selawik and Kobuk River spawning populations in 2023 and 2024;

2) Characterize the brood years observed in 2023 and 2024 (BY 1992-2012) as weak or strong recruitment years using catch-curve residuals (Maceina 1997; Tetzlaff et al. 2011).

3) Test the null hypothesis that the proportional compositions of the young (≤15 years of age) and old (>15 years of age) components are similar among the two spawning populations.

Project Design*:* We hypothesize that Inconnu recruitment success will be similar in the Kobuk and Selawik rivers if there is no slump effect on reproductive success, but that reduced recruitment success in the Selawik River would be indicative of a slump effect. The age distribution will be characterized in each river in 2023 and 2024, corresponding to fully recruited age classes (age-15 and older) from the 2007 and 2008 brood years, respectively, and earlier. In the Selawik River, this will be derived from a sample of 200 males caught on the spawning grounds. These fish can be sacrificed for otoliths and distributed to communities without reducing the number of fertilized eggs on the spawning grounds. The Alaska Department of Fish and Game will provide a similar sample (up to 200, if available) from incidental Inconnu captures from their Chum Salmon test fishery on the Kobuk River near the community of Kiana in July and August. Chi-squared analysis testing the difference in the proportion of young (< 15 years) fish in each river will be performed to test our hypothesis.

We further hypothesize that Selawik River brood years associated with the slump (2004 and later) will be relatively weak compared to brood years prior to the slump. To test this, we will perform a catch-curve regression and characterize brood years as weak or strong using a residual analysis. We will increase our aged fish sample by sampling an additional 300 males each year, measuring fork length and releasing unharmed, in the Selawik River and applying an age-length key derived from the 200 aged fish to estimate ages for the additional sample prior to the regression analysis.

Partnerships and Capacity Building: Through the Native Village of Selawik (NVOS), residents of Selawik will be sought for assistance with collecting otoliths, overseeing Inconnu carcass processing, and transportation and logistical support. Training for sampling procedures will be conducted for individuals prior to initiating sampling. During the 2011-2018 project period there were numerous Selawik residents plus the NVOS that cooperated with the project to help make it a success and we intend to continue that relationship through contracts or similar methods. The FFWFO has worked periodically with Selawik residents or the NVOS organization for about 30 years.

The USFWS has partnered with the Alaska Native Science and Engineering program (ANSEP) to increase the number of Alaska Native Persons within the science workforce. By providing internships and

an academic scholarship, the USFWS creates an opportunity for students pursuing degrees in the sciences to gain experience in the field of conservation. An ANSEP student interning on this project will build their skills and experience with fish collection, biological fish sampling, importance of careful data recording and management, biological sample organization and accounting, fish preservation, exposure to other Selawik River fish species, field equipment care, and shared camp life experience. The ANSEP student's salary will be requested through the proposed project budget. An ANSEP student academic scholarship(s) will be funded through a separate financial assistance award issued by the USFWS Regional Office. The student will have communication with the project leader(s) before field work to familiarize how and why the study is being conducted and provided with educational materials such as literature about northwest Alaska Inconnu and permafrost thaw.

In coordination with the NVOS we will mentor a senior or junior Selawik high school student at the project to provide skill building experience similar to the ANSEP student. If appropriate, provide documentation for the student to receive academic credit for their experience and participation. The student will receive a daily stipend within the scope of the USFWS regulations. The student will have communication with the project leader(s) similar to the ANSEP student before field work. The student will also have opportunity to share their views and experiences about fish and wildlife resources they have encountered.

Project Number:	22-150
Title:	Traditional Ecological Knowledge of Salmon in the River Drainages of Kotzebue Sound
Geographic Region:	Northern Alaska Region
Data Type:	Traditional Ecological Knowledge
Principal Investigator:	Elizabeth Mikow, Alaska Department of Fish and Game, Division of Subsistence
Co-investigator:	None
Project Cost:	**2022:** $164,450 **2023:** $117,642 **2024: $0** **2025:** $0
Total Cost:	$282,091

Issue Addressed: This proposed project addresses a priority information need identified for the Arctic region regarding changes in salmon distribution, abundance, migration, and timing in river drainages of Kotzebue Sound (USFWS 2021). While chum (*Oncorhynchus keta*) are the predominant species of salmon in the region, all five species of Pacific salmon that return to Alaska are found in the Kobuk and Noatak River drainages.[1] Chum, sockeye (*Oncorhynchus nerka*), Chinook (*Oncorhynchus tshawytscha)*, and pink salmon (*Oncorhynchus gorbuscha)* are present in the Kobuk River, while these four species and coho salmon (*Oncorhynchus kisutch)* are present in the Noatak River. Salmon species are an important part of the subsistence diet of the region and are harvested in large quantities by residents throughout the 14 communities of the Kotzebue management district (Braem et al. 2017, Braem et al. 2018, Braem et al.

[1] ADF&G. 2021. Anadromous Waters Catalog Interactive Mapping. https://www.adfg.alaska.gov/sf/SARR/AWC/index.cfm?ADFG=main.interactive. Accessed February 10, 2021

2015, Magdanz et al. 2011). Division of Subsistence harvest assessment projects in 12 Kotzebue District communities show a heavy reliance on salmon resources (Braem et al. 2017, Braem at al. 2018). In 2013, an estimated 53,272 salmon were harvested by 9 communities (Noatak, Kiana, Noorvik, Selawik, Ambler, Shungnak, Kobuk, Buckland, and Deering). In 2014, an estimated 89,880 salmon were caught by 11 communities in the district (Noatak, Kiana, Noorvik, Selawik, Ambler, Shungnak, Kobuk, Buckland, Point Hope, Shishmaref, and Kotzebue). Recent ethnographic information collected by the Division of Subsistence as a part of these harvest assessment projects has documented concerns by residents of the Kotzebue District regarding environmental changes that have affected their ability to harvest and process salmon. Additionally, during recent Northwest Arctic Regional Subsistence Advisory Council (RAC) meetings in March and November 2020, council members expressed concern regarding water temperatures in the rivers delaying salmon runs, concerns over the potential effects of development, and the particularly poor salmon fishing season in 2020. Building on these recent studies, this project will document traditional ecological knowledge (TEK) from residents of Ambler, Noorvik, and Kotzebue regarding changing salmon distribution, abundance, migration, and timing. These communities were chosen to include perspectives of residents of the region who harvest salmon in the lower and upper Kobuk River, as well as in Kotzebue Sound and the Noatak River. Key respondent interviews will document local observations of fish behavior, health, and abundance. Additionally, interviews will assess the amounts harvested, harvest areas, and means of harvest of key species along with the social and cultural importance of fish resources.

Objectives: There are three objectives for this project:

1) In the communities of Ambler, Noorvik, and Kotzebue, conduct in-depth ethnographic interviews about the TEK of salmon ecology. Interviews will include questions about:

2) salmon species utilized for subsistence;

3) life history and biological information including habitat preferences, spawning and rearing areas, and seasonal movements of fish;

4) traditional and contemporary harvest methods, including timing of harvest, and gear used;

5) observations of fish behavior including seasonal movements, migration timing, spawning and rearing areas, and fish health;

6) relative abundance and population trends for salmon species; and

7) general observations of environmental change.

8) Map historical and contemporary subsistence harvest locations, observed fish migrations, and other important habitats (spawning, juvenile rearing, etc.).

9) Contribute to local capacity building by utilizing a framework of community involvement in research.

Methods: The research will employ standard anthropological data gathering methods of key respondent interviews, participant observation, and mapping to document the TEK of salmon species in Northwest Alaska. ADF&G staff will work closely with participating communities to assure effective local participation. As such, tribal governments will serve as project collaborators, supporting the research through tribal resolutions and assisting investigators in local logistics. In each of the study communities local research assistants will be hired to assist with data collection.

Semi-structured interview protocols provide a format for systematically documenting comparable information about the same or an overlapping set of topics in each community while providing flexibility for each key respondent's level of expertise, experience, and focus. Investigators will use a general semi-structured interview guide framed around the topics listed in Objective 1 and developed in consultation with the tribal councils and other knowledgeable community members. The guide may be modified to reflect regional differences along each river, such as variations in resource use or ceremonial life. Davis and Ruddle (2010:891) stress the importance of a systematic methodology for gathering local knowledge, primarily through peer recommendations. In each community, individuals knowledgeable about salmon will be identified using a snowball method to learn about other experts with the assistance of tribal council and other community members (Usher 2000). Researchers will attempt to interview 10 individuals in Ambler and Noorvik, and, due to the size of the community, 15 individuals in Kotzebue. These sample sizes are based on researchers' previous research experience with the proposed communities and residents' collective subsistence use practices. Because this type of knowledge is likely to be highly specialized, researchers will strive to include all experts with this knowledge without attempting to represent a variety of demographics, including age, gender, and profession.

During interview sessions, key respondents will be asked to map historical and contemporary subsistence harvest areas, as well as historical and contemporary areas of observed fish migration. The temporal focus of these two mapping topics will allow for the documentation of changes to productive areas of harvest as well as any changes to fish abundance and movement in key waterways utilized for subsistence.

Partnerships and Capacity Building: The principal investigator will work with tribal councils in the study communities to hire local project assistants to assist with key respondent interviews and facilitate community meetings. The local research assistants will be trained in ethnographic interview methods. Local research assistants are well positioned to aid in interview data collection due to their understanding of the key species harvested by their community as well their knowledge of local geography for mapping sessions. The PI will work with local research assistants to develop a presentation on study results for community review. Working together in data collection increases communication and leads to better understanding of local issues and local understanding of science and management issues.

ANNUAL REPORTS

Background

ANILCA established the Annual Reports as the way to bring regional subsistence uses and needs to the Secretaries' attention. The Secretaries delegated this responsibility to the Board. Section 805(c) deference includes matters brought forward in the Annual Report.

The Annual Report provides the Councils an opportunity to address the directors of each of the four Department of Interior agencies and the Department of Agriculture Forest Service in their capacity as members of the Federal Subsistence Board. The Board is required to discuss and reply to each issue in every Annual Report and to take action when within the Board's authority. In many cases, if the issue is outside of the Board's authority, the Board will provide information to the Council on how to contact personnel at the correct agency. As agency directors, the Board members have authority to implement most of the actions which would effect the changes recommended by the Councils, even those not covered in Section 805(c). The Councils are strongly encouraged to take advantage of this opportunity.

Report Content

Both Title VIII Section 805 and 50 CFR §100.11 (Subpart B of the regulations) describe what may be contained in an Annual Report from the councils to the Board. This description includes issues that are not generally addressed by the normal regulatory process:

- an identification of current and anticipated subsistence uses of fish and wildlife populations within the region;
- an evaluation of current and anticipated subsistence needs for fish and wildlife populations from the public lands within the region;
- a recommended strategy for the management of fish and wildlife populations within the region to accommodate such subsistence uses and needs related to the public lands; and
- recommendations concerning policies, standards, guidelines, and regulations to implement the strategy.

Please avoid filler or fluff language that does not specifically raise an issue of concern or information to the Board.

Report Clarity

In order for the Board to adequately respond to each Council's annual report, it is important for the annual report itself to state issues clearly.

- If addressing an existing Board policy, Councils should please state whether there is something unclear about the policy, if there is uncertainty about the reason for the policy, or if the Council needs information on how the policy is applied.
- Council members should discuss in detail at Council meetings the issues for the annual report and assist the Council Coordinator in understanding and stating the issues clearly.

- Council Coordinators and OSM staff should assist the Council members during the meeting in ensuring that the issue is stated clearly.

Thus, if the Councils can be clear about their issues of concern and ensure that the Council Coordinator is relaying them sufficiently, then the Board and OSM staff will endeavor to provide as concise and responsive of a reply as is possible.

Report Format

While no particular format is necessary for the Annual Reports, the report must clearly state the following for each item the Council wants the Board to address:

1. Numbering of the issues,
2. A description of each issue,
3. Whether the Council seeks Board action on the matter and, if so, what action the Council recommends, and
4. As much evidence or explanation as necessary to support the Council's request or statements relating to the item of interest.

ANNUAL REPORT REPLY PROCESS REVIEW

During the Federal Subsistence Board's (Board) August 2021 work session, the Interagency Staff Committee (ISC) briefed the Board on the annual report reply process and possible revisions to improve response to Regional Advisory Council (Council) concerns. The Board reviewed and discussed the annual report reply process and agreed to add this topic to the Councils Fall meeting agendas for Council input on suggested revisions.

ANILCA, Section 805 authorizes the Councils to prepare an annual report containing information related to current and future subsistence uses of fish and wildlife populations, an evaluation of current and future subsistence needs for these populations, a strategy for their management, and recommendations related to policies, standards, guidelines, and regulations to implement the strategy. These reports are invaluable as they provide the Board with a broad, holistic picture of local resource conditions, and the needs and challenges facing communities across rural Alaska. With this knowledge, the Board can make more informed decisions.

Historically, the Federal Subsistence Management Program has strived to provide responses to every topic listed in annual reports, regardless of the Board's ability to address the issues raised. While all topics are important to Board understanding of local conditions, many are on issues over which the Board has no regulatory authority, and some of the same or similar topics are often repeated in subsequent years with no resolution. ANILCA does not require replies to annual reports from the Councils and currently the Code of Federal Regulations state that the Board "consider the reports and recommendations of the Regional Councils." For these and other reasons, it is unclear if Board responses on all annual report topics are helpful to the Councils and warrant the use of often very limited staff capacity.

One way to address Council reports and recommendations would be to change the process of how the Board responds to Council issues. Process revisions could include that Councils consider letter writing as the most appropriate means for requesting a response to topics of concern, and that the annual report process be streamlined as a mechanism for informing the Board of local conditions and needs. This revision would allow for more substantive and timely responses from the Board on topics most critical to the Councils. Under this scenario, Councils could ask their Coordinators to write a letter to the Board if there are annual report topics to which they are specifically requesting a response. Any other topics, such as those outside the regulatory authority of the Board, can be addressed to the appropriate Federal agency staff at Council meetings, or Councils can write letters requesting a response directly from them, thus streamlining the response process and encouraging direct agency communications with the Councils.

These suggested revisions are not intended to diminish the ability of the Councils to report to the Board on topics of concern, and Councils will still receive responses when requested from the Board. At this time, the Board is seeking input from the Councils on these suggested changes to the annual report process. Council feedback on this issue is critical as the Board evaluates how to make the reply process more efficient and responsive. The Board will consider Council input on the annual report reply process at its winter work session at the end of January 2022.

National Park Service Update
Gates of the Arctic National Park and Preserve
Northwest Arctic Regional Advisory Council Meeting
November 1-2, 2021

Subsistence

The Gates of the Arctic National Park Subsistence Resource Commission (SRC) met on April 14, 2021 via teleconference. The SRC received updates on the Ambler Mining District Road project as well as management updates from park staff. The SRC sent a letter to Secretary Debra Haaland sharing concerns about the SRC appointment/reappointment process and the length of time it takes. The SRC will also be submitting a comment letter to the Board of Game on proposals affecting the Dalton Highway Corridor Management Area. The next SRC meeting is scheduled for November 16-17, 2021 via teleconference.

For more information, contact Marcy Okada, marcy_okada@nps.gov and (907) 455-0639

Western Arctic Caribou Herd

- In spring of 2021, NPS and ADF&G biologists deployed collars on the Western Arctic Herd using a helicopter and netgun, due to the abnormal migration patterns of the herd in recent years. For the next deployment, biologists are planning to deploy collars in the spring of 2022 from helicopter.

- NPS and ADF&G biologists collaborated to analyze 10 years of Western Arctic Herd GPS data to better understand the seasonal patterns of range use of the herd. Besides using the calving ground every year, they found that the herd consistently uses the same area for insect harassment. Winter areas changed from year to year, and fall migration was more variable than spring migration. There are many more interesting aspects of how the herd uses its range, and you can find them at: https://www.nps.gov/articles/000/bouseasonalfidelity.htm.

- NPS biologists collaborated on two studies to develop new tools to better understand how potential development may impact the herd. The first looked at how proposed roads may impact caribou migrations and the second measured how much different proposed EIS alternatives might impact a range of species in the NPR-A. Find more information on both of these studies here: https://www.nps.gov/articles/000/toolstoassessimpacts.htm.

- In a summary article, NPS and ADF&G biologists discussed how methods to detect calving in caribou were found to work beyond just the Western Arctic Herd, for which these methods were validated earlier. These findings highlight that these methods may be more broadly applicable to other caribou herds around the state. More information can be found at: https://www.nps.gov/articles/000/aps-20-1-9.htm.

- NPS biologists are collaborating on the Global Initiative on Ungulate Migration, which will work to document the movements of migratory ungulates in a global atlas. The goals are to address conservation needs of species and their habitats globally, find out more at: https://www.nps.gov/articles/000/migrationmapping.htm.

Contact Kyle Joly for more information or with questions: kyle_joly@nps.gov.

National Park Service Update
Gates of the Arctic National Park and Preserve
Northwest Arctic Regional Advisory Council Meeting
November 1-2, 2021

Moose

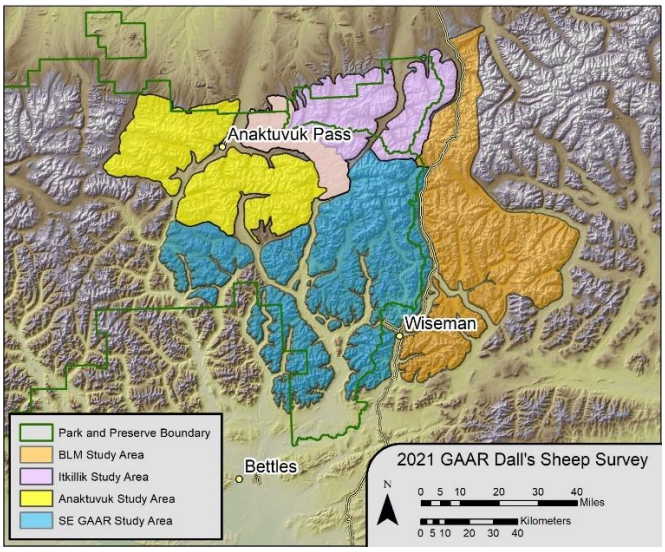
NPS is planning to conduct a moose survey in and around Gates of the Arctic National Park and Preserve in late March of 2022. The last survey was conducted in 2015. The survey will be based out of Bettles and we expect it to take less than a week.
Contact Matt Cameron for more information or with questions: matthew_cameron@nps.gov or 907-455-0626.

NPS was part of a collaborative study to develop a new way to measure forage quality for moose, using a specialized camera mounted on a drone. The study found that the new method worked well and the team hopes it could be scaled up to help understand why animals utilize a broader landscape. Learn more at: https://www.nps.gov/articles/000/mooseforagequality.htm

Dall's Sheep

The NPS, in partnership with the BLM, conducted distance sampling surveys for Dall's sheep from July 8-14, 2021 in Gates of the Arctic Park and Preserve (Gates) and BLM lands surrounding the Dalton Highway. Surveys have been conducted annually in the Itkillik area of northeast Gates since 2009 and since 2015 in the area surrounding Anaktuvuk Pass (except for no survey in 2020 due to Covid-19). In addition, we flew transect surveys in SE Gates of the Arctic Park (Between the Dalton Highway and the John River) and in BLM lands east and west of the Dalton Highway, both of which were last surveyed in 2015.
Full results from the 2021 survey are not yet available, however, our initial assessment suggests the sheep populations in the Anaktuvuk and Itkillik areas are stable when compared to the last few years. An initial assessment of data from SE Gates and the BLM study area suggests there have been significant declines in sheep abundance in both areas since the last survey in 2015. More information, including the full results of population models, will be available at your spring meeting.
For more information, contact Will Deacy: william_deacy@nps.gov or 907-455-0684

Map of 2021 Survey areas. Note: the Anaktuvuk and Itkillik study areas overlap in the tan region east of Anaktuvuk Pass.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Anchorage Field Office
4700 BLM Road
Anchorage, Alaska 99507-2591

Bureau of Land Management – Anchorage Field Office
Updates to Subsistence Regional Advisory Councils
Fall 2021 Meetings

Summer 2021 saw a return to some field work operations. BLM staff worked diligently to get back into the swing of field season, while adhering to all COVID-19 protocols and mitigations. Preventing the COVID-19 spread has been a critical focus for all programs.

An overview map of the Anchorage Field Office can be found at: https://www.blm.gov/sites/blm.gov/files/documents/files/Maps_Alaska_Anchorage-Field-Office.pdf

BLM Alaska publicly available interactive maps are available at: https://blm-egis.maps.arcgis.com/apps/MinimalGallery/index.html?appid=d2da853631fe4b60ac768f19bec4e84b

Wildlife

- Contributed funds in an Interagency Agreement with the NPS to help fund the Western Arctic Caribou Herd Working Group meeting this December. The meeting is funded by BLM, National Park Service, US Fish & Wildlife Service (USFWS), and Alaska Department of Fish & Game (ADF&G). The Working Group will discuss the management of the herd and its current population status.

- Assisted ADF&G with muskox classification counts on the Seward Peninsula in April, by providing a helicopter and field staff from Nome to count muskox groups, for the 2021 Peninsula wide muskox population estimate.

- Issued subsistence permits in July for the Federal muskox hunts in GMU 22B and 22D on the Seward Peninsula.

- Issued subsistence permits in August for the Federal moose hunt in in GMU 22A to Unalakleet residents.

- Completed two breeding bird survey routes on the Unalakleet and Anvik rivers in June. These routes provide data to the US Geological Survey to determine bird population trends across North America.

- Contributed funds through an Interagency Agreement with the USFWS Togiak Wildlife Refuge to help monitor the Mulchatna Caribou Herd. Funds will be used to capture and collar

caribou in the Goodnews Bay and Carter spit area to help determine movement of animals that use that area.

Aquatics

- Collected genetic sampling in August of arctic char and water in the Kigluaik Mountains on the Seward Peninsula for environmental DNA.

- Completed initial aquatic habitat baseline data work around Aniak and Galena as part of its National Assessment, Inventory, and Monitoring Program (AIM). AIM data provides a framework to inventory and quantitatively assess the condition and trend of natural resources on public lands.

- Ongoing stream gaging flow quantification efforts on Big River and Unalakleet Wild & Scenic River

- Ongoing water quality monitoring work at Platinum and Nixon Fork Mines

- Provided juvenile salmon identification books for the Bristol Bay Fly Fishing and Guide Academy being held August.

Ecology

- Developed a terrestrial monitoring program for the Kobuk Seward Peninsula Planning Area as part of its AIM Program. In July 2021, 38 plots were established and sampled using this monitoring framework. Data on plant cover, bare ground, invasive species, sensitives species, and soil structure were collected. In addition to these national core monitoring indicators, BLM has developed new methods to collect data on lichen cover and disturbance to determine rangeland health in areas that BLM permits reindeer grazing.

- In August 2021, will visit and maintain seven exclosures on the Seward Peninsula. These small fenced-in areas protect vegetation from grazing, providing a baseline to learn about the long-term effects of grazing on lichens and plants. The exclosures were installed in 2011 and 2012 and now require a comprehensive maintenance visit. Monitoring will occur next year to assess how the vegetation within them has changed over the past 10 years.

- Issued four firewood harvest permits to residents on the Seward Peninsula.

- In August 2021, plans to install two permafrost monitoring stations along the Iditarod National Historic Trail near Nikolai. These stations will monitor the trail's impact to permafrost soil properties and to provide important data to fill a spatial gap and assist University of Alaska-Fairbanks efforts to model permafrost temperatures across Alaska. Also collaborating with local schools in Nikolai and McGrath to develop a program to educate and involve local students in the project and further their understanding of the permafrost soils around them.

- Collaborated with the United State Forest Service Forest Inventory and Analysis Program (FIA) to facilitate data collection at 50 plot locations on BLM within the FIA's Southwest Inventory Unit.

- Invasive species inventory, treatment, and monitoring data was entered into BLM's new Vegetation Management Action Portal that houses all of BLM's spatial data relating to vegetation treatments. This new database will greatly reduce redundant data entry from field users and will increase analysis and reporting capabilities.

- Anchorage Area:
  - Collected pre-treatment data in June 2021 for a collaborative University of Alaska-Anchorage research project to learn how to construct fuel breaks that are more resilient to spruce bark beetle attack and wind events. The project will establish three experimental fuel break treatment plots plus one control plot on Campbell Tract. Spruce trees in the three treatment plots will be thinned to 8-12 foot spacing. The three treatments vary in how the felled material will be processed: 1) stand thinned and trees left exactly as felled, 2) stand thinned and trees cut to 4-6 foot lengths and scattered within the treatment area, and 3) stand thinned and felled trees chipped and scattered within the treatment area. Treatments are planned for early winter of 2021.
  - Conducted invasive species control treatments on Campbell Tract in July with another planned for August 2021. White sweet clover, bird vetch, orange hawkweed, bird cherry, and yellow toadflax were spot treated within a 6-acre area that is assessed annually.
  - Continues to support the Anchorage Cooperative Invasive Species Management Area through an assistance agreement to partially fund meetings, public events, and chairperson coordination.

Recreation

- In August 2021, plan to inspect guide and outfitter camps in GMU 23.

- Issued new Special Recreation Permit (SRP) for guided bear hunts in GUA 22-06,07. July BLM conducted permit monitoring for one camp location used during 2 spring bear hunts.

- Conducted SRP monitoring in the Nulato Hills area, Kateel River, Galena, along the Golsovia & Unalakleet Rivers

Iditarod National Historic Trail

- Conducted public shelter cabin inspections along the Iditarod National Historic Trail (NHT).

- BLM partner the Iditarod Historic Trail Alliance is supporting and working with the community of White Mountain to develop a new public shelter cabin along the Iditarod Trail in the Topkok Hills west of the town.

- The Iditarod NHT program is providing technical assistance to the Iditarod Historic Trail Alliance and Nome Kennel Club for the installation of safety way-markers along the trail east of Nome.

Realty

- The Bureau of Land Management is announcing next steps in the implementation of the Alaska Native Vietnam-era Veterans Land Allotment Program and is seeking public comments to support an environmental assessment that will consider the effects of opening certain lands to selection by eligible Alaska Native Vietnam-era Veterans. The lands to be analyzed are associated with 28 million acres identified in five public land orders signed in January 2021. The 60-day public comment period ends on Sept. 21, 2021.
    - Maps and other planning documents associated with the project are available on the BLM's National NEPA Register at https://eplanning.blm.gov/eplanning-ui/project/2014748/510
    - For additional information on the environmental assessment development, contact project lead Racheal Jones at rajones@blm.gov
    - For questions on the Alaska Native Vietnam-era Veteran Allotment Program of 2019 visit https://www.blm.gov/alaska/2019AKNativeVetsLand or contact Paul Krabacher at pkrabach@blm.gov

Hazmat

- With new Hazmat staff onboard, start planning for cleanup activities at nine remote sites near Salmon Lake, Rohn, Golsovia Creek, and Jacksmith Creek. Activities will include removal of non-hazardous solid waste, non-historic structures, and oil/hazardous substances contamination

- Conducted a site visit and assessment with the US Army Corps of Engineers at the Kodiak Burma Road Military Munitions Response Program Site.

- Attended the annual Project Delivery Team meeting for the Kodiak Buskin Beach Formerly Used Defense Site

Minerals

- Conducted inspections in late June at two operations in the Nome area, assessing the cleanup of unauthorized use and occupancy and a Notice of exploration.

- Continues to work with operators in the Flat area addressing compliance issues including ongoing reclamation and monitoring.

- Conducted inspection of Platinum Mine in early August. Mining and Aquatics staff are working with claimant to move forward the Salmon River Fish Passage Enhancement Project.

OSM report for fall 2021 Council meetings

Dear Madam Chair, members of the Council,

On behalf of OSM, I want to thank all Council members for your exceptional work that you do on behalf of your communities and user groups during these trying times. We value your expertise and contribution of your knowledge and experience to the regulatory process.

It has been very difficult for all of us dealing with the COVID-19 environment.

Teleconferences

As you've learned from Chairman Christianson's letter dated August 20, 2021, we are holding all 10, fall 2021 Regional Advisory Council meetings via teleconference. This decision was made with the utmost consideration and concern for the health and safety of Council members, families, rural communities, the public, and staff who are all part of Council meetings. The health and safety of everyone is our highest priority. The DOI guidelines advise that people avoid travel and refrain from meeting in person to minimize risk and help prevent the spread of COVID-19. The Regional Advisory Councils are the foundation of Alaska's Federal Subsistence Management Program. The Federal Subsistence Management Program recognizes that in-person meetings are preferable; however, until we can ensure the safety of all participants, we will follow current guidance and hold all meetings via teleconference. We thank you for being willing to participate in the lengthy teleconference and appreciate your patience as we deal with the various technical issues that arise from the poor telephonic connections, the vast distances involved, and differing communication systems throughout the state.

OSM staff changes

Since your last Council meetings in winter 2021, the following OSM staffing changes have occurred. We are very pleased to announce that Amee Howard has joined OSM as our new Deputy Assistant Regional Director. Amee previously worked in OSM as Policy Coordinator. We also are very pleased to see that a number of staff that worked at OSM for a while, grew with the program and got promoted. Katya Wessels was promoted from Council Coordinator to supervisor of the Council Coordination Division. Lisa Grediagin was promoted from Wildlife Biologist to supervisor of the Wildlife Division. Robbin La Vine was promoted from Anthropologist to Policy Coordinator. Additional good news is that three Wildlife Biologists positions at OSM were filled. Tom Plank came to us from the Bureau of Land Management (BLM) in Utah. Brian Ubelaker came to OSM from BLM in Anchorage. Kendra Holman came to OSM from the U.S. Army Corp of Engineers in Anchorage. We also had some departures at OSM through retirement and new opportunities. We bid a fond farewell to Donald Mike, Caron McKee, and Zach Stevenson. The OSM team is diligently working on building capacity and will be filling several new positions in our Anthropology, Council Coordination, Fisheries, and Regulatory divisions, along with adding additional Administrative support.

The application period is now open for two Subsistence Council Coordinator positions with OSM. These are GS-12 positions. The job announcements are posted on usajob.gov Please help us spread the word and help us find great candidate for these key positions in our Program. If you have any questions, call Katya Wessels at 907-786-3885.

Real ID for travel to Council meetings

Over the past two years we have been reminding Council members about the change in requirements for IDs at airports. Beginning May 3, 2023, every air traveler will need to present a REAL ID-compliant driver's license, or other acceptable form of identification (e.g. passport), to fly within the United States. This is applicable even when you fly on small bush carriers. Please note that all Council members will need to make sure that they have the required Real ID for travel to the fall 2023 Council meetings.

Lawsuit from the State of Alaska

As you were previously briefed, on August 10, 2020, the State of Alaska filed a lawsuit against the Federal Subsistence Board after it adopted Emergency Special Action WSA19-14. This special action allowed the village of Kake to engage in a community harvest of 2 antlered moose and 5 male Sitka black-tailed deer. Also included in the lawsuit was Temporary Special Action WSA20-03, which closed Federal public lands in Units 13A and 13B to non-Federally qualified moose and caribou hunters. As part of the lawsuit, the State asked the Court to issue two preliminary injunctions -- one to prevent the Unit 13 closure from taking effect and another vacating the Kake hunt and prohibiting the Board from allowing any additional emergency hunts related to the impacts of COVID-19. On Sept. 18, the U.S. District Court denied the State's request for a preliminary injunction on the Unit 13 closure. The Court found that, "Because the State has not demonstrated either a likelihood of success or serious questions on the merits of its claims, the court need not consider the remaining elements of the preliminary injunction analysis." Two months later, on November 18, the Court also denied the State's motion for preliminary injunction on the Kake hunt after Judge Gleason concluded that the State had not demonstrated a likelihood of success on the merits, raised serious questions on the merits of its claims, or demonstrated any likelihood of irreparable harm. While these rulings on preliminary injunction are encouraging, they did not resolve the litigation. Recent developments are that settlement negotiations between the Department of Justice, the DOI Solicitor's Office, the USDA Office of General Counsel, and the State proved unsuccessful. A Briefing was completed at the end of August of 2021, and we are now awaiting the Court's decision. Based on legal guidance, Program staff does not comment on any active litigation directed against the Federal Subsistence Board beyond what we have reported here.

I would be happy to answer any questions. Thank you Madam Chair, Council members.

Building Partnerships and Capacity for Federal Subsistence Fisheries Management and Research in the North

Partners for Fisheries Monitoring Program (PFMP)

Introduction

The Partners for Fisheries Monitoring Program was established in 2002 to increase the opportunity for Alaska Native and rural organizations to participate in Federal subsistence management. The program provides funding for fishery biologist, social scientist, or educator positions within the organization, with the intent of building and sustaining the organization's fisheries management expertise. In addition, the program supports a variety of opportunities for local, rural students to connect with subsistence management through science camps and paid internships.

The program has provided funding to mentor more than 100 college and 450 high school students, some of whom have gone on to become professionals in the field of natural resource conservation. To date with 13.3 million dollars spent, the program has supported nine Alaska Native organizations in building capacity. Organizations are funded for up to four years through a competitive grant process.

How to Get Involved

The next funding opportunity will open in 2023; it is never too early to reach out and to begin planning the components of a proposed PFMP program. The Office of Subsistence Management (OSM) is happy to answer questions and provide advice regarding its various funding programs.

OSM also partners with the Alaska Native Science and Engineering Program (ANSEP) to provide internship opportunities that expose students to careers in natural resource management. If your existing Alaska based fisheries program could benefit from a student internship, or if your program has exciting fisheries-related opportunities to challenge and educate Alaska's rural youth, please be sure to let us know!

For more information, please visit our site at https://www.doi.gov/subsistence/partners. You can also contact the program's coordinator, Karen Hyer at karen_hyer@fws.gov or 907-786-3689.

Partner Contacts

- **BBNA**: Cody Larson, clarson@bbna.com
- **YTT:** Jennifer Hanlon, jhanlon@ytttribe.org
- **NVE**: Matt Piche, matt.piche@eyak-nsn.gov
- **NVN**: Dan Gillikin, dangillikin@gmail.com
- **ONC**: Janessa Esquible, jesquible@nativecouncil.org

- **TCC:** Brian McKenna, brian.mckenna@tananachiefs.org
- **QTU:** Chandra Poe, chandra@qawalagin.com

2021 Partners Program Participant Summaries

Bristol Bay Native Association (BBNA)

The Bristol Bay Native Association (BBNA) researches and highlights the role of fish used in satisfying a way of life, through collaborative investigations with our member tribes, universities, and state and federal managers. These partnerships inform our citizens of any changes to the public's relationships with fish and emphasize the value in the co-production of traditional knowledge and contemporary sciences research.

The BBNA Partners program funding is used in supporting the conversation between our residents, communities, and the managers tasked with decision-making on essential food resources. The program reinforces public input to the region's Fish and Game Advisory Committees, NPS Subsistence Resource Commissions, and the Federal Regional Advisory Council, while relaying information gathered from the social science investigations. Recent focus has been on subsistence fishery funding from section 12005 of the Cares Act, and the Chignik Fisheries disaster relief efforts.

Over the past year, the program informed and collaborated on multiple investigations and recent publications, some of which are available online and focus on; The Naknek River Subsistence Salmon Harvest, Subsistence Salmon Sharing Networks on the Alaska Peninsula, Voices of Alaska Native Women Fishers, Sharing Food and Community Resilience, and a Subsistence Harvest Assessment and Stock Composition of Dolly Varden and Nonsalmon Fish Stocks in the Togiak National Wildlife Refuge.

BBNA's program has coordinated dozens of internships with partners like Lake Clark National Park, Togiak National Wildlife Refuge, Alaska Dept. of Fish and Game, and the University of Washington. The leaders involved in these summer experiences have guided many students into careers in natural resource management. Some of those students have now become the mentors to the next cohort of future leaders. While the 2020 summer internships were successfully held virtually, we are looking forward to getting the hands-on field experiences in 2021!

Yakutat Tlingit Tribe (YTT)

Yakutat Tlingit Tribe (YTT) is a federally recognized tribe with 820 enrolled Tribal Members located on the northern coast of the Gulf of Alaska. Developing conservation concerns about local salmon stocks have highlighted the need for building capacity for fisheries monitoring and management in the YTT Environmental Department. Through the Partners Program, YTT hired a full time Fisheries Biologist in 2020 to participate in subsistence management and instill placed-based knowledge on the Situk River. YTT's Fisheries Biologist partners with the Yakutat District River Ranger to serve as the primary contacts to the public on the Situk River (April-September).

The team's primary job is to contact Situk users to promote stewardship and cultural awareness. Being on the river during peak fishing seasons, they can communicate conservation messages to anglers streamside on topics like catch and release, don't tread on redds, salmon ecology, angler etiquette, current regulations, alternative fishing sites, and habitat degradation. The biologist provides river users with

context about history and cultural importance of salmon with the Situk being the primary source for subsistence in Yakutat. In the past, brown bears associating anglers with fish has been a safety concern for both people and bears on the Situk. However, in coordination with the USFS Wildlife Biologist and Fish and Game, the River Rangers have aggressively worked to curb the behaviors amongst fisherman that lead to this problem. The consistent presence of the partners alone will prompt stewardship and good behavior amongst the varied Situk River users.

The Partners Program has enhanced YTT's capacity by broadening the scope of resources and tools available to the Tribe such as allowing access to valuable datalike river use, stream restoration trainings, and research methods like eDNA. This partnership forges a strong foundation that strengthens and supports the YTT Environmental Department's capacity to identify and respond to conservation concerns that impact tribal interests. YTT looks forward to expanding the department and welcoming an intern under the Partners Program.

Tanana Chiefs Conference (TCC)

The Tanana Chiefs Conference (TCC) serves as a non-profit organization for the Interior region of Alaska. The TCC region covers an area of 235,000 square miles and overlaps three separate National Wildlife Refuges (NWR): Kanuti, Koyukuk-Innoko-Nowitna, and the Yukon Flats. Since its creation, the TCC has become the provider of several programs in the Interior of Alaska. Through contracts with the Bureau of Indian Affairs, TCC is responsible for the management and delivery of services such as housing, land management, tribal government assistance, education and employment services, and natural resources management.

Within TCC's organizational structure, the Wildlife and Parks (W&P) Program is responsible for serving the subsistence needs of its tribes and tribal members. The Partners Program allows the TCC W&P Program the ability to maintain a fulltime fisheries biologist on staff and has allowed TCC to develop the capacity to address the subsistence needs of TCC tribes and tribal members by conducting a variety of fisheries research programs and also by participating in federal and state fisheries management meetings.

Through the Partners Program, TCC has successfully operated the Henshaw Creek Weir salmon monitoring project in the upper Koyukuk River. TCC strives to recruit and hire local technicians and youth to assist with the project each year. The Henshaw project also hosts an annual summer science and culture camp that is jointly operated by TCC and the Kanuti NWR. Elders and youth are brought together at the camp where the Elders teach students traditional skills (like setting nets, cutting and drying fish, and Athabascan language). TCC and Kanuti staff provide lessons in western science such as weir sampling, salmon biology and ecology and fisheries management.

Outside of the Henshaw Creek Weir project, TCC has been able to lead other fisheries investigations such as updating the Yukon River Chinook and chum salmon genetic baselines, mapping salmon spawning habitat and updating the Anadromous Waters Catalog and exploring the capabilities of small unmanned aerial systems to assist with salmon research and management. Additionally, each year they host one or two Alaska Native Science and Engineering Program (ANSEP) summer bridge students and provide them with the opportunity to gain hands on knowledge and experience in fisheries management within the Yukon River drainage.

Native Village of Eyak (NVE)

The Native Village of Eyak's Department of the Environment and Natural Resources (NVE-DENR) Fisheries Program focuses on population monitoring, filling data gaps, using traditional ecological knowledge to improve data collection, and working with partners to ensure a future with healthy robust fish populations while supporting sustainable fisheries. PFMP funds are used to support a permanent fish biologist responsible for leading the fisheries program and seasonal fisheries interns who gain valuable hands-on experience.

The current PFMP is also supporting the development of a youth science and subsistence camp and outreach with other organizations and researchers throughout the region. Current research led by NVE's Partners Program biologist includes Chinook salmon inriver abundance, Copper River (2003-2021); Chinook salmon distribution and stock specific run timing, Copper River (2019-2021); Klutina River salmon enumeration sonar pilot study (2021-2024).

Furthermore, NVE is continually sharing its resources and expertise to accomplish more work through partnerships with other researchers. Current partners on side-studies include Alaska Department of Fish and Game Division of Sport Fish and Commercial Fisheries, Prince William Sound Science Center, and Ahtna Intertribal Resource Commission.

Native Village of Napaimute (NVN)

The Native Village of Napaimute (NVN) is a federally recognized tribe and has about 100 members; the village is only seasonally occupied currently. The Napaimute Partners in Fisheries Monitoring Program main goals are to; improve effectiveness of local outreach related to fisheries management, provide opportunities in natural resource education and experience for local youth, build local capacity through strategic program and workforce development, and develop a sustainable natural resource program.

Outreach related to fisheries management is achieved by participating in management discussions with various advisory groups i.e., Kuskokwim River Inter Tribal Fish Commission, Kuskokwim Salmon Management Working Group, and agencies (ADF&G, USFWS). We routinely post in-season management actions on social media and around the Villages to keep fishers informed on the latest regulations.

Our youth outreach involves two projects; the Math Science Expedition (MSE) and the George River Internship (GRI). The MSE is tailored more to be leadership development experience with some exposure to fisheries ecology and data collection. The MSE typically accommodates 25-30 students on a two week-long rafting trip down the Salmon and Aniak Rivers.

The GRI is an advanced paid Internship opportunity on the George River where Interns learn about river ecology, hydrology, sampling techniques for fish and benthic macro- invertebrates, leadership skills and career opportunities in the area of natural resource management.

The PFMP has allowed us to build the capacity to peruse funding for and help support fisheries monitoring programs (Aniak Test Fishery & Salmon River Weir) funded through the USFWS Fisheries Resource Monitoring Program, along with several environmental monitoring and fisheries assistance projects. Projects are mostly staffed by local residents and Alaska Native Science and Engineering Students (ANSEP).

Orutsararmiut Native Council (ONC)

Orutsararmiut Native Council (ONC) is the Federally recognized Tribal Government for the Native Village of Bethel, Alaska and has greatly expanded its Partners Program since 2008. ONC Partners Program strives to support ongoing fisheries in season and postseason monitoring programs; serve as a mentor for rural, Alaska Native student interns in coordination with other state, federal, and tribal entities; communicate results of the fisheries monitoring program projects to various audiences to enhance federal subsistence management awareness in rural communities; continue youth internship programs; and pursue external funds and partnerships to expand the current Partners Program. In the past, with the support of the Partners Program, ONC was able to conduct annual Science & Culture Camps, as well as science, technology, engineering, and math (STEM) middle school career exploration programs in Bethel with the help of Alaska Native Science & Engineering Program (ANSEP) and several other partner agencies.

Our Partners Program also became involved with the Aniak & Salmon River Math & Science Expedition by fisheries educational outreach with youth from the middle Kuskokwim. ONC's involvement with youth camp programs throughout the years was able to reach many students ranging from 6th to 12th grade. Despite the difficulties and cancellations that came with the COVID-19 pandemic, ONC's Partners Program work has continued in a safe manner with new procedures and creative methods to engage youth. We would like to sincerely thank the Office of Subsistence Management and other partnering entities, for without their support, our program would not have had the ability to support the youth of the Yukon-Kuskokwim Delta. The support of our partners has allowed ONC to have great success in expanding its involvement on scientific and educational outreach projects and programs.

Qawalangin Tribe of Unalaska (QTU)

The Qawalangin Tribe of Unalaska is a federally recognized sovereign nation. The Unangan people have continuously occupied their homelands along the Aleutian and Pribilof Islands for thousands of years, relying on a close relationship with the sea and lands.

As a new participant in the Partners program, the Tribe is looking forward to continuing work to ensure healthy subsistence species and food sovereignty for generations to come.

A key project in our first year as a Partners program participant was collaborating with ADFG to operate a weir at McLees Lake, monitoring this sockeye run that is an important subsistence resource for the community. In our first year, we restored structures at the site that had fallen into disrepair during a 2-year gap in funding for the weir. Our staff gained experience in weir setup and operations and scale sampling. We are looking forward to building our staff capacity and increasing our presence at the weir in coming seasons and working to ensure continuity of this important salmon monitoring site.

In addition to continuing work at the McLees weir in partnership with ADFG, in the coming years we are looking forward to establishing a strong outreach and education program to build awareness and support of subsistence resource management, so important to our coastal community.

Subsistence Regional Advisory Council Correspondence Policy

The Federal Subsistence Board (Board) recognizes the value of the Regional Advisory Councils' role in the Federal Subsistence Management Program. The Board realizes that the Councils must interact with fish and wildlife resource agencies, organizations, and the public as part of their official duties, and that this interaction may include correspondence. Since the beginning of the Federal Subsistence Program, Regional Advisory Councils have prepared correspondence to entities other than the Board. Informally, Councils were asked to provide drafts of correspondence to the Office of Subsistence Management (OSM) for review prior to mailing. Recently, the Board was asked to clarify its position regarding Council correspondence. This policy is intended to formalize guidance from the Board to the Regional Advisory Councils in preparing correspondence.

The Board is mindful of its obligation to provide the Regional Advisory Councils with clear operating guidelines and policies, and has approved the correspondence policy set out below. The intent of the Regional Advisory Council correspondence policy is to ensure that Councils are able to correspond appropriately with other entities. In addition, the correspondence policy will assist Councils in directing their concerns to others most effectively and forestall any breach of department policy.

The Alaska National Interest Lands Conservation Act, Title VIII required the creation of Alaska's Subsistence Regional Advisory Councils to serve as advisors to the Secretary of the Interior and the Secretary of Agriculture and to provide meaningful local participation in the management of fish and wildlife resources on Federal public lands. Within the framework of Title VIII and the Federal Advisory Committee Act, Congress assigned specific powers and duties to the Regional Advisory Councils. These are also reflected in the Councils' charters. *(Reference: ANILCA Title VIII §805, §808, and §810; Implementing regulations for Title VIII, 50 CFR 100 _.11 and 36 CFR 242 _.11; Implementing regulations for FACA, 41 CFR Part 102-3.70 and 3.75)*

The Secretaries of Interior and Agriculture created the Federal Subsistence Board and delegated to it the responsibility for managing fish and wildlife resources on Federal public lands. The Board was also given the duty of establishing rules and procedures for the operation of the Regional Advisory Councils. The Office of Subsistence Management was established within the Federal Subsistence Management Program's lead agency, the U.S. Fish and Wildlife Service, to administer the Program. *(Reference: 36 CFR Part 242 and 50 CFR Part 100 Subparts C and D)*

Policy

1. The subject matter of Council correspondence shall be limited to matters over which the Council has authority under §805(a)(3), §808, §810 of Title VIII, Subpart B §___.11(c) of regulation, and as described in the Council charters.

2. Councils may, and are encouraged to, correspond directly with the Board. The Councils are advisors to the Board.

3. Councils are urged to also make use of the annual report process to bring matters to the Board’s attention.

4. As a general rule, Councils discuss and agree upon proposed correspondence during a public meeting. Occasionally, a Council chair may be requested to write a letter when it is not feasible to wait until a public Council meeting. In such cases, the content of the letter shall be limited to the known position of the Council as discussed in previous Council meetings.

5. Except as noted in Items 6, 7, and 8 of this policy, Councils will transmit all correspondence to the Assistant Regional Director (ARD) of OSM for review prior to mailing. This includes, but is not limited to, letters of support, resolutions, letters offering comment or recommendations, and any other correspondence to any government agency or any tribal or private organization or individual.
    a. Recognizing that such correspondence is the result of an official Council action and may be urgent, the ARD will respond in a timely manner.
    b. Modifications identified as necessary by the ARD will be discussed with the Council chair. Councils will make the modifications before sending out the correspondence.

6. Councils may submit written comments requested by Federal land management agencies under ANILCA §810 or requested by regional Subsistence Resource Commissions (SRC) under §808 directly to the requesting agency. Section 808 correspondence includes comments and information solicited by the SRCs and notification of appointment by the Council to an SRC.

7. Councils may submit proposed regulatory changes or written comments regarding proposed regulatory changes affecting subsistence uses within their regions to the Alaska Board of Fisheries or the Alaska Board of Game directly. A copy of any comments or proposals will be forwarded to the ARD when the original is submitted.

8. Administrative correspondence such as letters of appreciation, requests for agency reports at Council meetings, and cover letters for meeting agendas will go through the Council's regional coordinator to the appropriate OSM division chief for review.

9. Councils will submit copies of all correspondence generated by and received by them to OSM to be filed in the administrative record system.

10. Except as noted in Items 6, 7, and 8, Councils or individual Council members acting on behalf of or as representative of the Council may not, through correspondence or any other means of communication, attempt to persuade any elected or appointed political officials, any government agency, or any tribal or private organization or individual to take a particular action on an issue. This does not prohibit Council members from acting in their capacity as private citizens or through other organizations with which they are affiliated.

Approved by the Federal Subsistence Board on June 15, 2004.

Winter 2022 Regional Advisory Council Meeting Calendar

Last updated 3/19/2021

Due to travel budget limitations placed by Department of the Interior on the U.S. Fish and Wildlife Service and the Office of Subsistence Management, the dates and locations of these meetings will be subject to change.

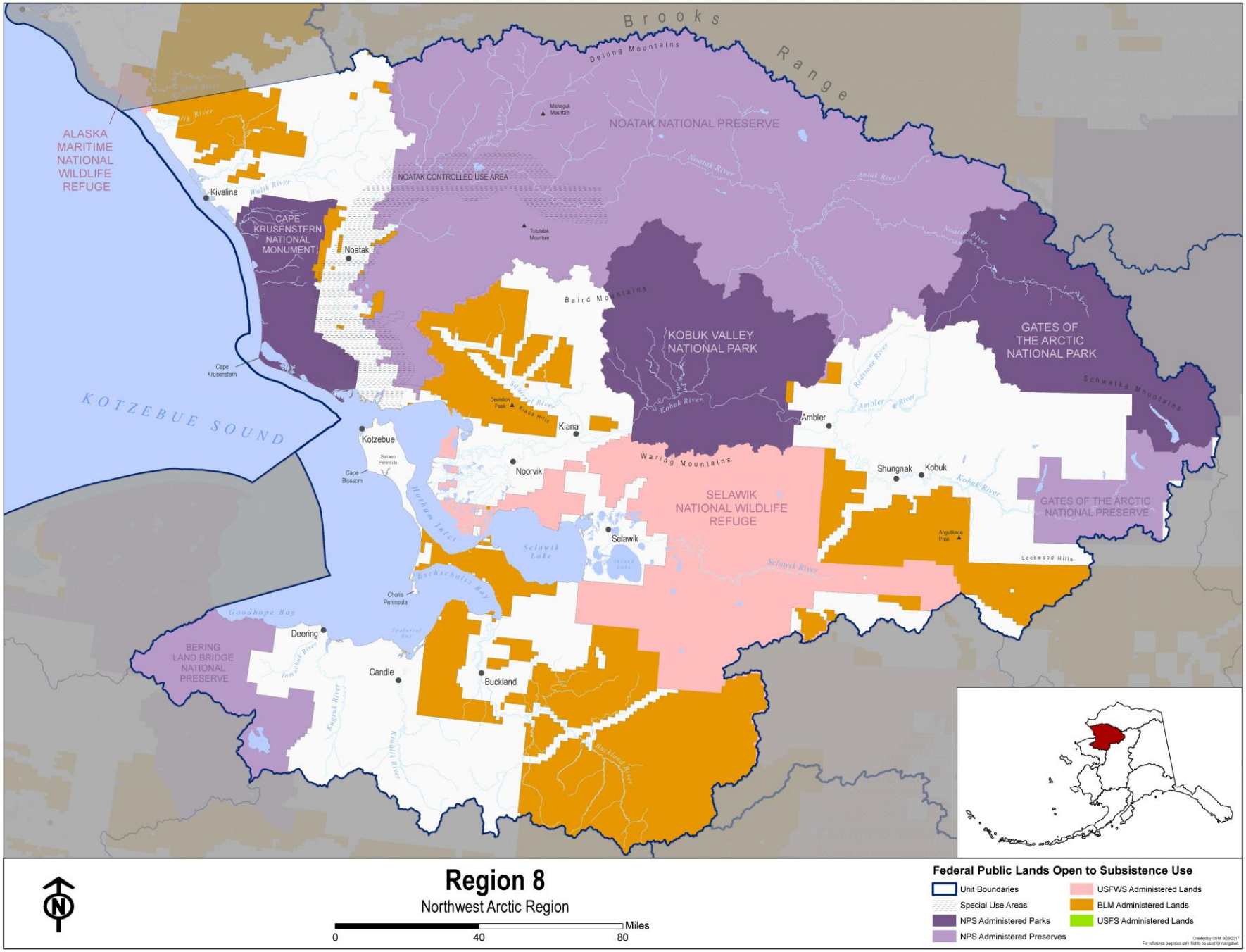
Sunday	Monday	Tuesday	Wednesday-	Thursday	Friday	Saturday
Feb. 6	*Feb. 7 Window Opens*	*Feb. 8*	*Feb. 9*	*Feb. 10*	*Feb. 11*	*Feb. 12*
		BB - Naknek		**SC - Anchorage**		
Feb. 13	*Feb. 14*	*Feb. 15*	*Feb. 16*	*Feb. 17*	*Feb. 18*	*Feb. 19*
	NWA - Kotzebue		**WI - Galena**			
Feb. 20	*Feb. 21* ***PRESIDENTS DAY HOLIDAY***	*Feb. 22*	*Feb. 23*	*Feb. 24*	*Feb. 25*	*Feb. 26*
		KA - Kodiak				
Feb. 27	*Feb. 28*	*Mar. 1*	*Mar. 2*	*Mar. 3*	*Mar. 4*	*Mar. 5*
		YKD - Bethel		**SP - Nome**		
Mar. 6	*Mar. 7*	*Mar. 8*	*Mar. 9*	*Mar. 10*	*Mar. 11*	*Mar. 12*
		EI - Fort Yukon				
		NS - TBD				
Mar. 13	*Mar. 14*	*Mar. 15*	*Mar. 16*	*Mar. 17*	*Mar. 18*	*Mar. 19*
Mar. 20	*Mar. 21*	*Mar. 22*	*Mar. 23*	*Mar. 24*	*Mar. 25* *Window Closes*	*Mar. 26*
		SEA - Sitka				

Fall 2022 Regional Advisory Council Meeting Calendar

Last updated 8/5/2021

Due to travel budget limitations placed by Department of the Interior on the U.S. Fish and Wildlife Service and the Office of Subsistence Management, the dates and locations of these meetings will be subject to change.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Aug. 7	*Aug. 8 Window Opens*	*Aug. 9*	*Aug. 10*	*Aug.11*	*Aug. 12*	*Aug.13*
Aug. 14	*Aug. 15*	*Aug. 16*	*Aug. 17*	*Aug. 18*	*Aug. 19*	*Aug. 20*
Aug. 21	*Aug. 22*	*Aug. 23*	*Aug. 24*	*Aug. 25*	*Aug. 26*	*Aug. 27*
Aug. 28	*Aug. 29*	*Aug. 30*	*Aug. 31*	*Sep. 1*	*Sep. 2*	*Sep. 3*
Sep. 4	*Sep. 5* **Labor Day Holiday**	*Sep. 6*	*Sep. 7*	*Sep. 8*	*Sep. 9*	*Sep. 10*
Sep. 11	*Sep. 12*	*Sep. 13*	*Sep. 14*	*Sep. 15*	*Sep. 16*	*Sep. 17*
Sep. 18	*Sep. 19*	*Sep. 20*	*Sep. 21*	*Sep. 22*	*Sep. 23*	*Sep. 24*
Sep. 25	*Sep. 26*	*Sep. 27*	*Sep. 28*	*Sep. 29*	*Sep. 30*	*Oct. 1*
Oct. 2	*Oct. 3*	*Oct. 4*	*Oct. 5*	*Oct. 6*	*Oct. 7*	*Oct. 8*
Oct. 9	*Oct. 10* **Columbus Day Holiday**	*Oct. 11*	*Oct. 12*	*Oct. 13*	*Oct. 14*	*Oct. 15*
Oct. 16	*Oct. 17*	*Oct. 18*	*Oct. 19*	*Oct. 20*	*Oct. 21*	*Oct. 22*
Oct. 23	*Oct. 24*	*Oct. 25*	*Oct. 26*	*Oct. 27*	*Oct. 28*	*Oct. 29*
Oct. 30	*Oct. 31*	*Nov. 1*	*Nov. 2*	*Nov. 3*	*Nov. 4 Window Closes*	*Nov. 5*


Brooks Range
Delong Mountains
Misheguk Mountain
NOATAK NATIONAL PRESERVE
NOATAK CONTROLLED USE AREA
Tututalak Mountain
Baird Mountains
ALASKA MARITIME NATIONAL WILDLIFE REFUGE
Kivalina
Wulik River
CAPE KRUSENSTERN NATIONAL MONUMENT
Noatak
Cape Krusenstern
KOTZEBUE SOUND
KOBUK VALLEY NATIONAL PARK
GATES OF THE ARCTIC NATIONAL PARK
Schwatka Mountains
Deviation Peak
Waring Mountains
Kiana
Ambler
Kotzebue
Baldwin Peninsula
Cape Blossom
Noorvik
Shungnak
Kobuk
SELAWIK NATIONAL WILDLIFE REFUGE
GATES OF THE ARCTIC NATIONAL PRESERVE
Hotham Inlet
Selawik
Selawik Lake
Angulikada Peak
Lockwood Hills
Choris Peninsula
Goodhope Bay
Deering
BERING LAND BRIDGE NATIONAL PRESERVE
Candle
Buckland
Region 8
Northwest Arctic Region
Miles
0
40
80
Federal Public Lands Open to Subsistence Use
Unit Boundaries
Special Use Areas
NPS Administered Parks
NPS Administered Preserves
USFWS Administered Lands
BLM Administered Lands
USFS Administered Lands

Department of the Interior
U. S. Fish and Wildlife Service

Northwest Arctic Subsistence Regional Advisory Council

Charter

1. **Committee's Official Designation.** The Council's official designation is the Northwest Arctic Subsistence Regional Advisory Council (Council).

2. **Authority.** The Council is renewed by virtue of the authority set out in the Alaska National Interest Lands Conservation Act (ANILCA) (16 U.S.C. 3115 (1988)), and under the authority of the Secretary of the Interior, in furtherance of 16 U.S.C. 410hh-2. The Council is regulated by the Federal Advisory Committee Act (FACA), as amended (5 U.S.C. Appendix 2).

3. **Objectives and Scope of Activities.** The objective of the Council is to provide a forum for the residents of the Region with personal knowledge of local conditions and resource requirements to have a meaningful role in the subsistence management of fish and wildlife on Federal lands and waters in the Region.

4. **Description of Duties.** Council duties and responsibilities, where applicable, are as follows:

   a. Recommend the initiation of, review, and evaluate proposals for regulations, policies, management plans, and other matters relating to subsistence uses of fish and wildlife on public lands within the Region.

   b. Provide a forum for the expression of opinions and recommendations by persons interested in any matter related to the subsistence uses of fish and wildlife on public lands within the Region.

   c. Encourage local and regional participation in the decision-making process affecting the taking of fish and wildlife on the public lands within the Region for subsistence uses.

   cl. Prepare an annual report to the Secretary containing the following:

      (1) An identification of current and anticipated subsistence uses of fish and wildlife populations within the Region.

      (2) An evaluation of current and anticipated subsistence needs for fish and wildlife populations within the Region.

(3) A recommended strategy for the management of fish and wildlife populations within the Region to accommodate such subsistence uses and needs.

(4) Recommendations concerning policies, standards, guidelines, and regulations to implement the strategy.

e. Appoint three members to each of the Cape Krusenstern National Monument and the Kobuk Valley National Park Subsistence Resource Commissions and one member to the Gates of the Arctic National Park Subsistence Resource Commission in accordance with section 808 of ANILCA.

f. Make recommendations on determinations of customary and traditional use of subsistence resources.

g. Make recommendations on determinations of rural status.

h. Provide recommendations on the establishment and membership of Federal local advisory committees.

i. Provide recommendations for implementation of Secretary's Order 3347: Conservation Stewardship and Outdoor Recreation, and Secretary's Order 3356: Hunting, Fishing, Recreational Shooting, and Wildlife Conservation Opportunities and Coordination with States, Tribes, and Territories. Recommendations shall include, but are not limited to:

(1) Assessing and quantifying implementation of the Secretary's Orders, and recommendations to enhance and expand their implementation as identified;

(2) Policies and programs that:

(a) increase outdoor recreation opportunities for all Americans, with a focus on engaging youth, veterans, minorities, and other communities that traditionally have low participation in outdoor recreation;

(b) expand access for hunting and fishing on Bureau of Land Management, U.S. Fish and Wildlife Service and National Park Service lands in a manner that respects the rights and privacy of the owners of non-public lands;

(c) increase energy, transmission, infrastructure, or other relevant projects while avoiding or minimizing potential negative impacts on wildlife; and

(d) create greater collaboration with States, Tribes, and/or Territories.

j. Provide recommendations for implementation of the regulatory reform initiatives and policies specified in section 2 of Executive Order 13777: Reducing Regulation and Controlling Regulatory Costs; Executive Order 12866: Regulatory Planning and Review, as amended; and section 6 of Executive Order 13563: Improving Regulation and Regulatory Review. Recommendations shall include, but are not limited to:

Identifying regulations for repeal, replacement, or modification considering, at a minimum, those regulations that:

(1) eliminate jobs, or inhibit job creation;

(2) are outdated, unnecessary, or ineffective;

(3) impose costs that exceed benefits;

(4) create a serious inconsistency or otherwise interfere with regulatory reform initiative and policies;

(5) rely, in part or in whole, on data or methods that are not publicly available or insufficiently transparent to meet the standard for reproducibility; or

(6) derive from or implement Executive Orders or other Presidential and Secretarial directives that have been subsequently rescinded or substantially modified.

All current and future Executive Orders, Secretary's Orders, and Secretarial Memos should be included for discussion and recommendations as they are released. At the conclusion of each meeting or shortly thereafter, provide a detailed recommendation meeting report, including meeting minutes, to the Designated Federal Officer (DFO).

5. **Agency or Official to Whom the Council Reports.** The Council reports to the Federal Subsistence Board Chair, who is appointed by the Secretary of the Interior with the concurrence of the Secretary of Agriculture.

6. **Support.** The U.S. Fish and Wildlife Service will provide administrative support for the activities of the Council through the Office of Subsistence Management.

7. **Estimated Annual Operating Costs and Staff Years.** The annual operating costs associated with supporting the Council's functions are estimated to be $150,000, including all direct and indirect expenses and 1.0 Federal staff years.

8. **Designated Federal Officer.** The DFO is the Subsistence Council Coordinator for the Region or such other Federal employee as may be designated by the Assistant Regional Director – Subsistence, Region 11, U.S. Fish and Wildlife Service. The DFO is full-time Federal employee appointed in accordance with Agency procedures. The DFO will:

   (a) Approve or call all Council and subcommittee meetings;

   (b) Prepare and approve all meeting agendas;

   (c) Attend all committee and subcommittee meetings;

   (d) Adjourn any meeting when the DFO determines adjournment to be in the public interest; and

   (e) Chair meetings when directed to do so by the official to whom the advisory committee reports.

9. **Estimated Number and Frequency of Meetings.** The Council will meet 1-2 times per year, and at such times as designated by the Federal Subsistence Board Chair or the DFO.

10. **Duration.** Continuing

11. **Termination.** The Council will be inactive 2 years from the date the Charter is filed, unless, prior to that date, the charter is renewed in accordance with the provisions of section 14 of the FACA. The Council will not meet or take any action without a valid current charter.

12. **Membership and Designation.** The Council's membership is composed of representative members as follows:

    Ten members who are knowledgeable and experienced in matters relating to subsistence uses of fish and wildlife and who are residents of the Region represented by the Council.

    To ensure that each Council represents a diversity of interests, the Federal Subsistence Board in their nomination recommendations to the Secretary will strive to ensure that seven of the members (70 percent) represent subsistence interests within the Region and three of the members (30 percent) represent commercial and sport interests within the Region. The portion of membership representing commercial and sport interests must include, where possible, at least one representative from the sport community and one representative from the commercial community.

    The Secretary of the Interior will appoint members based on the recommendations from the Federal Subsistence Board and with the concurrence of the Secretary of Agriculture.

Members will be appointed for 3-year terms. Members serve at the discretion of the Secretary.

Alternate members may be appointed to the Council to fill vacancies if they occur out of cycle. An alternate member must be approved and appointed by the Secretary before attending the meeting as a representative. The term for an appointed alternate member will be the same as the term of the member whose vacancy is being filled.

Council members will elect a Chair, Vice-Chair, and Secretary for ael-year term.

Members of the Council will serve without compensation. However, while away from their homes or regular places of business, Council and subcommittee members engaged in Council, or subcommittee business, approved by the DFO, may be allowed travel expenses, including per diem in lieu of subsistence, in the same manner as persons employed intermittently in Government service under section 5703 of title 5 of the United States Code.

13. **Ethics Responsibilities of Members.** No Council or subcommittee member will participate in any Council or subcommittee deliberations or votes relating to a specific party matter before the Department or its bureaus and offices including a lease, license, permit, contract, grant, claim, agreement, or litigation in which the member or the entity the member represents has a direct financial interest.

14. **Subcommittees.** Subject to the DFOs approval, subcommittees may be formed for the purpose of compiling information and conducting research. However, such subcommittees must act only under the direction of the DFO and must report their recommendations to the full Council for consideration. Subcommittees must not provide advice or work products directly to the Agency. Subcommittees will meet as necessary to accomplish their assignments, subject to the approval of the DFO and the availability of resources.

15. **Recordkeeping.** Records of the Council, and formally and informally established subcommittees or other subgroups of the Council, must be handled in accordance with General Records Schedule 6.2, and other approved Agency records disposition schedule. These records must be available for public inspection and copying, subject to the Freedom of Information Act (5 U.S.C. 552).

Secretary of the Interior

DEC 1 2 2019

Date Signed

DEC 1 3 2019

Date Filed

Follow and “Like” us on Facebook!
www.facebook.com/subsistencealaska