

EASTERN INTERIOR ALASKA
SUBSISTENCE REGIONAL
ADVISORY COUNCIL

Meeting Materials

November 8-9, 2017

Tok



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Alaskan moose munching on lush foliage in the Eastern Interior.



Photo by NPS

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EASTERN INTERIOR ALASKA SUBSISTENCE REGIONAL ADVISORY COUNCIL

Mushers’ Hall
Tok

November 8, 2017 | 11:00 am – 7:00 pm
November 9, 2017 | 9:00 am – 5:00 pm

TELECONFERENCE: call the toll free number: 1-877-407-8065, then when prompted enter the passcode: 8201631.

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. Please fill out a comment form to be recognized by the Council chair. 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**
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(Time limit of 15 minutes unless approved in advance)

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14. Closing Comments

15. Adjourn (*Chair*)

To teleconference into the meeting, call the toll free number: 1-877-407-8065, then when prompted enter the passcode: 8201631.

Reasonable Accommodations

The Federal Subsistence Board is committed to providing access to this meeting for all participants. Please direct all requests for sign language interpreting services, closed captioning, or other accommodation needs to Katerina “Katya” Wessels, 907-786-3885, katerina_wessels@fws.gov, or 800-877-8339 (TTY), by close of business on October 27, 2017.

REGION 9
Eastern Interior Alaska Subsistence Regional Advisory Council

Seat	Year Appointed <i>Term Expires</i>	Member Name and Community
1	2001 2019	Susan L. Entsminger Mentasta Chair
2	2007 2019	Andrew P. Firmin Fort Yukon Secretary
3	2019	VACANT
4	2007 2019	Lester C. Erhart Tanana
5	2005 2017	William L. Glanz Central
6	2002 2017	Andrew W. Bassich Eagle
7	2017	VACANT
8	2018	VACANT
9	2004 2018	Donald A. Woodruff Eagle
10	2001 2018	Virgil Umphenour North Pole Vice-Chair

EASTERN INTERIOR ALASKA SUBSISTENCE REGIONAL ADVISORY COUNCIL

MEETING MINUTES

February 7-8, 2017
Binkley Room, Pike's Waterfront Lodge
Fairbanks

Tuesday, February 7, 2017

Invocation: Lester Erhart provided an invocation.

Call to Order, Roll Call and Quorum Establishment:

The meeting of the Eastern Interior Alaska Subsistence Regional Advisory Council was called to order Tuesday, February 7 at 9:00 a.m. Katya Wessels, Council Coordinator, conducted a roll call. Council members Sue Entsminger, Andy Bassich, Donald Woodruff, Bill Glanz, Lester Erhart, Vigil Umphenour, and Will Koehler were present. With seven out of 8 Council members present, quorum was established. (Andrew Firmin was absent during roll call, but was present in the afternoon of February 7 and for the remainder of the meeting.)). Introductions were made for Council members, staff, and guests.

Attendees:

In addition to the Council members, the following persons attended some portion of the meeting either in person or by teleconference:

In person:

Gerald Maschmann	Fairbanks	US Fish and Wildlife Service (USFWS)
Steve Berendzen	Fairbanks	Yukon Flats National Wildlife Refuge (NWR), USFWS
Vince Mathews	Fairbanks	USFWS
Matt Keyse	Fairbanks	USFWS
Jim Hjelmgren	Fairbanks	USFWS
Fred Bue	Fairbanks	USFWS
Shawn Bayless	Tok	Tetlin NWR, USFWS
Hollis Twitchell	Fairbanks	USFWS
Steve Arthur	Fairbanks	USFWS
Joanne Bryant	Fairbanks	USFWS
Joanna Fox	Fairbanks	USFWS
Barbara Cellarius	Copper Center	Wrangell-St. Elias National Park and Preserve (NPP), National Park Service (NPS)
Kris Fister	Fairbanks	NPS
Greg Dudgeon	Fairbanks	NPS
Matt Cameron	Fairbanks	NPS
Deborah Coble	Anchorage	NPS

Tayesia Nick	Fairbanks	NPS
Mat Sorum	Fairbanks	Yukon-Charley Rivers National Preserve (NP), NPS
Marcy Okada	Fairbanks	Yukon-Charley Rivers NP, NPS
Glenn Chen	Anchorage	Bureau of Indian Affairs (BIA)
Jill Klein	Anchorage	Alaska Department of Fish and Game (ADF&G)
Alida Trainor	Fairbanks	ADF&G
Beth Lenart	Fairbanks	ADF&G
Nicole Farnham	Fairbanks	Tanana Chiefs Conference (TCC)
Edward Alexander		TCC
Wayne Jenkins	Anchorage	Yukon River Drainage Fisheries Association (YRDFFA)
Christopher Gene		Ahtna Intertribal Resources Commission (AITRC)
Karen Linnell		AITRC
Tom Harris		Kniknatnu
Stephanie Quinn-Davidson		Yukon River Inter-Tribal Fish Commission
R. St. Louis	Fairbanks	
Paul Herbert	Fort Yukon	
Christopher Stark		Bering Sea Fishermen Association
Carl Johnson	Anchorage	Office of Subsistence Management (OSM)
Katerina Wessels	Anchorage	OSM
Lisa Maas	Anchorage	OSM

Via teleconference:

Dan Sharp	Anchorage	Bureau of Land Management (BLM)
Deena Jallen		ADF&G
Crystal Leonetti	Anchorage	USFWS
Zach Stevenson	Anchorage	OSM
Danielle Stickman		YRDFFA
Holly Carroll	Anchorage	ADF&G
Catherine Moncrieff	Anchorage	YRDFFA
Pippa Kenner	Anchorage	OSM
Joshua Ream	Anchorage	OSM
Eva Patton	Anchorage	OSM
Gloria Stickwan	Tazlina	Ahtna, Inc.
Rhonda Pitka	Beaver	Federal Subsistence Board (Board)

Review and Adopt Agenda:

The Council approved a motion (7-0) (**motion #1**) to adopt the Agenda as read with the following changes:

- Item #10(a) *Revisions to Draft MOU with State of Alaska* was removed off the agenda for the lack of report;
- Item #11(f) *U.S. Fish and Wildlife Draft Alaska Native Relations Policy* was added to the agenda under #11(f) in New Business;
- *ADF&G Update on Yukon River Comprehensive Salmon Plan* (by Jill Klein) was moved to be presented directly prior to the USFWS presentation on *Artificial Propagation of Yukon River Salmon* (by Fred Bue);

- *Wrangell-St. Elias National Park and Preserve Report to the Council* (by Barbara Cellarius) was added to the NPS reports section;
- *Discussion on Wildlife Special Action WSA17-02* was added as item #11(g) in New Business;
- *Arctic Wildlife Refuge Report* was added to the Agency Reports section.

Election of Officers:

The Council unanimously elected Susan Entsminger as Council's Chair (**motion #2**), Virgil Umphenour as Vice-chair (**motion #3**), and Andrew Firmin as Secretary (**motion #4**).

Review and Approve Previous Meeting Minutes:

The Council supported a motion (7-0) (**motion #5**) to approve the fall 2017 meeting minutes with no correction, changes, or additions.

Council Member and Chair Reports:

Bill Glanz (Central) reported about renewed problems with caribou management around Central. He observed that quite frequently caribou have been hunted and shot in a very close proximity to people's houses (one was shot in Mr. Glanz's yard), and some animals remained wounded days after the hunt. Local Federally qualified subsistence users do not participate in this hunt because they deem it as too dangerous. Also some caribou were killed on the highway by cars. Mr. Glanz proposed to have a drawing hunt for caribou as a solution to this management problem. He thought that the establishment of a half-a-mile or a mile no-hunt-zone along the highway would not resolve the problem. Mr. Glanz also said that caribou have been overharvested every year since the take always reaches the maximum allowed number. Otherwise, he stated that the moose season was good and some fish was harvested.

Andy Bassich (Eagle) was sorry to miss the meeting in Fort Yukon. Mr. Bassich noted that overall the Federal in-season managers for Yukon are doing a great job managing both Chinook and fall Chum Salmon through allowing short openings. However, it is necessary to continue working with managers on allowing more fishing opportunities for fall Chum Salmon, since people in Eagle and area did not meet their needs for this salmon species. By the time the run reached Eagle, it had turned to just a steady trickle. As a result it took significantly longer to harvest a sufficient number of fish, which took time away from other subsistence activities. In general, September is a very busy month for local residents: garden harvest and moose and caribou hunting take place in September. Eagle is one of the last communities that are heavily involved in dog mushing, so Fall Chum harvest is a critically important resource.

Mr. Bassich's second issue of concern was absence of caribou and low moose harvest, which caused hardship for the users; however the Chinook Salmon harvest was good.

Mr. Bassich stated that since the Council's fall cycle meetings are being scheduled in late October and early November, he would not be able to get to the meetings since the rivers would just start freezing up, which prevents him from getting in and out. Mr. Bassich stressed that it is very important that the Council members who cannot attend the meetings because of the excused absence can call in to a meeting via teleconference or some other method (Skype, WhatsApp, etc.).

Mr. Bassich also spoke about hunter education program issue. He expressed his frustration that it has been almost five years since the Council brought this issue up but it seems like nothing has been getting done. There was hope that the hunter education program will be developed after the All Council Meeting but that did not happen. Mr. Bassich pointed out that it is very important to develop a good hunter

education program in cooperation between the Federal government and the State of Alaska to deliver a message to the public.

Will Koehler (Horsfeld) remarked that the snowfall was rather low this winter, about 4 inches, and that temperatures were colder than usual. This made travel across the landscape safer and easier. Low snowfall during last three winters benefited sheep and moose population, since they can move around much easier.

Lester Erhart (Tanana) said that the fall harvest of Chum Salmon was pretty good but he agreed with Mr. Bassich's observation that the run did not pulse. It was just a steady stream, he said, but people harvested enough of fish. Mr. Erhart also noted that the moose population was low but wolf population was up.

Donald Woodruff (Eagle) stressed that although it takes a lot of time out of traditional life style, it is important to participate in the Council meetings. Mr. Woodruff agreed with an earlier report that Fall Chum run near Eagle was very slow, and it took a long time to catch enough of fish to fulfill subsistence needs. The quality of Chum was very good. The community of Eagle was able to harvest only three moose and no caribou was harvested since there was none. Mr. Woodruff also noted that it is very important to have a ten year plan and take a holistic approach to fish and game management since other species, such as bears, wolves, and eagles, depend on salmon also.

Virgil Umphenour (North Pole) agreed with the last statement by Mr. Woodruff and cited the wolves' study that was done in Denali National Park on the Toklat River in the 1990s. The study showed that on average 20 percent of wolves' diet consisted of salmon, and Mr. Umphenour made a correlation that at that time the management had hard time meeting the fall Chum Salmon escapement goals on the Toklat River. Then Mr. Umphenour mentioned that in the years 1998-2000 Chum Salmon runs were very low and in 2001 there was no commercial fishery on the Yukon. In Mr. Umphenour opinion the lack of salmon was the cause for low survival of moose calves since they are an easy kill for wolves.

Then Mr. Umphenour said that the traditional culture of fish camps is lost because of the State of Alaska Department of Environmental Conservation (DEC) regulations instituted in 2007 that do not allow to sell fish eggs and fish separately due to very strict sanitation requirements, especially in regards to *Listeria monocytogenes*, established for the fish processing facilities. Mr. Umphenour reported on the issue of different standards for allowed *Listeria monocytogenes* contamination in the United States and the European Union. *Listeria monocytogenes* occurs naturally in fish, vegetables, and dairy products. The United States have adopted a zero contamination policy in the ready-to-eat food products, while the European Union food safety limit is 100 bacteria per gram. Mr. Umphenour encouraged the USFWS to request an explanation from the Food and Drug Administration (FDA) on why this strict regulation is in place when there are no registered cases of anyone getting sick from *Listeria monocytogenes* in ready-to-eat fish products in the U.S. Mr. Umphenour is of opinion that *Listeria monocytogenes* that occurs in fish is not harmful to humans and that this is the reason why no one in the U.S. got sick from it.

Mr. Umphenour also reported on a hunting situation near Chicken (similar to the hunting situation in Central described by Mr. Glanz), when some Air Force personnel hunted caribou off the road with complete disregard to the safety of other hunters in the area.

Andrew Firmin (Fort Yukon) gave a report to the Council on the Board regulatory meeting he attended in January and the Board's actions on two Council's proposals: FP17-01 was adopted and FP17-02 was rejected. Mr. Firmin suggested that the Council might want to re-introduce proposal FP17-02 since the other Councils seems to be supportive in general of the idea to fish the early "trickelers" as long as the similar opportunity is given to everyone on the Yukon. Mr. Firmin also felt that additional public support from the Unit 5D subsistence users might have change the Board's decision on FP17-02.

Then Council questioned Mr. Firmin if the Board addressed the issue of closing the entire Porcupine River and not providing enough of subsistence opportunities to the users that reside along it. Mr. Bassich suggested to the Council to put in a proposal that will allow a family/household quota of salmon to the Porcupine residents during the times of low abundance.

Mr. Firmin also reported erratic weather in his region and no snow till December; people are trapping lynx but there is no market for it; everybody in the community were happy about being able have an ice road and having enough of firewood.

Chair Sue Entsminger (Mentasta Pass) relayed her concerns about getting timely information to the Council in regards to special action requests that might be of interest to the Council. She agreed with Mr. Bassich about the importance of hunter education, proper care of meat, and respect for other hunters in the field and reiterated that it was longer than four years since this concern have been brought up. Chair Entsminger would like to incorporate the knowledge of traditional use of meat by the Native people into hunter education. She thinks that the State of Alaska, U.S. Federal Government organizations, and OSM should work collaboratively on developing this education program. Chair Entsminger suggested sending a letter from the Council to the State of Alaska to collaborate on this issue.

Chair Entsminger also reported that the snow cover this year was low, the temperatures were more typical of regular winter, and she had an opportunity to go sheep hunting. The Wrangell Subsistence Resource Commission (SRC) will meet March 1-2. The Thinhorn Sheep Summit organized by Wild Sheep Foundation will take place in Anchorage April 10-12. Chair Entsminger's son harvested 25 wolves this year, which helped people in Mentasta to harvest more moose.

Discussion on hunter ethics education:

Mr. Bassich suggested that hunter education and ethics should be a regular topic on the Council's agenda for future meetings and that it is necessary to have a joint statewide committee that includes local subsistence users to work on this issue. He also reminded the Council that a few years back someone on the OSM staff started drafting an outline for hunter education program (he didn't remember exactly who it was). Mr. Bassich stressed that in order to be effective the future program must incorporate different ways of communication with Native people and their culture and well as urban people and their culture.

Chair Entsminger proposed to write on invitation letter to the State of Alaska requesting their participation in the joint effort of developing hunter education and ethics program. She suggested that Mr. Bassich, State representative (Jill Cline), and OSM representative (Katya Wessels) meet during lunch to discuss the topic informally.

Mr. Umphenour noted that his processing business receives harvested meat in a variety of different conditions from good to very bad, and many hunters are military. He put forward a suggestion to engage commanders of Eielson Air Force Base, Fort Wainwright, Joint Elmendorf/Richardson Base or their representative into the discussion about hunter education. Fort Wainwright has a division that organizes hunter safety training, which is required for military personnel that go hunting. Mr. Umphenour noted that military pay attention to public concerns and is very responsive about rescheduling training around the hunting seasons.

Mr. Carl Johnson, Council Coordination Division Chief with OSM, informed the Council that OSM staff are currently working on a framework for developing a pilot hunter education program and that Gene Peltola, Assistant Regional Director, approved this work. The Council will receive an update on this through the Board's annual report reply. The plan is to test the pilot program with military installations Eielson and Wainwright. Mr. Johnson also noted that the management directive is to have a multi-stakeholder group that will be involved in creating program's materials.

Mr. Shawn Bayless, Manager of Tetlin NWR, reminded the Council that during their fall meeting they met the Refuge's new environmental educator, Tim Lorenzini. Mr. Lorenzini together with Alaska Trappers Association and ADF&G organized trapping workshops that were well attended. Mr. Lorenzini also developed a hunter safety program and he will be teaching it in Fairbanks. The Refuge is going to provide hunter safety and trapping workshops four or five times a year in Eagle, Mentasta, Tanacross, Dot Lake, Tetlin, Northway, and Tok.

Motion # 6 by Mr. Bassich, second by Mr. Woodruff to adopt hunter education as a regular agenda item at the future Eastern Interior Council meetings passed 7 to 0.

Public and Tribal Comment on Non-Agenda Items

None

Call for Federal Wildlife Proposals:

Ms. Katya Wessels, Council Coordinator with OSM, informed the Council that the call for wildlife proposals have not been published in the Federal Register yet due to the change of administration. She then encouraged the Council to discuss and vote on potential proposals on record so when the call for proposals comes they can be submitted officially.

Wildlife Proposal #1 to extend moose season dates in Unit 11 (FM1107) to January 20.

The existing winter moose hunting season was in effect for the last three seasons (2014-2016). It is hard for Federally qualified subsistence users to utilize this hunt because access to the area is difficult. Most of the land in the hunt area is designated as the Wrangell-St. Elias National Park therefore the use of aircraft for access is not permitted. Also due to the warm winters and climate change the ice forms late on the rivers and snow cover is often insufficient by December 20 making the access to the hunt area even more difficult. Extending the hunt dates to January 20 will allow more time for the travel conditions to become suitable for cross-country travel to the hunt area. Statistic shows that during the last three seasons the harvest has been very limited (only one bull was harvested in 2016 and none in 2014 and 2015), so, the Council thinks, that there is no potential for conservation issues.

Mr. Bassich also noted that climate change has a great effect on animal behavior and hunting seasons so he expects more of similar proposals in the future.

Chair Entsminger clarified that this proposal is going to be a crossover proposal since residents of Unit 12 (Eastern Interior) have Customary and Traditional (C&T) use determination for Unit 11.

Motion #7 by Mr. Koehler, second by Mr. Bassich, to put forward a wildlife proposal to extend moose season dates in Unit 11 (FM1107) to January 20 passed 7 to 0.

Wildlife Proposal #2 to align Federal and State bear baiting restrictions.

The Council would like to change bear baiting restrictions §100.26(b)(14)(iii). It proposes to align Federal and State bear baiting restrictions. Relevant State bear baiting restrictions are found in 5 AAC 92.085(4), 5 AAC 92.044(a), 5 AAC 92.044(b)(8), and 5 AAC 92.210.

The current Federal bear baiting restrictions are much more restrictive than the State's and do not provide for a Federal subsistence priority. The Council proposes to align Federal and State bear baiting restrictions in order to reduce regulatory complexity, reduce user confusion, and allow baiting with items (i.e. dogfood, anise, popcorn, baked goods, grease, syrup, etc) that have

traditionally been used as bear bait by Federally qualified subsistence users and are currently permitted under State regulations.

Motion regarding this proposal was made during second day of the meeting.

Wildlife Closure Review WCR15-22:

Ms. Lisa Maas, Wildlife Biologist with OSM, presented a summary of the analysis for the Wildlife Closure Review 15-22, which pertains to the closure of moose hunt in Unit 25D West to everyone except residents of Unit 25D West. The closure was initiated in 1993 due to conservation concerns over the low density and declining moose population, which was estimated at 600 moose. The closure also ensured continued subsistence use of the resource.

OSM's preliminary conclusion is to maintain the status quo due to conservation concerns. While the 2015 survey indicates improvement in the Unit 25D West moose population, it is not sufficient to warrant lifting the closure.

Discussion ensued about the source of data for unreported and illegal harvest of cows and how new FWS predator regulations affect the Yukon Flats Cooperative Moose Management Plan. Mr. Steve Berendzen, Manager of Yukon Flats National Wildlife Refuge, said that they support any changes to subsistence harvest and regulations. Chair Entsminger posed a question regarding the Board's authority to pass a regulation that would allow non-Federally qualified subsistence users to bait grizzly and brown bears on Refuge lands, to which Mr. Johnson replied that Title VIII of ANILCA defines the Board's authority to pass regulations only applicable to the rural Federally qualified subsistence users and that non-Federal users only can be regulated through closure process. Mr. Johnson promised the Council to develop a briefing that outlines law provisions in regards to this matter. There are three avenues of changing a final rule: 1) through litigation process; 2) Congress cutting the funding to implement a rule; or 3) persuade an agency to submit a new proposed rule pursuant to the Administrative Procedures Act to reverse the original rule. The last avenue is available to the Councils, and the Kodiak/Aleutians Council is pursuing it. The Council suggested that the issue of overly abundant predator populations can be resolved by providing Federally qualified users with economic incentives to hunt predators (this incentives were taken away by the new USFWS predator baiting rule).

Motion #8 by Mr. Umphenour, second by Mr. Glanz, to maintain status quo for the closure of moose hunt in Unit 25D West passed 8 to 0.

Justification: The Council does not want to impose any additional restrictions on the residents of Unit 25D West or allow non-local residents to hunt in Unit 25D West and compete with local residents for the harvest of moose in the area with depressed population. The Council clarified that the main reason why Unit 25D West is closed to moose hunt to everyone except residents of Unit 25D West is depressed moose population due to overly abundant predator populations.

Review and Approval of FY2016 annual report:

The Council reviewed and approved FY2016 annual report with following modifications:

- Understanding and tolerance for different cultural hunting values as means to reduce waste and work towards better hunter ethics in the field
 - The Council stressed that this issue is a major concern for several other Councils;
 - The Council suggested that OSM creates a small working group in partnership with other agencies and State of Alaska to address the user conflict and waste of subsistence resources issues;

- The Council suggested involving one specific group of users – military – to try out hunter ethics and meat care education programs.
- Predator management is a subsistence practice
 - The Council wanted to add that Federally qualified subsistence users have an inherit right to food security, which includes managing and protecting food sources, and predator management is one of the main means of achieving it.
- Limited subsistence salmon fishing opportunities for remote rural residents of the Porcupine River
 - The Council suggested instituting a system of specialized family/household quota allocations for King and Fall Chum Salmon for the Federally qualified subsistence users that reside along the Porcupine River to fish during the periods of low abundance and management conservation closures.
- Importance of youth engagement in resource management
 - The Council extended their official thank you to the Council of Athabaskan Tribal Governments that worked in cooperation with Yukon Flats NWR to bring youth from several Eastern Interior communities to the fall 2016 meeting;
 - The Council also stated that extended youth participation is a great testimony of why is it important to have Council meetings in the small rural communities.
- Notices to subsistence users on proposed changes to the Code of Federal Regulations (CFR)
 - The Council would like to be notified at the first opportunity when the changes are proposed and be provided with detailed information on the comments open periods and procedures of submitting the comments.
- The Council also added two new topics to their annual report:
 - (1) Opposition to the National Park Service (NPS) final rule re Subsistence Collections (36 CFR Part 13) and the U.S. Fish and Wildlife Service (US FWS) final rule re Non-Subsistence Take of Wildlife, and Public Participation and Closure Procedures on National Wildlife Refuges in Alaska;
 - (2) *Listeria monocytogenes* in fishery products and processing plants and its potential impact on subsistence fishing and customary trade.

State Board of Game Wildlife Proposals Discussion:

The Council discussed various proposed changes to amend the State of Alaska game regulations. Specifically the Council discussed and voted on:

- Proposal 47. Change the definition of “edible meat” for game birds. The Council felt it was helpful to put into regulation an existing practice of salvaging all usable meat. ***Motion # 16 by Mr. Glanz, second by Mr. Woodruff, to support proposal 47 passed 8 to 0.***
- Proposal 51. Prohibit nonresident hunting of any prey species under intensive management in the Interior/Northeast Arctic Region until harvest and population objectives are met. The Council felt that the proposal restricts none resident hunters from the intensive management areas and also will significantly decrease cash flow to the ADF&G Wildlife Conservation Division budget that comes from sales of non-resident licenses and tags. ***Action #22 (no motion), the Council voted to oppose proposal 51 and it passed 7 to 0 (1 abstained).***
- Proposals 57 – 62. Series of proposals 57 through 62 voted together. The Council felt these proposals would limit the number of non-residents that hunt in the State. ***The Action #23 (no motion), the Council voted to oppose proposal 51 and it passed 8 to 0.***

- Proposal 66. Open an archery-only hunting season for Dall sheep in the Interior/Northeast Arctic Region. This proposal would provide special privileges to a small user group, giving bow hunters an extra week compared to other hunters. **Motion # 19 by Mr. Woodruff, second by Mr. Erhart, to support proposal 66 failed 8 to 0.**
- Proposal 71. Allow the use of crossbows in archery hunts in Unit 20 for hunters over 60. Again, the Council noted this would provide a special privilege to a select group of people by allowing only elders to use crossbow instead of traditional bow. **Motion # 20 by Mr. Woodruff, second by Mr. Erhart, to support proposal 71 failed 8 to 0.**
- Proposal 72. Allow the harvest of wolf and coyote by land and shoot with a trapping license in the Interior/Northeast Arctic Region. This is a very effective method of harvesting wolves that can help to resolve problems attributed to large wolf population and effectively manage their population. A concern was expressed that some people might actually use this as an opportunity for areal hunt, and claiming that they landed and then shot. **Motion # 21 by Mr. Umphenour, second by Mr. Woodruff, to support proposal 72 passed 8 to 0.**
- Proposal 86. Close an area ¼ mile on either side of the Taylor Highway to hunting during caribou season, and limit the number of permits. Some Council members were of opinion that the proposal is not enforceable, at the same time every one of the Council recognized the existing issue. **Motion # 24 by Mr. Bassich, second by Mr. Glanz, to support proposal 86 passed 4 to 3.**
- Proposal 101. Create a regulation allowing the harvest of moose under a permit for “celebration of life” events. The Council expressed support for the proposal, noting it would allow an existing practice which is a part of cultural and spiritual wellbeing to continue without just having moose harvest available strictly for memorial purposes. At the same time the Council felt that a limit of a number moose to be harvested should be set. **Motion # 9 by Mr. Firmin, second by Mr. Woodruff, to support proposal 101 passed 8 to 0.**
- Proposal 104. Expand the bag limits for caribou in Units 24A, 25A, 25D, 26B, and 26C. Liberalizing hunting for the Porcupine caribou herd will enlarge the sport harvest, which in turn would create increased competition for a progressively limited resource – caribou. The Council is concerned that this proposal will perpetuate an influx of hunters from other areas. Another concern is that taking proper care of meat later in season may pose a problem. **Motion # 18 by Mr. Firmin, second by Mr. Woodruff, to support proposal 104 failed 8 to 0.**
- Proposal 108. Reevaluate the customary and traditional use finding for brown bear in Unit 25D. This will give C&T to people in Fort Yukon to hunt brown bears in Unit 25, which is a tradition hunt for the people in this community. **Motion # 10 by Mr. Firmin, second by Mr. Woodruff, to support proposal 108 passed 8 to 0.**
- Proposal 109. Lengthen the brown bear hunting seasons in Units 25 and 26. The proposal would have the effect of shortening the season. **Motion # 17 by Mr. Woodruff, second by Mr. Firmin, to support proposal 108 failed 8 to 0.**
- Proposal 110. Increase the bag limit for black bear in Unit 25B. Increase bag limits in Unit 25B will go from 3 to 5 black bears. The Council noted there were no biological concerns regarding black bear population in Unit 25B. **Action #11 (no motion), the Council voted to**

support proposal 110 and it passed 8 to 0.

- Proposal 111. Open a snaring season for black bear in Unit 25D. The use of neck snares is a traditional practice for the last 50 years and way of harvesting bears, akin to harvesting wolves. The snares are set in a specific way not to harvest angulates. The Council expressed an opinion that foot snaring was probably used in the prehistoric times, so it can be considered as a traditional method as well. ***Motion # 12 by Mr. Firmin, second by Mr. Woodruff, to support proposal 111 passed 8 to 0.***
- Proposal 112. Allow same-day airborne hunting for wolf in Unit 25D. The Council supports the establishment of a predator control program in this area so that same-day aerial wolf hunting can be implemented. ***Motion # 13 by Mr. Firmin, second by Mr. Woodruff, to support proposal 112 passed 8 to 0.***
- Proposal 113. Modify the resident bag limit for Dall sheep in Units 24B, 25A, 26B, and 26C. The Council noted it was an important conservation measure to restrict the harvest of sheep to just rams in order to preserve the declining sheep population. ***Motion # 14 by Mr. Glanz, second by Mr. Firmin, to support proposal 113 passed 8 to 0.***
- Proposal 115. Lengthen the trapping season for lynx in Unit 25. This will allow the trappers to use their discretion to keep or dispose of the lynx trapped incidentally during March when the lynx fur is not good anymore. ***Motion # 15 by Mr. Firmin, second by Mr. Glanz, to support proposal 115 passed 8 to 0.***

The Council elected members Bill Glanz, Chair for the Central Advisory Committee, Andrew Firmin of Fort Yukon, Vice Chair for the Yukon Flats Advisory Committee, and Virgil Umphenour of North Pole, Chair for the Fairbanks Advisory Committee, to represent the Council's position on the aforementioned proposals at the Board of Game meeting to be held in Fairbanks on February 17 – 25, 2017.

USFWS Director's Order No. 219:

Mr. Bayless informed the Council about the USFWS Director's Order No. 219 on Use of Nontoxic Ammunition and Fishing Tackle that was issued on January 19, 2017. A copy of the order was requested by the Council.

Call for Federal Wildlife Proposals (continuation):

Proposal #3 to extend Unit 25D Remainder moose season dates to October 7.

The requested change will accommodate the travel to the hunting grounds of Federally qualified subsistence users, who are the residents of Units 25A and 25D, this time of the year. The hunting season extension would better align the season to the recent weather changes in the area. During that time period the users usually cannot hunt along the Porcupine River because ice is already forming. The stretch of the Yukon River between Fort Yukon and Circle stays ice free later in the season. The local users travel that stretch of river and hunt moose in this area.

Motion # 25 by Mr. Firmin, second by Mr. Glanz, to put forward a proposal to extend Unit 25D Remainder moose season dates to October 7 passed 8 to 0.

Proposal #4 to extend the Unit 25B moose season dates to October 7

For years, climate change and warm weather later into the fall have greatly limited our ability to meet our basic subsistence needs due to concerns of harvested meat spoiling before reaching home. Adding a reasonable time to harvest moose in the fall is warranted. This proposal helps to resolve the issue of keeping meat once harvested and provides additional opportunity for Federally qualified subsistence users. There is not a conservation concern as the moose population has increased from 0.25 moose/sq mile to 0.35 moose/sq mile in the Yukon-Charley Rivers National Preserve according to National Park Service (NPS) surveys. Additionally, harvest that time of year is low, occurring mostly near the communities of Eagle, Circle, and Central.

Motion # 26 by Mr. Firmin, second by Mr. Woodruff, to put forward a proposal to extend Unit 25B moose season dates to October 7 passed 6 to 2.

Proposal #5 to establish C&T use determination for the residents of Units 25B and 25C to hunt moose

The Council expressed a concern that since there is no C&T use determination for moose in Unit 25B and moose hunting is open to all rural residents, then if moose hunting season is extended in this unit, more hunters from outlying areas (for example, Glennallen) will come to hunt in the unit. The Council thinks that under this scenario, overcrowding might occur (similar to the situation on the Taylor Highway). The hunters will be competing in the area where the moose population densities are one of the lowest in the state. Both proposals: 1) proposal to extend moose season in Unit 25B and 2) proposal to establish C&T use determination for Unit 25B (moose) have similar intent – to provide more hunting opportunities to the Federally qualified subsistence users and fulfill their basic subsistence needs. By establishing C&T use determination for the residents of Unit 25B and 25C the regulation will protect a subsistent right of local users to harvest this resource.

Motion # 27 by Mr. Woodruff, second by Mr. Glanz, to establish C&T use determination for the residents of Units 25B and 25C to hunt moose passed 8 to 0.

Wednesday, February 8, 2017

Discussion of Wildlife Proposal #2 (continuation):

Unfortunately the working group that was supposed to meet to discuss the bait proposal did not meet the day before, and their meeting was rescheduled for the second day. The Council felt it was important to align Federal bait definition with the State of Alaska definition and to be able to use all biodegradable materials as bait. Mr. Bassich wanted a clarification of “a scented lure” in the definition of bait.

Public and Tribal Comments on Non-Agenda Items:

Mr. Edward Alexander with TCC introduced himself. He is originally from Fort Yukon and recently got hired by TCC as the education manager. The main priorities to the TCC tribes are cultural education, hunting, trapping, fishing, and survival skills, and he hopes to work in partnership with the Council on developing educational programs and working with youth.

Mr. Firmin suggested that Mr. Alexander can get engaged in working with the Council on developing a hunter ethic program. The Council made a recommendation to create a set of YouTube videos on hunter

ethics. Mr. Alexander informed the Council that the TCC communications department has a crew that produces videos, and he will communicate Council's request to them.

Memorandum of Agreement between Ahtna and Department of the Interior (Ahtna MOA):

Ms. Karen Linnell, Executive Director of AITRC, and Mr. Christopher Gene, Chairman of AITRC, gave a presentation on the history of Ahtna struggle for subsistence rights, mismanagement of resource through a dual management system, goals and mission of AITRC, how they were able to negotiate the Ahtna MOA, and the importance of community-based cooperative natural resource management. Ms. Linnell stressed that this is not the first time when co-management takes place in Alaska; there are other examples, like Migratory Bird Co-Management Council, Alaska Eskimo Wailing Commission, Alaska Nanuuq Commission, etc.; and that traditional and cultural wildlife knowledge is just as valuable as the scientific research. Ms. Linnell also talked about various projects that the AITRC is currently involved in. Mr. Gene said that the Ahtna MOA is a fulfilment of Ahtna elders' vision. He invited the Council to attend the Alaska Board of Game meeting on March 18, 2017.

Mr. Bassich praised Ahtna for their holistic approach to the environment, animals and their habitat, and people and wanted to learn about their sustainable salmon management plan. Ms. Linnell replied that they hope to have it in the future but currently are concentrating on wildlife management. She also added that there should be a balance in the environment and all components, animals and humans, should be considered across the landscape.

Chair Entsminger shared concerns from the non-Native users who think that they would lose hunting opportunities because of the Ahtna MOA. Ms. Linnell assured that the Ahtna MOA will not affect Federally qualified users, and it is more of a permit system to govern their tribal members. She also added that their goal is to have healthy sustainable populations and not to the detriment of one user over the other.

Mr. Johnson provided a short overview of the Ahtna MOA's four key components: 1) a community harvest permit operated by Ahtna; 2) an establishment of the Ahtna local advisory Committee (Ahtna Committee) focused on wildlife management; 3) methods of future cooperation, establishment of management plans and policies related to wildlife in Ahtna Region; 4) funding to help AITRC develop capacity building and implement the MOA. It was noted that the Ahtna MOA specifies that the local advisory committee recommendations as being given significant weight, but not given deference (the Councils' recommendations get deference). Then Mr. Johnson requested the Council's recommendations on the membership and establishment of the Ahtna Committee.

The Council had several questions on what would be required to have fish management as a part of the MOA, how the Ahtna Committee would interact with the Council and the Board, time frame for the Committee formation, process of charter approval, Ahtna Committee composition, and funding sources and staff support for the Ahtna Committee.

The Council recommended that Ahtna communities or tribe to be equally represented on the Ahtna Committee. The Council also expressed concerns that the Councils' representatives selected to be on the Ahtna Committee will have a hard time keeping up with their obligations since they will be serving on both and thought that a smaller Ahtna Committee size might be more flexible and easier to implement.

Motion #28 by Mr. Woodruff, second by Mr. Glanz to endorse Ahtna local advisory Committee and the membership structure of the Committee passed 8 to 0.

U.S. Fish and Wildlife Draft Alaska Native Relations Policy:

Ms. Joanne Bryant, Tribal Communications and Outreach Specialist for the USFWS Alaska Region, introduced herself in a Native way and presented the USFWS National Native American Policy and the USFWS Alaska Native Relations Policy. She spoke to the reasons why the USFWS in Alaska need to have an Alaska specific policy as a companion to the National policy and talked about the team who developed the document. Ms. Bryant informed the Council that it is now going through public review and tribal and Alaska Native corporations' consultations. The comments are due April 12, 2017.

Mr. Hollis Twitchell with the Arctic NWR spoke about the writing process of the National policy and how the unique situation of Alaska Native peoples in regards to subsistence with all its complexities and challenges could not be incorporated into the national policy. The new national policy brought a much stronger emphasis on co-management and collaborative management of natural and cultural resources. Mt. Twitchell noted that the Alaska Policy is provided to the Council primarily for its information; however, he welcomed Council's comments and suggestions.

The Council commented that because they did not receive these documents prior to the meeting it was very difficult to absorb so much information in a short period of time and provide constructive comments. The Council requested that the proponents provide large documents to the Council ahead of the meeting, especially if they are asking for comments. It was clarified to the Council that individual members can provide comments at a later date.

Ms. Gloria Stickwan made a comment (via teleconference) that she would like the Ahtna MOA and charter documents after they are approved to be added to the Alaska Native Relations Policy.

Wildlife Special Action WSA17-02 Discussion:

Mr. Umphenour informed the Council about his participation via teleconference in the public meeting regarding the Wildlife Special Action WSA17-02 that was held in Kotzebue on January 25. He also introduced a letter to the Federal Subsistence Board that opposed the WSA17-02. The letter was prepared by the Fairbanks Advisory Committee (AC). Many Eastern Interior Region residents hunt moose in Unit 23 though the RM880 registration permits in June-July or under a harvest ticket in September. Mr. Umphenour provided a comparison of how many Unit 23 residents and non-residents that hunted moose in the Unit and number of harvested animals and stressed that a non-resident hunter can hunt there only 20 days of the year. He also added that resident of Unit 23 do not utilize the moose because they prefer caribou meat, and it ends up being donated to other areas.

Mr. Zach Stevenson, Council Coordinator with OSM, informed (via teleconference) the Council in detail about the public meeting held to solicit oral public comments regarding the Wildlife Special Action WSA17-02 and about Virgil's participation in the meeting.

Mr. Johnson explained to the Council that the WSA17-02 was not put on their agenda because under the current regulation residents of the Eastern Interior Region do not have a C&T use determination to hunt moose in Unit 23.

Ms. Maas clarified to the Council that this Special Action request was put in by the Northwest Arctic Council because of their concern for declining moose and caribou populations in Unit 23 and a conflict with outside hunters that interferes with subsistence use. The C&T use determination done for moose in Unit 23 have been done already, and in order to request to alter it the Council will need to submit a wildlife proposal for the next regulatory year, 2018. If there is no closure, anyone in the Eastern Interior Region can hunt there under State regulations.

Considerable discussion ensued that included the Council questioning whether the closure was an appropriate first step and if it is pertinent to close such a large area. Several members of the Council said that the commercial users bring jobs and income to the local people. The Council questioned if there is a serious conservation concern to close down all of Unit 23. The Council was informed that the preliminary analyses will be presented at the Northwest Arctic Council meeting on March 1 and 2. The Council felt that the poor wildlife management that results in access restrictions and changes in seasons and bag limits is more prevalent in Units that have a large percent of Federal lands.

Mr. Bassich expressed an opinion that the situation in Unit 23 exemplifies a current trend when an area experiences an outside pressure because hunters are being displaced from their local hunting areas. He also felt that the main driver for this issue is an unregulated air taxi industry and user ethics conflicts.

Motion #29 by Mr. Umphenour, second by Mr. Koehler, to endorse the letter of opposition written by the Fairbanks Fish and Game Advisory Committee to the Federal Board pertaining to the Wildlife Special Action WSA17-02 request passed 8 to 0.

Wildlife Proposals (continuation):

Proposal #2 to align Federal and State bear baiting restrictions.

Chair Entsminger reported that she and OSM staff discussed bear bait definition and restrictions during lunch and suggested that a small committee (Entsminger and Umphenour) is formed to review a draft proposal language prepared by OSM staff. Chair Entsminger stated that the intent is to make bait definition easily understandable and reduce confusion. She wanted to make sure that use of such things as dog food, popcorn, sweets, donuts, other baked goods, and scent lures is allowed.

Motion #30 by Mr. Bassich, second by Mr. Glanz, to form a committee that will review and approve a draft proposal language on bait definition and restriction passed 8 to 0.

Agency Reports

TCC Wildlife and Parks Program for Upcoming 2017 Field Season:

Ms. Nicole Farnham, project biologist for the Henshaw Creek weir with the TCC, provided a short overview of the TCC Wildlife and Parks Program projects for 2017 Field Season:

- Henshaw Creek weir project will continue;
- Henshaw Creek Science Camp for youth;
- The Yukon River Salmon DNA baseline sampling; and
- Aerial surveys with an unmanned aerial vehicle project to monitor the Chinook Salmon spawning habitat and population abundance.

Ms. Farnham said that they also plan to do some fecundity studies on female salmon pending getting special permits. Mr. Bassich spoke strongly in favor of fecundity studies, getting a baseline of its change in a stream, and teaching youth about it because it is a fundamental component of any educational project for salmon.

The 2016 Age-Size-Length (ASL) Chinook data report:

Ms. Farnham reported in 2016 they caught 1,354 Chinook Salmon, 404 were sampled, most of the data have not been analyzed yet, and complete analyses will be presented during the fall meeting. The Chum Salmon analyses are also still being completed.

Annual Report (continuation of discussion):

Mr. Umphenour provided information on a topic of *Listeria monocytogenes* that was added to the Council's 2016 Annual Report on the first day of the meeting. He expressed concern over the potential impact on subsistence fishing and customary trade resulting from the research findings presented in the article titled "Incidence and Sources of *Listeria monocytogenes* in Cold-Smoked Fishery Products and Processing Plants" (Journal of Food Protection, 1995, Vol. 58, No. 5, pages 502-508) (see Enclosure). The US Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) commissioned this research, which states that "the primary source of contamination proved to be the surface areas of frozen or fresh raw fish coming-into the plant" and that although *Listeria monocytogenes* is ubiquitous in the environment, it "causes listeriosis, a disease that can be serious and is often fatal to susceptible individuals." The US regulatory agencies "have adopted a zero-tolerance policy toward the incidence of the organism in ready-to-eat food products." However, the European Union regulations on presence of *Listeria monocytogenes* in ready-to-eat food are different from the US regulations: the EU safety food limit is 100 bacteria per gram.

The Council would like to ask the Board to request the following information from the Food and Drug Administration:

1. Comparison of genetic baselines between *Listeria monocytogenes* found in fish and in dairy products, meat, and vegetables;
2. Research findings on if *Listeria monocytogenes* found in fish is less or not contagious or harmful to humans. The Council believes that no genetic baseline research have been done for *Listeria monocytogenes*;
3. Justification of why the standards of *Listeria monocytogenes* presence in fish are different in the US and the European Union.

The Council believes that the lack of appropriate research and existence of stringent food safety standards for *Listeria monocytogenes* contamination have an adverse impact on subsistence fisheries. The State of Alaska Department of Environmental Conservation requirements and regulations regarding the sanitation standards for the subsistence fish camp facilities where fish roe is harvested had resulted in lost economic opportunities.

Kodiak/Aleutians Council Letter to the Board re Refuges Rule:

Chair Entsminger read a draft letter from Kodiak/Aleutians Council to the Board re published Federal Regulations for Alaska National Wildlife refuges: Non-subsistence Take of Wildlife, and Public Participation and Closure Procedures on National Wildlife Refuges in Alaska.

The Council suggested adding corresponding Federal Register number (81FR 52247 effective 9/2/2016, published 8/5/2016) to the subject of the letter.

Motion #31 by Mr. Koehler, second by Mr. Woodruff, to support Kodiak/Aleutians Council letter to the Board regarding Alaska National Wildlife refuges regulations for Non-subsistence Take of Wildlife passed 8 to 0.

Agency Reports (continuation)

Yukon River 2017 Pre-season Salmon Management Review:

Mr. Gerald Maschmann, Assistant Federal In-Season Manager, USFWS, gave a short overview of the Yukon River 2016 season and the preliminary management expectations for 2017. He said that although Chinook Salmon runs on the Yukon have been low in recent years and managers have taken actions to try to meet escapement goals, provide for subsistence users and provide, when available, for other uses, such as commercial fishing. But the data shows a potential trend for improvement in the last few years. The subsistence harvest restrictions were eased up in 2016 because the escapement objectives were met in 2014 and 2015. Mr. Maschmann said that they hope to continue lifting restrictions in 2017. The Chinook Salmon run size in 2017 is expected to be similar to 2015 and 2016. The summer Chum Salmon run outlook is similar to the last few years with a large surplus available for subsistence and other uses. The fishermen should expect similar to previous years management style for fall Chum and Coho Salmon.

Mr. Bassich reported that his biggest day of fishing was 240 fish, which is considerably low than previous years. He requests that the managers would inform the fish-wheel operators in Eagle of upcoming surge of salmon, so they can prepare and schedule busy fall activities (moose hunting and garden harvest) around it.

Mr. Firmin suggested that perhaps the commercial fisheries can be scheduled for later to allow people to fulfill their subsistence needs because there is more abundance in the earlier run. Mr. Bassich had a request to the management to have a large opening closer to the latter part of September when the temperatures are lower and hanging of a whole fish to dry is possible.

Mr. Maschmann also informed the Council that they don't foresee a smaller than 6 inches net restriction for subsistence fishermen.

Both Mr. Koehler and Mr. Firmin spoke on behalf of a small group of fishermen that fish on the Porcupine River and reminded the management that there were several suggestions (family quota system or partial river closure) made at the fall 2016 meeting on how to fulfill subsistence needs of this very small group of users without undermining the Canada escapement goal for this river.

Yukon River Comprehensive Salmon Plan Update:

Ms. Jill Klein, Alaska Department of Fish and Game, spoke briefly about the 1998 Plan, then reminded the Council about the regional planning team composition and provided an update on the second planning phase. The plan received a new name – the Yukon River Comprehensive Salmon Restoration, Rehabilitation, and Enhancement Plan for Alaska, Phase II. The regulations state that the regional planning team responsibility is to prepare a comprehensive salmon plan, and Phase II addresses regional projects that may rehabilitate natural stocks and/or supplement natural production with provisions for possibly public and/or private non-profit hatcheries. The planning team intends to have a large public meeting around April 20 and plans to have a draft plan ready for review in the fall and possibly completed in December 2017.

Some Council members (Mr. Woodruff and Mr. Bassich) questioned how the propagation of enhanced species going to protect the wild stock genetics and expressed an opinion that if the enhancement project stops at some point then the wild stock genetics will be lost and that will ultimately kill Chinook Salmon. Mr. Bassich noted that if the plan is to restore stocks to historic levels, all historical data needs to be taken into consideration and requested that significant weight is given to the recommendations and comments

that come from three Councils along the Yukon River system. The Council also was perplexed by a notion of a hatchery being a private non-profit entity.

Artificial Propagation of Yukon River Salmon – An Agency Perspective:

Mr. Fred Bue, Yukon in-season Manager with the USFWS, reminded the Council that the Service has almost 150 years of experience in hatchery business and quite aware of negative consequences for wild salmon that might result from artificial propagation. The USFWS put together a lot of background information and compiled it in a document titled “Review of the Effects of Artificial Salmon Propagation and Agency Perspective on Artificial Propagation of Yukon River Salmon.” Mr. Bue noted that the Service’s position is aligned with the Alaska Chapter of American Fisheries Society resolution dated 1998.

Yukon-Charley Rivers National Preserve Report:

Ms. Marcy Okada, Subsistence Coordinator for the Yukon-Charley Rivers NP, delivered a short report to the Council:

- The NPS funded a comprehensive subsistence harvest survey project to work with ADF&G Division of Subsistence;
- Ranger update: new NPS District Ranger and a returning seasonal ranger will both be based in Eagle and start this spring;

Mr. Mat Sorum, Wildlife Biologist for the Yukon-Charley Rivers NP, provided a follow up on a Dall sheep survey distributed to the Council at its fall 2016 meeting. In response to some questions he noted that compare to the State average the Dall sheep numbers decline more drastically in the Yukon-Charley Rivers NP and the hunting pressure on the sheep has decreased. Mr. Umphenour questioned that perhaps the sheep population decline is caused by the low flying military jets. Several Council members discussed their observations of military jets flying low and sometimes in the Preserve. Mr. Umphenour suggested that Mr. Sorum contacts the Eielson Airforce base and finds out if they brief pilots on ramifications of flying low.

Then the Council and Mr. Sorum also discussed the Fannin sheep or Stone sheep, a small population of which was discovered in the Preserve (Ogilvie Range) and that one cannot hunt this sheep because the area of its habitat is not in the guide use area.

Wrangell-St. Elias National Park and Preserve Report:

Ms. Barbara Cellarius presented the highlights of Wrangell-St. Elias NP&R report.

- Joint project with ADF&G evaluating Dall sheep energetics;
- Wolf survey in the range of the Chisana Caribou Herd;
- Moose population survey in Unit 11;
- Harvest data for the 2016 hunts;
- Upper Copper River harvest updates;
- Beaver Lake Burbot population assessment.

Wrangell-St. Elias National Park and Preserve Backcountry and Wilderness Stewardship Plan:

Ms. Cellarius gave a very short update on the plan. The earliest it goes out for public review is in the fall. More detailed presentation was rescheduled for the fall 2017 meeting.

News Release: NPS Finalizes Subsistence and Wildlife Collection Regulations:

Ms. Cellarius also informed the Council about the NPS finalizing regulations in January to allow subsistence users in Alaska to collect and use nonedible animal parts and plants for making and selling handicrafts. The Council was instrumental to putting this regulation in place initiating a letter to the Regional Director. The rule also limits the types of bait that may be used for taking bears under Federal subsistence regulations to native fish or wildlife remains that exist from natural mortality or that are not required to be salvaged after a lawful harvest. Based on public comment, the proposed rule was modified to allow the Superintendent of Wrangell-St. Elias National Park and Preserve to issue a permit to allow the use of human-produced foods. The rule also clarifies that collecting live wildlife is not an authorized hunting or trapping practice and it's generally not allowed.

The 2014 Comprehensive Harvest Assessment in Northway:

Presentation was rescheduled for the fall 2017 meeting.

Yukon River Drainage Fisheries Association Report:

Mr. Wayne Jenkins, Director of YR DFA, reported on ongoing and upcoming projects:

- Building and maintaining public support for salmon resource management;
- Pre-season salmon fishery preparation meeting;
- In-season Yukon River salmon teleconferences;
- YR DFA Yukon River community engagement support for BLM resource management planning;

Ms. Danielle Stickman of YR DFA reported on the organizing of a young fishermen workshop to be held a day before the annual YR DFA pre-season and board meeting in Fairbanks. Ms. Stickman also develops outreach materials and collects information for community conservation planning.

Ms. Catherine Moncrieff of YR DFA reported on a few other projects:

- Yukon River in-season salmon harvest survey funded by the Fisheries Resource Monitoring Program (FRMP);
- Customary trade in the Upper Yukon River also funded by the FRMP;
- How People of the Yukon River value salmon;
- Traditional Knowledge in Federal Fisheries Management.

OSM Report:

Mr. Johnson reported to the Council on the newly hired OSM staff, on Nonrural Determination Policy, MOU between Board and State, and FRMP status update.

Arctic National Wildlife Refuge Report:

Mr. Steve Arthur, Supervisory Biologist with the Arctic NWR, reported on biological activities on the Refuge. The Refuge collaborates with a wide variety of other agencies to manage and monitor the Porcupine Herd. They hosted a meeting of the International Porcupine Board in December 2016. Mr. Arthur also highlighted an aerial transect survey of Dall's sheep done in collaboration between FWS and NPS.

Future Meeting Dates:

The Council confirmed the fall 2017 meeting for November 8 and 9 in Tanana. Mr. Bassich would not be able to attend this meeting in person due to the ice situation on the Yukon, and he wants to make sure he can call in via teleconference or some other arrangement.

The Council selected February 7 and 8, 2018, and Fairbanks as preferred winter meeting dates and location.

Final Comments:

- This was a good meeting with a lot of interesting information.
- It is Will Koehler last meeting as he needs to dedicate more time to his young family. Mr. Koehler said that he learned a lot during his time on the Council. The Council noted that he was a very sharp, active, outspoken, and articulate member.
- The average age of the Eastern Interior Council is high; they dubbed themselves as “an elder RAC.” The Council noted that the Council needs new young members.
- It is good to have different points of view on the Council. When different user groups, commercial/sports and subsistence, agree on issues and make decision together that helps the progress.
- The Council entertained an idea of being able to provide recommendations to the Nominations Panel on who is selected for the Council.
- The Council thanked OSM staff for their hard work and other agencies for their reports.
- The Council thanked Chair Entsminger for doing a great job and being a leader.
- The Council will miss Rhonda Pitka, who was a great contributor to the Council’s work.

I hereby certify that, to the best of my knowledge, the foregoing minutes are accurate and complete.

April 12, 2017

Katerina Wessels, DFO
USFWS Office of Subsistence Management

Susan Entsminger, Chair
Eastern Interior Alaska Subsistence Regional Advisory Council

These minutes will be formally considered by the Eastern Interior Alaska Subsistence Regional Advisory Council at its fall 2017 public meeting, and any corrections or notations will be incorporated in the minutes of that meeting.

Hunter Ethics Education for the Eastern Interior Region

A Proposal



Topic

Development of an education & outreach strategy for a pilot program with the goals to:

- Reduce user conflict between user groups;
- Promote understanding & tolerance for different cultural hunting values;
- Encourage respect in the field.



Issue

Understanding & tolerance for different cultural hunting values as means to reduce waste & work towards better hunter ethics in the field

- Eastern Interior Council (Council) outlined several major ongoing problems in the region:
- Waste, accidental or deliberate, of edible meat, organs & bones valued by local communities;
 - Lack of knowledge on how to take care of meat in Western and/or traditional practice;
 - Lack of respect for the values of local people;
 - Insufficient knowledge about possibilities of sharing harvested animal parts with local communities:
 - What parts can be shared;
 - How to properly harvest them;
 - Whom to contact locally to share;
 - **Land ownership awareness;**

Background

2009 - 2010

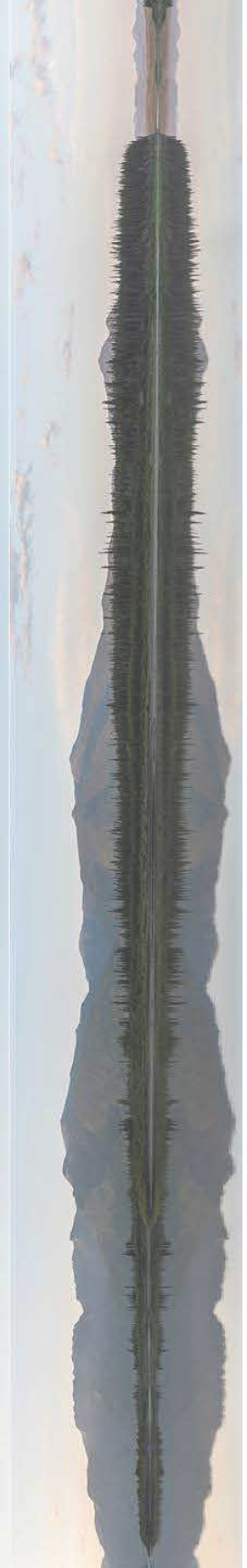
In 2009 the Council became increasingly concerned regarding user conflicts & wanton waste, & voiced a need for hunter ethics education.

- **2009 annual report & reply** – Impacts of non-rural users issue, *Supplemental 1*.
- **Fall 2010 meeting** – in a letter to OSM, the Council outlined a need for an educational program designed to provide cultural sensitivity education to non-rural users, *Supplemental 2*.
- **2010 annual report & reply** – Impacts of non-rural users issue comes up again, *Supplemental 3*.

Background

2011 - 2012

- **Winter 2011 meeting** – OSM outreach specialist began working with the Council on identifying issues & developing goals & messages.
- **Fall 2011 meeting** – the issue was discussed again after a testimony of the Yukon Air Service owner.



Background

2013 - 2014

- **Fall 2013 meeting** – the Council stressed that the issue is of great importance to them & wanted the USFWS & State of Alaska to collaborate on it.
- **2013 Council’s annual report & reply** – Hunter ethics & educational outreach topic was included in the report, *Supplemental 4*.
- **Fall 2014 meeting** – the Council passed a motion to write a letter to OSM, ADF&G, Big Game Commercial Service Board, & local Native tribal organizations to begin a process of forming a group to work on the issue.

Background

2015-2016

The Council:

- emphasized their diverse membership
- suggested to move forward in a positive way to improve understanding between local subsistence, & sport/commercial users.

- **Winter 2015 meeting** – the issue discussed at a joint meeting with Western Interior RAC;
- **2015 annual report & reply** – Hunter ethics & education topic is included again, *Supplemental 5*.
- **Winter 2016 All Council meeting** – break out session “Outreach Challenges” took place.
- **Fall 2016 meeting & 2016 annual report** – “Understanding & tolerance for different cultural hunting values,” *Supplemental 6*.

Background

Winter 2017 meeting

- A lengthy discussion of hunter ethics & education issue occurred during the meeting.
- It was suggested to write an invitation letter to the State of Alaska to work on developing a hunter ethics education program on culturally sensitive aspects of resources' use to be provided to all user groups, federally qualified & non qualified.
- A work group comprised of OSM, State, & Council representatives convened for a break out session during lunch.
- The Council voted to adopt hunter ethics education as a regular agenda item for future Council's meetings.

FSB Directive

From the Board
response to the
Eastern Interior
2015 annual report
(*Supplement 5*):

**“The Board fully
supports this effort
and looks forward to a
successful program.”**

Hunter Education in Alaska

Currently ADF&G offers four types of certification courses:

- Basic Hunter Education;
- Bowhunter Education;
- Crossbow Education;
- Muzzleloader Education.

State requirement: *If you were born after January 1, 1986 and are 16 years old or older, you must have successfully complete a Basic Hunter Education course before you hunt in the Units 7, 13, 14, 15, & 20.*

All hunters must successfully complete a Basic Hunter Education course before hunting in Eagle River, Eklutna Lake, and Palmer/Wasilla Management Areas (14C), and Anchorage Coastal Wildlife Refuge (14C) and Mendenhall Wetlands State Game Refuge (1C).

Hunter Education in Alaska

Hunter Ethics Education included in State's study materials

Study Guide for State's Hunter Education Certificate includes Unit 6: *Be a Responsible and Ethical Hunter*

- Topic 1: Why Do We Have Hunting Laws?
- Topic 2: Hunter Ethics
- Topic 3: Alaska's Native Peoples and Their Hunting Culture

However, the information provided in this study Unit is very brief and limited.



Timeline

	Activity	Period of implementation
Stage 1	Forming Form a brainstorming group of collaborators & conduct an initial scoping meeting	Present to November 2017
Stage 2	Planning <ul style="list-style-type: none"> • Scope & developing key points • Determine appropriate methods for target audiences • Develop outreach strategy and milestones • Seek collaboration and/or input from potential partners 	Nov 2017 to Feb 2018 Nov 2017 to Feb 2018 Feb to Nov 2018 Feb to Nov 2018
Stage 3	Performing <ul style="list-style-type: none"> • Develop pilot program • Test pilot program & report 	Nov 2018 to Feb 2019 Feb to Nov 2019

Plan of action

Stage 1: Forming

Present to Nov 2017

Form a brainstorming group of collaborators lead by a facilitator & conduct an initial scoping meeting

- Form a working group representing:
 - OSM;
 - USFWS
 - Refuges;
 - Law enforcement;
 - Educators;
 - Refuge Information Technicians;
 - BLM;
 - NPS;
 - ADF&G, State of Alaska;
 - Eastern Interior RAC, two reps;

Plan of action

Stage 2: Planning

Nov 2017 – Feb 2018

- Identify target audiences – user groups;
- Scoping – collect facts & perspective from each user group & solicit their input:
 - Develop a needs analyses survey & interview members of target groups;
 - Analyze survey & have discussion with user groups at Council’s meeting ;
- Develop 2-3 consistent key points;
- Determine appropriate methods to reach target audiences
- Develop draft outreach strategy and identify milestones;

Plan of action

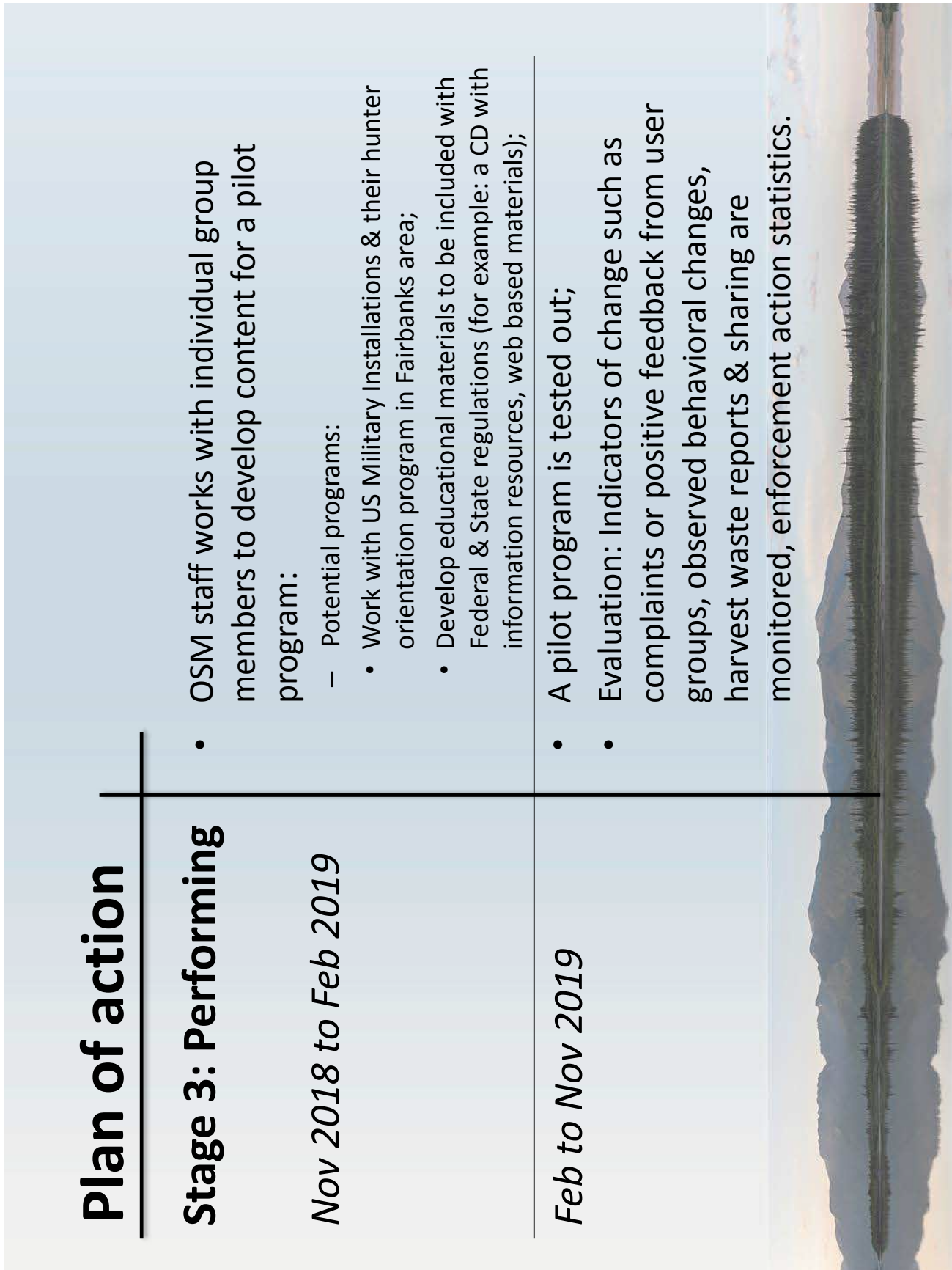
Stage 2: Planning

Feb to Nov 2018

Seek collaboration or input from potential partners on draft outreach strategy (to get a buy-in) & finalize it

Potential partners or stakeholders:

- Tanana Chiefs Conference
- Council of Athabaskan Tribal Governments
- Denakkanaaga, Inc.
- Doyon, Limited
- Ahtna, Inc.
- State Local Advisory Committees
- Alaska Board of Game Representative(s)
- US Military
- Subsistence Resource Committees (NPS)
- Commercial guides
- Sports hunters
- Subsistence hunters (under both State & Federal regulations)
- Safari Club Alaska Chapter
- Fish & Wildlife Safeguard
- University of Alaska
- Resident Hunters of Alaska
- Transporters
- Alaska Outdoor Council



Plan of action

Stage 3: Performing

Nov 2018 to Feb 2019

- OSM staff works with individual group members to develop content for a pilot program:
 - Potential programs:
 - Work with US Military Installations & their hunter orientation program in Fairbanks area;
 - Develop educational materials to be included with Federal & State regulations (for example: a CD with information resources, web based materials);

Feb to Nov 2019

- A pilot program is tested out;
- Evaluation: Indicators of change such as complaints or positive feedback from user groups, observed behavioral changes, harvest waste reports & sharing are monitored, enforcement action statistics.

Resources

Staff time

- OSM
- USFWS
- BLM
- NPS
- State of Alaska
- Volunteer Council members

Resources

Potential production funding

- USFWS funding the Alaska Region Connecting People with Nature (CPWN):
 - Internal grant competition with end of year money with focus on:
 - Prepare or engage people of any age in outdoor recreation (e.g. hunting, fishing, fish/wildlife viewing, photography, interpretation);
 - Provide learning opportunities for people of any age
 - This year's theme (2017) is *Breaking New Ground with State and Tribal Partnerships*.
 - OSM already submitted a proposal *Building Partnerships through Understanding and Trust: Bridging the Cultural Gap by Promoting Responsible and Ethical Hunting Practices in Alaska* to CPWN for funding.



Resources

Potential production funding

- Possible outside funding sources:
 - Wildlife Restoration Fund (Pittman-Robertson Act, USFWS Wildlife & Sport Fish Restoration Program):
 - Eligible grantees:
 - all state/territory fish & wildlife agencies with assent legislation*;
 - Eligible projects:
 - Basic hunter education to teach the skills, knowledge, & attitudes to become a responsible hunter.
 - Enhanced Hunter Education.
 - Cabela's Outdoor Fund (\$10,000,000):
 - The Fund supports education – teaching the next generation of hunters, anglers, campers, & recreational shooters.
 - The Fund has an interest in programs that recruit, retain, & re-activate hunters.
 - Other funds TBD
- Any OSM funding – ??

*Assent Legislation –

Legislation that must be passed & maintained by States acting through their fish & wildlife agencies to become eligible to receive benefits of the Wildlife & Sport Fish Restoration Acts.



Resources

Existing resources:

Utilize and/or adapt for Eastern Interior Region's needs materials that have already been developed

- Hunter education aids created by the State
 - Handouts
 - Videos
 - Field-to-Freezer Meat Care
- Outreach programs and materials created for other regions
 - For example, adapt material developed by GMU 23 Working Group (Hunter orientation, Pilot orientation, Information about donating meat, etc.)



Questions? Suggestions?



Supplemental materials
for
Hunter Ethics Education for Eastern Interior Region
A Proposal Presentation to
the Federal Subsistence Board

**Excerpt from 2009 EIRAC Annual Report Reply
(FWS/OSM 10068/AW)**

Dated July 22, 2010

Issue 2: Impacts of Non-rural Users

Rural residents are impacted by non-rural user groups in a number of ways and the Council would like those impacts adequately identified and evaluated. For example, some users may lack the knowledge to properly care for wild resources once they are taken. These practices often offend rural users when they observe meat in poor condition or wasted due to the lack of experience in processing the resource. The Council recommends that the Board develop educational materials and a method of outreach to deliver those materials to rural and non-rural hunters. The curriculum could include caring for the harvest in the field and methods of harvest.

Response

The Alaska Department of Fish and Game has developed materials addressing proper meat care, caring for harvest in the field, and related issues. These are available to the public through the 2010 hunting regulations "handy dandy" book (page 22), and also through the ADF&G website. In addition, two videos, "Field Care of Big Game" and "Is this Moose Legal?", are available and are required viewing for some nonsubsistence hunts. These videos are on the following website: <http://www.wildlife.alaska.gov/index.cfm?adfg=pubs.video>. There also is information on "Field-to-Freezer Meat Care" on the State's website: <http://www.wildlife.alaska.gov/index.cfm?adfg=hunting.meatcare>.

The Board suggests adding your concern regarding the impacts of nonsubsistence users on subsistence users as an agenda item for further discussion at the Council's 2010 Fall meeting. Additional discussion would help to elucidate what areas the Council is concerned about and what kind of educational materials the Council is interested in. Staff is available to provide information to the Council and to assist with developing recommendations to the Board.

Supplemental 2



Eastern Interior Alaska Subsistence Regional Advisory Council

U.S. Fish and Wildlife Service
1011 E. Tudor Road, Anchorage, Alaska 99503
Susan Entsminger, Chair

October 14, 2010

Mr. Pete Probasco
U.S. Fish and Wildlife Service
Office of Subsistence Management
1011 East Tudor Road, MS 121
Anchorage, Alaska 99503-6199

Dear Mr. Probasco

The Eastern Interior Alaska Subsistence Regional Advisory Council has identified a need for an educational program designed to provide cultural sensitivity education to nonrural users when they are traveling, hunting and fishing in rural areas. The Council reviewed the 2009 Annual Report reply from the Board during the October 13 and 14 Council meeting in Fairbanks and wishes to continue the dialog with the Board and the Office of Subsistence Management. This issue has the potential to negatively affect the relationships between subsistence uses and others that share our resources.

The Council appreciates the efforts by the Alaska Department of Fish and Game to provide written and on-line instructions on the correct methods to process game. However, the primary issue is not necessarily a standard method of care of meat in the field. There are two closely related concepts that require attention. The first is the recognition that failure to abide by appropriate harvest practices may not only be an inefficient use of those resources but may be offensive to the cultural practices of some residents. The second is that subsistence harvest limits, seasons, harvest methods and use of those resources are often much less restrictive than rules governing recreational activities targeting some of those same resources. A lack of understanding of the reasons for those differences may result in a lack of support for the continuation of subsistence uses and unnecessarily result in antagonism toward subsistence users.

The Council requests that a member of your staff attend the winter Council meeting to become more familiar with Council concerns and assist the Council in developing a strategy for improved outreach opportunities, including the use of radio, television and print media. The Council is interested in all alternative methodologies and the cost of these programs.

Sincerely,



Sue Entsminger

**Excerpt from 2010 EIRAC Annual Report Reply
(FWS/OSM11083.TJ)**

Dated September 20, 2011

Issue 8: Impacts of Non-rural Users

The Council respectfully notes that it is aware that the Alaska Department of Fish and Game provides materials related to hygienic and legal care of game meat, but maintains that the practices and actions of non-rural and non-local resource users continue to be a concern that includes, but extends beyond, inexpert meat salvage. The Council is working with Office of Subsistence Management staff to better articulate behaviors of concern to subsistence users and to suggest specific educational outreach mitigation strategies to recommend to the Board. The Council looks forward to the Board's consideration and support of these strategies. Contribution of resources from Board agencies may be necessary to accomplish outreach goals.

Response

In response to the Council's concerns regarding the impacts of non-rural users, the Office of Subsistence Management made its outreach coordinator available to facilitate further discussion on the issue. Several particularly interested Council members met informally with the outreach coordinator to discuss cultural sensitivity concerns, outreach strategies and possible partners for outreach efforts, with summaries provided to the participants. Four issues were identified:

- 1) Non-rural users can have a negative impact on rural users' ability to meet their subsistence needs because of direct competition for resources and disturbance of resources.
- 2) Non-rural subsistence users may not understand the dependence that rural residents have on wild resources.
- 3) Non-rural users sometimes leave meat in the field or demonstrate poor meat handling practices. There is a sense that meat is wasted and that this is meat that otherwise could have been used to feed families in rural communities.
- 4) Hunters trespass on private property when hunting.

The Board encourages the Council to continue to develop outreach plans to address these issues. Once the plans are completed, Board members can consider what type of support might be provided by their respective agencies.

Supplemental 4

**Excerpt from 2013 EIRAC Annual Report Reply
(FWS/OSM 14081.CJ)**

Dated August 06, 2014

4. Hunter ethics and educational outreach to generate better understanding and reduce conflict between users.

The Council has heard many proposals and extensive public discussion over the years that focus on user conflicts among various resource users. The Council feels education and outreach initiatives should be developed to generate better understanding between user groups that hunt and fish common resources on Federal public lands. Proactively providing information may help avoid conflicts that stem from activity in sensitive cultural areas, Native lands, or lack of awareness of local etiquettes and values when outsiders engage in hunting and fishing near rural communities or in traditional hunting areas. The Council would like to see the Federal Subsistence Management Program and its Federal land managers make an effort to develop educational initiatives in collaboration with the State where needed for known conflict/problem areas identified through the Regional Advisory Council meetings or Tribal consultation process. Fostering understanding and respect may help greatly in co-management efforts and reduce stress experienced by some due to conflicts around hunting and fishing activities.

The Eastern Interior Alaska Subsistence Regional Advisory Council itself contains a diverse membership and may be able to assist in developing approaches to education and outreach initiatives. The Council suggests that possible solutions include providing education materials in the Federal and State fish and wildlife regulatory books and/or education flyers that can be distributed along with relevant hunting permits. Information could include maps of Native lands, local cultural information by region, and notations regarding local etiquette, such as donation of meat to local communities and elders. Contact information for more details or questions could also be provided.

Response:

The Board finds your ideas outstanding. OSM has helped facilitate this type of outreach in the past. The Board will refer this to the applicable land managers to develop maps or educational flyers with the assistance of OSM and any input the Eastern Interior Council would like to provide. Similar efforts have been made in other areas of the State. In Unit 23 for instance, the Alaska Department of Fish and Game, along with a variety of user groups, formed the "GMU 23 Working Group" in 2008. Their focus is on finding solutions to fall hunting user conflicts in the area. It is a 20-member group that includes representatives of local and Tribal governments, land management agencies, hunting and guiding interest groups, and both the Alaska Board of Game and the Federal Subsistence Board. They are tasked with finding solutions to hunting conflicts that will help to both preserve traditional native hunting practices and hunting opportunities, while also providing reasonable opportunities for non-local hunters to hunt in the unit. An equivalent working group could be formed in the Eastern Interior Region, with the land managers taking the lead, and with assistance from OSM and the Council. And while funding may be limited, if available at all, the Unit 23 Working Group may have materials or ideas that could assist in this effort.

Your Subsistence Council Coordinator is available to help the Council coordinate these educational efforts.

**Excerpt from 2015 EIRAC Annual Report Reply
(FWS/OSM 16083.CJ)**

Dated September 14, 2016

5. Hunter ethics and education to reduce user conflict and promote understanding

The Council has heard many proposals and extensive public discussion over the years that focus on user conflicts among various resource users. The Council feels education and outreach initiatives should be developed to generate better understanding between user groups that hunt and fish common resources on Federal public lands. Proactively providing information may help avoid conflicts that stem from activity in sensitive cultural areas, Alaska Native lands, or lack of awareness of local etiquette and values when outsiders engage in hunting and fishing near rural communities or in traditional hunting areas. The Council would like to see the Federal Subsistence Management Program and its Federal land managers make an effort to develop educational initiatives in collaboration with the State where needed for known conflict/problem areas identified through the Regional Advisory Council meetings or Tribal consultation process. Fostering understanding and respect may help greatly in co-management efforts and reduce stress experienced by some due to conflicts around hunting and fishing activities.

The Council possesses a diverse membership and may be able to assist in developing approaches to education and outreach initiatives. The Council suggests that possible solutions include providing education materials in the Federal and State fish and wildlife regulatory books and/or education flyers that can be distributed along with relevant hunting permits. Information could include maps of Alaska Native lands, local cultural information by region, and notations regarding local etiquette, such as donation of meat to local communities and elders. Contact information for more details or questions could also be provided.

The Council met with the Western Interior Alaska Subsistence Regional Advisory Council during the winter 2015 meeting cycle and worked jointly to develop ideas and solutions to address these user conflict issues. The Council also discussed these potential collaborative options with Alaska Department of Fish and Game representatives at the same meeting and has been pursuing avenues that could be facilitated by Council member involvement in other resource advisory groups. The Council has also drafted a letter outlining several suggestions, which is enclosed with this report. To have an effective education and outreach program will require the collaboration and support of the Federal Subsistence Management Program. The Councils seeks feedback and confirmation from the Federal Subsistence Management Program on what type of programmatic, technical, and monetary resources the program may be able to contribute to the effort and a plan for possible next steps in order to proceed.

Response:

The Board appreciates the Council's continued ideas and collaborative efforts to develop an education and outreach program that can reduce hunter conflicts in the region. Such a program could particularly help local hunters in rural areas who rely heavily on fish and wildlife resources for

subsistence. The Board recognizes that this is a critical concern not only for your Council but several other Councils, including Western Interior.

Member Andy Bassich from Eagle effectively captured and presented the Council's concerns during a facilitated Outreach Challenges session held at the All Council's Meeting in March. The ideas and suggestions from the session will provide a baseline for **the development of an OSM outreach strategy to reduce user conflicts and educate local and visiting hunters. A pilot project would be carried out in the Eastern Interior region to test the strategy.** Karen Deatherage and Katerina Wessels are OSM council coordinators who have extensive outreach and communications background. They will both be working to initiate a pilot outreach program to address the concerns of Council on this matter. **The Board fully supports this effort and looks forward to a successful program.**

**Excerpt from 2016 EIRAC Annual Report
(RAC EIRAC 17010.KW)**

Dated April 04, 2017

1. Understanding and tolerance for different cultural hunting values as means to reduce waste and work towards better hunter ethics in the field

The Eastern Interior Region has several areas where ongoing user conflicts among various groups of resource users create stress and misunderstanding, resulting in waste of valuable resources. This issue is one of the major concerns for many other Councils' areas, for example Western Interior. The Council brought the user conflict issue before the Board in its 2014 and 2015 annual reports but had not seen much progress made on developing solutions it. Some discussion regarding hunters' education occurred during an Outreach Challenges break-out session held at the All Council's Meeting in March of 2016; however, none of the suggestions made during this session were implemented and no Office of Subsistence Management (OSM) outreach strategy to reduce user conflict and educate hunters has yet been developed.

The Council would like to advocate for the acceptance and teaching different sets of values that the hunters of different backgrounds – both rural subsistence and urban sport – have. Very often ignorance and misunderstanding of these values result in animal waste. Some of the urban hunters would like to share with subsistence users animal body parts that they do not consume but they need to be educated on how to process and store them correctly.

The Council encourages the Board to set up a timeline for developing the strategy and testing it out. The Council suggests that OSM creates a small working group in partnership with other agencies and the State of Alaska to address the issues of user conflict and waste of subsistence resources. The goal of this group should be to develop strategies for hunter education and outreach programs both statewide and regionally. The developed strategies should be tested out through a pilot program focused on the Eastern Interior Region. Additionally, the Council suggests that one specific group of users – the military – should be targeted for delivery of hunter ethics and meat care education programs. The military has been very receptive to public concerns and requires their personal to go through a hunter orientation course before going hunting.

The Council also suggests that the Board directs OSM to develop an educational publication on different cultural values of various user groups and opportunities and procedures for sharing animal body parts to reduce waste and achieve better hunting ethics in the field.

Excerpt from 2016 EIRAC DRAFT Annual Report Reply

DRAFT Board Response:

[DRAFT] The Board acknowledges the Council's continuing concern regarding ongoing user conflict in the Eastern Interior Region, potentially stemming from misunderstanding each user groups' traditions, way of life, and ethical standards. The Board appreciates the Council's emphasis on moving forward in a positive way to improve understanding of and tolerance for different cultural hunting values between local Federal subsistence users, non-local subsistence users, and sport/commercial user groups and the desire to create a collaborative network that will include State and Federal agencies, tribes and Native organizations, rural community representatives, and hunting organizations. For this effort to be successful, it is very important to take into account various perspectives and consider agency mandates and authorities.

The Board is pleased to report to the Council that, in accordance with the Board's recommendation outlined in the reply to the fiscal year 2015 annual report, the Office of Subsistence Management (OSM) developed a draft plan of action that will guide the development of an outreach strategy and potential pilot project to improve understanding between users. A draft timeline was also created to help guide achievement of realistic goals for the pilot project. The plan of action was presented to the Interagency Staff Committee in May of 2017 and subsequently to the Board during its work session in July of 2017. OSM plans to continue working with State and Federal agencies and Council representatives, with the intent to form a working group of collaborators that will identify target audiences and goals for the project and develop key messages by the Council's winter 2018 meeting. The Board is aware that two Council members, Susan Entsminger and Andy Bassich, have already agreed to be Council representatives on such a group.

OSM will present the plan of action and timeline to the Council during its fall 2017 meeting to solicit further comments and ideas. After the working group is formed during the Council's fall meeting, it will work with other valuable stakeholders to solicit input and collaboration in developing a pilot project that will be presented to the Council during its winter 2018 meeting. Your Council Coordinator will lead this initiative, and OSM will commit other staff time on a as-needed basis. The Board will also request that representatives from the U.S. Fish and Wildlife Service, National Park Service and Bureau of Land Management are assigned to participate in the initial working group.

The Board would like to note that due to the current Federal budget uncertainties OSM cannot commit specific funding for this initiative but will leverage OSM staff time dedicated to the pilot project to network on a collaborative path forward and actively seek alternative funding from other sources. [DRAFT]

Presentation Procedure for Proposals

- 1. Introduction and presentation of 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 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 adopt)
- 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 analysis
- 9. Restate final motion for the record, vote**

WP18–16/50 Executive Summary	
General Description	<p>Proposal WP18-16 requests a one month extension of the winter moose season in the southern portion of Unit 11 (FM1107) from Nov. 20 – Dec. 20 to Nov. 20 - Jan. 20. <i>Submitted by: Keith Rowland of McCarthy.</i></p> <p>Proposal WP18-50 requests a one month extension of the winter moose season in the southern portion of Unit 11 (FM1107) from Nov. 20 – Dec. 20 to Nov. 20 - Jan. 20. <i>Submitted by: Eastern Interior Alaska Subsistence Regional Advisory Council.</i></p>
Proposed Regulation	<p>Unit 11—Moose</p> <p><i>Unit 11—that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage—1 antlered bull by joint State/Federal registration permit. Aug. 20–Sept. 20</i></p> <p><i>Unit 11—that portion south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain – 1 bull by Federal registration permit. However, during the period Aug. 20-Sept. 20, only an antlered bull may be taken. Aug. 20–Sept. 20 Nov. 20–Dec. 20 Jan. 20</i></p> <p><i>Unit 11 remainder—1 antlered bull by Federal registration permit only Aug. 20–Sept. 20</i></p>
OSM Preliminary Conclusion	Support
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional	

WP18–16/50 Executive Summary	
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	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	

WP18–16/50 Executive Summary	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	1 Support

**DRAFT STAFF ANALYSIS
WP18-16/50**

ISSUES

Proposal WP18-16, submitted by Keith Rowland of McCarthy, and Proposal WP18-50, submitted by the Eastern Interior Alaska Subsistence Regional Advisory Council, requests a one month extension of the winter moose season in the southern portion of Unit 11 (FM1107) from Nov. 20 – Dec. 20 to Nov. 20 - Jan. 20. Since these proposals are identical they will be combined into one analysis WP18-16/50.

DISCUSSION

The proponents state that the winter moose season has been in effect from 2014 to 2016 and that access to this area is difficult. Most of the hunt area is within Wrangell-St. Elias National Park and Preserve (WRST) is designated as national park lands, and therefore, the use of aircraft for hunting access is not permitted (36 CFR 13.450). Due to warm winters and climate change, ice has been forming later on rivers and there is insufficient snow cover by December 20 for travel. The proponents state that extending the hunt by one month will allow more time for conditions to become suitable for cross-country travel to the hunt area, and that moose harvest during the past three seasons has been very limited, so there is no potential conservation concern associated with the proposed season change.

Existing Federal Regulation

Unit 11—Moose

Unit 11—that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage—1 antlered bull by joint State/Federal registration permit. Aug. 20–Sept. 20

Unit 11—that portion south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain – 1 bull by Federal registration permit. However, during the period Aug. 20-Sept. 20, only an antlered bull may be taken. Aug. 20–Sept. 20
Nov. 20–Dec. 20

Unit 11 remainder—1 antlered bull by Federal registration permit only Aug. 20–Sept. 20

Proposed Federal Regulation**Unit 11—Moose**

Unit 11—that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage—1 antlered bull by joint State/Federal registration permit. Aug. 20–Sept. 20

Unit 11—that portion south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain – 1 bull by Federal registration permit. However, during the period Aug. 20–Sept. 20, only an antlered bull may be taken. Aug. 20–Sept. 20
Nov. 20–~~Dec 20~~
Jan. 20

Unit 11 remainder—1 antlered bull by Federal registration permit only Aug. 20–Sept. 20

Existing State Regulation**Unit 11 – Moose**

<i>Unit 11– that portion east of the east bank of the Copper River upstream from and east of the east bank of the Slana River</i>	<i>Residents: One bull by permit per household, available only by application. See Subsistence Permit Hunt Supplement for details</i>	CM300	Aug. 10–Sept. 20
	OR		
	<i>Residents: One bull with spike-fork antlers or 50-inch antlers or antlers with 3 or more brow tines on at least one side by permit in person in Anchorage, Fairbanks, Glennallen, Palmer, Slana Ranger Station and Tok beginning Aug. 3</i>	RM291	Aug. 20–Sept. 17

	<i>Nonresidents: One bull with 50-inch antlers or antlers with 3 or more brow tines on at least one side by permit available in person in Anchorage, Fairbanks, Glennallen, Palmer, Slana Ranger Station and Tok beginning Aug. 3</i>	RM291	Aug. 20–Sept. 17
Unit 11– remainder	<i>Residents: One bull by permit per household, available only by application. See Subsistence permit Hunt Supplement for details</i>	CM300	Aug. 10–Sept. 20
	<i>Residents and nonresidents: One bull with spike-fork antlers or 50-inch antlers or antlers with 3 or more brow tines on at least one side</i>	HT	Aug. 20–Sept. 20

Extent of Federal Public Lands

Federal public lands comprise approximately 87% of Unit 11 and consist of approximately 84% National Park Service (NPS) managed lands, 3% U.S. Forest Service (USFS) managed lands, and 0.1% Bureau of Land Management (BLM) managed lands (See **Unit Map**).

Customary and Traditional Use Determinations

Residents of Units 11, 13A-D, and Chickaloon have a customary and traditional use determination for moose in Unit 11 remainder.

Under the guidelines of the Alaska National Interest Lands Conservation Act, National Park Service regulations identify qualified local rural residents in National Parks and Monuments by: 1) identifying resident zone communities which include a significant concentration of people who have customarily and traditionally used subsistence resources on park lands; and 2) identifying and issuing subsistence use (13.440) permits to individuals residing outside of the resident zone communities who have a personal or family history of subsistence use. In order to engage in subsistence in Wrangell-St. Elias National Park, the National Park Service requires that subsistence users either live within the Park’s resident zone (36 CFR 13.430, 36 CFR 13.1902) or have a subsistence permit (36 CFR 13.440) issued by the Park Superintendent.

Regulatory History

In 1992, the Federal Subsistence Board (Board) added 10 days to the moose season in Unit 11, aligning it with seasons Aug. 25-Sept. 20 seasons in adjoining Units 6, 12, and 13 (OSM 1992). In 1999, Healy Lake was added to communities having a customary and traditional use determination for moose in the portion of Unit 11 north of the Sanford River (OSM 1999a). In 1999, the Board adopted Proposal P99-16 with modification to allow five day extension to the Unit 11 moose season at the beginning of the season to provide additional opportunity for subsistence harvest while protecting the moose population from disruption during the breeding season, and to align Federal and State seasons (OSM 1999b).

In 2000, the Board rejected Proposal P00-19/21 to include the residents in Unit 6C to those with customary and traditional use for moose (P00-19) and sheep (P00-21) in the portion of Unit 11 remainder because Cordova previously failed to qualify as a resident zone community for WRST, based on percentage of qualifying individuals (OSM 2000a).

In 2000, the Board adopted Proposal P00-20 modifying general regulations requiring evidence of sex. The regulation was modified to allow hunters in Units 11 and 13 to possess either sufficient portions of the external sex organs, still attached to a portion of the carcass, or the head (with or without the antlers attached) to indicate the sex of the harvested moose, however this did not apply to the carcass of an ungulate that has been butchered and placed in storage or otherwise prepared for consumption upon arrival at the location where it is to be consumed (OSM 2000b).

In 2002, the Board adopted Proposal WP02-19 to allow for the harvest of a moose without a calf in either Unit 11 or Unit 12 for the annual Batzulnetas Culture Camp by two hunters designated by the Mt. Sanford Tribal Consortium (OSM 2002). The Board adopted this proposal because it was an established, well-known culture camp and the change streamlined the process for issuing permits to the Mt. Sanford Tribal Consortium.

In 2007, the Board rejected Proposal WP07-20 to change the season dates from Aug. 20-Sept. 20 to Sept. 1–Sept. 30 to reduce spoilage due to warm weather, because the moose population was low and shifting the season had the potential to increase moose harvest, which would have detrimental effects for the conservation of the population (OSM 2007).

In 2012, the Board adopted Proposal WP12-70 with modification, dividing Unit 11 into two hunt areas and creating a single, joint State/Federal registration permit to administer the hunt area in Units 11 and 12 along the Nabesna Road, and a Federal registration permit for Unit 11 remainder. The season dates for Unit 12 remainder were also modified. These changes aligned the Federal seasons within the area of the joint State/Federal registration permit and helped to improve harvest reporting. In addition, the moose population was healthy enough to allow for the potential increase in bull harvest (OSM 2012).

In 2014, the Board adopted Proposal WP14-16 with modification to establish a winter moose season from Nov. 20 to Dec. 20 in Unit 11, south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain. The board also

delegated authority to the WRST Superintendent to open and close any portion of the winter season and to establish a harvest quota (OSM 2014). Moose in the area south of the Chitina River (**Map 1**) typically stay at higher elevations during the fall where they are largely inaccessible to subsistence users. In addition, there is limited access during the fall moose season due, in part, to having to cross the Chitina River. The winter hunt provides subsistence hunters more opportunity to hunt moose when they are more accessible by snowmachine and allows them to store meat without freezers.

Current Events

The Ahtna Intertribal Resource Commission submitted two proposals for the 2018-2020 wildlife regulatory cycle that pertains to moose in this area. Proposal WP18-17, requests that the moose season on Federal public lands in Unit 11, that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage, and Unit 11-remainder be changed from Aug. 20-Sept. 20 to Aug. 20-Mar. 31. Proposal WP18-18 similarly requests that the moose season on Federal public lands in Unit 13 be changed from Aug. 1-Sept. 20 to Aug. 1 to Mar. 31.

Biological Background

The moose population in Unit 11, which initially increased in the 1950s, has experienced two peaks, one in the early 1960s and the other in 1987, and two lows in 1979 and 2001 (Tobey 2010). Predation on moose calves by bears and wolves has been shown to be an important limiting factor in moose populations (Tobey 2010). High brown bear and wolf numbers in Unit 11 may be contributing to the low calf:cow ratios observed in this unit, as well as the overall low, but stable density moose population (Tobey 2008).

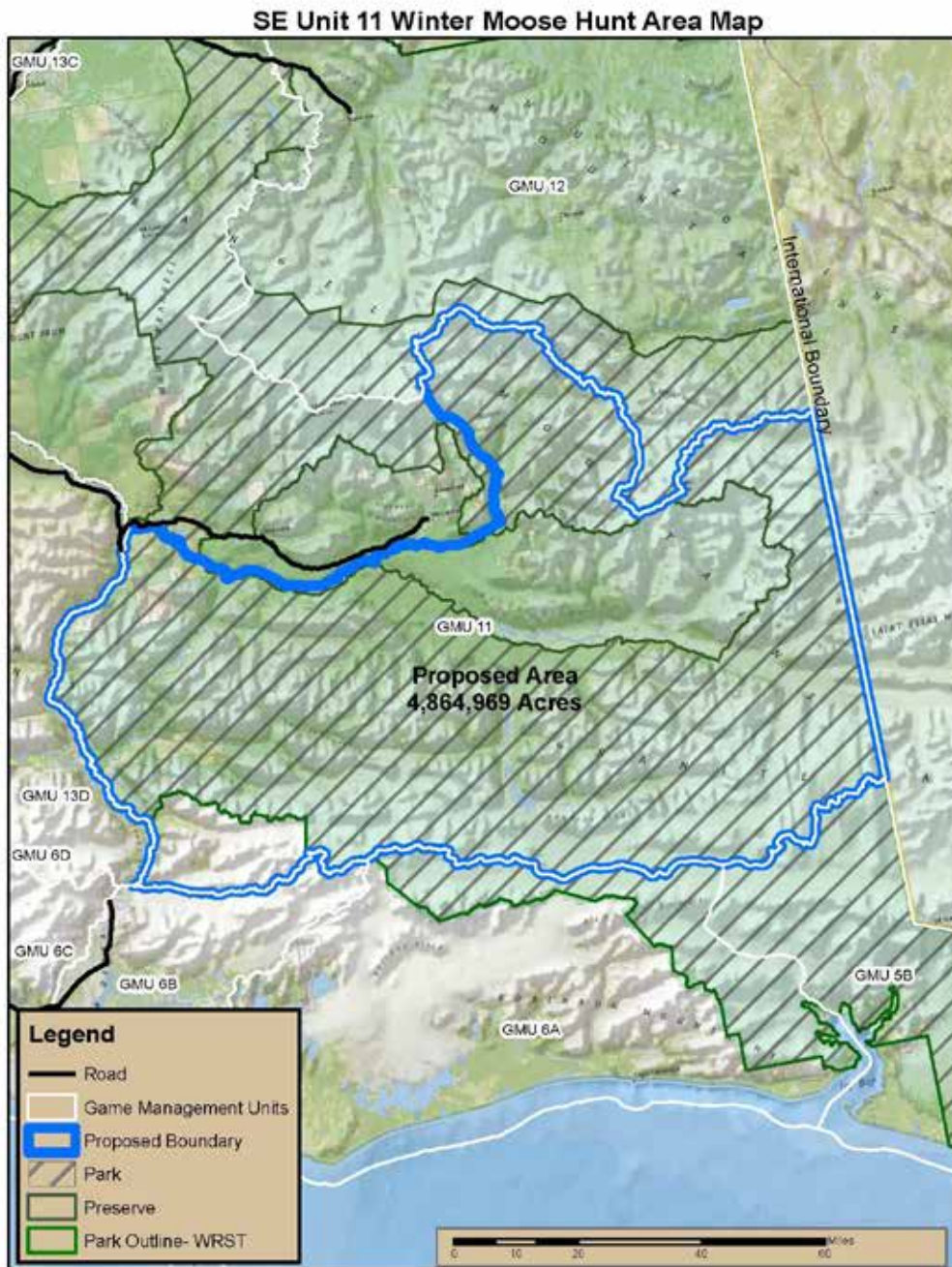
State management goals for moose in Unit 11 are (Tobey 2010):

- To allow the populations to fluctuate based on the available habitat and predation rates.
- Maintain a population with a post hunt age/sex composition of 30 bulls (of which 10-15 are adult bulls) per 100 cows

Three main moose survey efforts have been conducted in Unit 11. The first are ongoing surveys conducted by the Alaska Department of Fish and Game (ADF&G) in the Mount Drum area, the second were surveys conducted by WRST in the north end of Unit 11 from 2003 – 2008, and the third were Geospatial Population Estimator (GSPE) surveys conducted in 2007, 2010, 2011, and 2013 by WRST staff throughout Unit 11 (**Map 2**). The scheduled moose survey for 2016 was not conducted due to inadequate snow conditions (Putera et al. 2017). No moose surveys have been conducted in the winter hunt area in Unit 11.

Aerial population and composition trend surveys are usually conducted by ADF&G every other year during late fall along the western slopes of Mount Drum (Count Area CA11). The survey indicator area on Mt. Drum includes 212 mi² which is approximately 1.7% of Unit 11 (12,470 mi²). The total number of moose counted in CA11 averaged 170 moose per regulatory year between 1998 and 2015 (**Table 1**). Density estimates from 1999 to 2012 ranged from 0.3 to 1.0 moose/mi² in CA11 (**Table 1**) (Tobey 2004, 2010). The bull:cow ratio averaged 95 bulls:100 cows from 1998 through 2015 (Tobey 2010, Schwanke 2013,

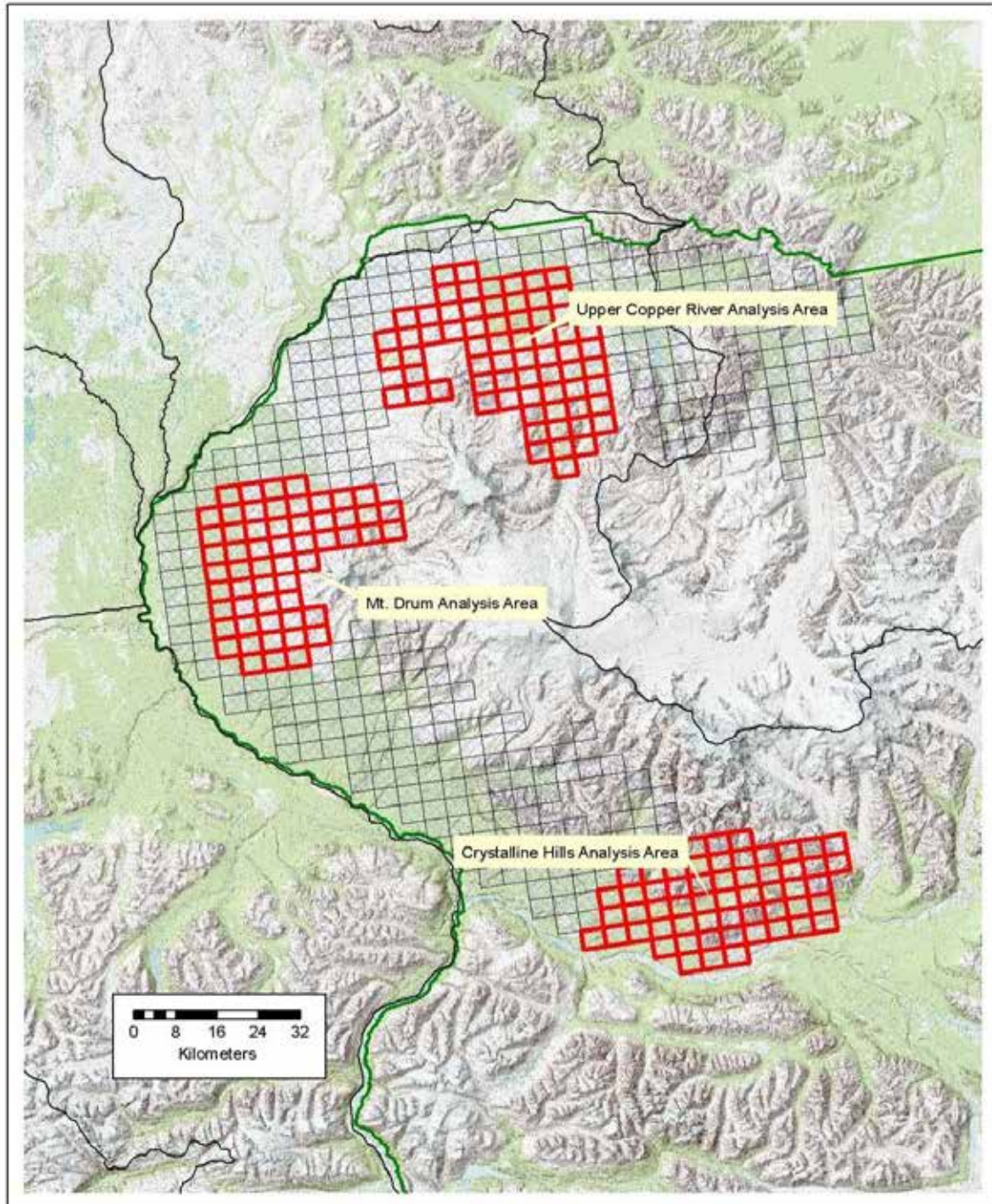
pers. comm., Hatcher 2014, Robbins 2017, pers. comm.), which exceeds current State management goals. The average number of calves:100 cows in Unit 11 between 1998 and 2015 was 21 (range 9-48) (Tobey 2010, Schwanke 2013, pers. comm., Hatcher 2014, Robbins 2017, pers. comm.).



Map 1. Location of the winter moose hunt area in Unit 11 (Putera 2013, pers. comm.). The proposed area on this map was accepted by the Federal Subsistence Board in 2014.

Moose population information was also collected by WRST staff near the north end of Unit 11 in the Upper Copper River (UCR) moose survey area, which covers the Boulder Creek drainage east to Copper Lake (**Table 2**). Although a portion of this survey area is accessible using all-terrain vehicles from the Nabesna Road, the western portion of the survey area is accessible only by aircraft. Between 2003 and 2008 (excluding 2007), an average of 297 moose were counted annually in the UCR moose survey area (**Table 2**) (Reid 2007, pers. comm.). Results from the sex and age composition counts found that the calf:cow ratio was fairly stable, averaging 12 calves:100 cows with calves accounting for about 7% of the population. Bull:cow ratios remained fairly stable as well, averaging 46 bulls:100 cows; well above the management objective.

Although a moose population census for all of Unit 11 has never been conducted, population estimates from GSPE surveys conducted in 2007, 2010, 2011, and 2013 by WRST staff represent the most comprehensive moose population data for Unit 11 (Putera 2013, pers. comm.). GSPE, developed by ADF&G is an accepted method for estimating moose populations in large areas such as Unit 11 (Ver Hoef 2001). Population estimates for the total survey area, bull:cow ratios, and calf:cow ratios increased slightly from 2007 to 2013 (**Table 3**) (Reid 2008, Putera 2010, Putera 2013, pers. comm.). Separate population estimates were also determined for three analysis areas that cover previous trend count survey areas. For the Mt. Drum area, bull:cow ratios continued to remain high at 118:100 in 2007, 55:100 in 2010, and 79:100 in 2013 (**Table 3**). Moose density increased slightly in 2013 from the 2010 survey. Results of the 2007 and 2010 GSPE surveys for the UCR area are consistent with previous trend surveys, with 2-3 times more moose observed than in the Mt. Drum and Crystalline Hills survey areas. Calf:cow ratios were slightly higher in 2013 (**Table 3**) than ratios from surveys conducted in 2012 (**Table 1**). The Crystalline Hills and Mt Drum count areas had the greatest increase between 2010 and 2013 (**Table 3**). In cooperation with ADF&G, WRST staff conducted a GSPE survey in 2011 along the Nabesna Road corridor, an area that receives relatively high hunting pressure. The population estimate was 1272 moose with an estimated density of 0.79 moose/mi², a bull:cow ratio of 34:100 and a calf:cow ratio of 27:100. The bull:cow ratio along the Nabesna Road corridor (34:100cows) in 2011 was lower than bull:cow ratios from the 2007 and 2010 GSPE surveys in the UCR area (**Table 3**).



Map 2. Analysis areas within the count area. These areas were selected to allow comparisons with historical survey areas (Putera 2010).

Table 1. Unit 11 moose population demographics on the western slopes of Mount Drum, Wrangell-St Elias National Park and Preserve, AK, 1998-2015 – a lightly hunted population (Tobey 2004, 2008; Schwanke 2013, Hatcher 2014, Robbins 2017, pers comm.).

Year	Number of Bulls	Number of Cows	Number of Calves	Total Moose	Bulls:100 Cows	Calves/100 Cows	% Calves	Moose /hour	Density Moose/ mi ²
1998-99	51	46	7	104	111	15	7	24	0.4
1999-00	58	53	11	122	109	21	9	28	0.4
2000-01	58	37	9	104	157	24	9	23	0.4
2001-02	43	46	4	93	94	9	4	19	0.3
2002-03	----	----	----	----	----	---	--	---	----
2003-04	69	60	9	138	115	15	7	30	0.5
2004-05	----	----	----	----	----	----	----	----	----
2005-06	----	----	----	----	----	----	----	----	----
2006-07	57	62	30	149	92	48	20	32	0.5
2007-08	----	----	----	----	----	----	----	----	----
2008-09	63	86	15	164	73	17	9	38	0.6
2009-10	----	----	----	----	----	----	----	----	----
2011-12	98	138	29	265	71	21	11	46	0.9
2012-13	120	143	19	282	84	13	7	46	1.0
2013-14	91	103	27	221	88	26	12	45	0.8
2015-16	67	133	30	230	50	23	13	45	0.8
Mean	70	82	17	170	95	21	10	32	0.56

Table 2. Unit 11 moose population demographics in the Upper Copper River survey area, Boulder Creek to Copper Lake, Wrangell – St. Elias National Park and Preserve, AK, 2003-2008 – a relatively heavily hunted population accessible by aircraft and all-terrain vehicles (Reid 2007, pers. comm. 2007; Reid 2008, Putera 2010).

Year	Number of Bulls	Number of Cows	Number of Calves	Total Moose	Bulls:100 Cows	Calves/100 Cows	% Calves
2003	97	215	21	333	45	10	6
2004	78	142	25	245	55	18	10
2005	92	183	11	286	50	6	4
2006	86	218	31	335	39	14	9
2008	77	186	22	285	41	12	8
Total	430	944	110	1,484			
Mean	86	189	22	297	46	12	7

Table 3. Moose Population Estimates for selected areas of Unit 11, from GSPE surveys conducted in 2007, 2010, and 2011 (Reid 2008, Putera 2010, Putera 2013, pers. comm.).

Area	Year	Population Estimate	Moose Observed	Calf:100 Cows	Bull:100 Cows	No. Units Surveyed	Density (mi ²)
Total Survey 3170 mi ²	2007	1576 ± 244	500	19	52	87	0.49
	2010	1584 ± 214	623	17	50	94	0.50
	2013	2107 ± 307	725	18	64	83	0.70
Upper Cop- per 524 mi ²	2007	403 ± 70	170	16	38	25	0.76
	2010	539 ± 106	220	14	49	19	1.02
	2013	515 ± 121	155	16	61	16	1.0
Mt. Drum 349 mi ²	2007	232 ± 65	82	11	118	8	0.66
	2010	186 ± 51	66	35	55	11	0.53
	2013	225 ± 56	94	25	79	9	0.70
Crystalline Hills 349 mi ²	2007	260 ± 93	63	29	42	9	0.74
	2010	259 ± 55	134	17	50	16	0.74
	2013	380 ± 78	179	19	70	13	1.10
Nabesna 1602 mi ²	2011	1272 ± 134	551	27	34	107	0.79

Habitat

In 2009, the Chakina fire burned approximately 56,000 acres in the accessible portion of Unit 11 south of the Chitina River. A portion of that area (approximately 20,000 acres) re-burned in the Steamboat Creek fire in 2016 (WRST 2016). Typically within 10 –15 years following fires or disturbance (Loranger et al. 1991), early seral forest habitat becomes the most productive area for moose because it supports high density of forage species such as paper birch (*Betula papyrifera*), aspen (*Populus tremuloides*), and willow (*Salix sp.*). The severity and frequency of fires will determine how productive an area becomes for moose (Loranger et al. 1991; Johnstone and Kasischke 2005; Brown and Johnstone 2012). For instance, peak moose density during winter occurred approximately 15 years after the 1947 fire on the Kenai Peninsula (Loranger et al. 1991).

Cultural Knowledge and Traditional Practices

Reference to the harvest and use of moose by the people of the Eastern Interior and the Copper River Basin begin as early as the 1800s and continue to the present day (Simeone 2006). Archeological evidence and historical accounts suggest that large land mammals were an important subsistence resource for the Ahtna Athabascans of the upper Copper River watershed (Simeone 2006). Russian explorer, Rufus Sereberinikoff, noted that Ahtna families along the Tazlina River had fresh moose meat when he visited the

Copper Basin in May of 1848. De Laguna and McClennan (1981) reported that, "caribou and moose were caught either in drag-pole snares or in snares set 200-300 feet apart in long brush fences." Winter moose hunting took place on foot with the use of snowshoes and the aid of bow and arrows (Reckord 1983; Simeone 2006; Haynes & Simeone 2007). The traditional practices of drying and freezing meat, as well as the proper and respectful treatment of harvested resources such as moose, are described in several ethnographic accounts of the Ahtna and people of the upper Tanana (de Laguna & McClellan 1981; Haynes & Simeone 2007; Reckord 1983; Simeone 2006).

In recent comprehensive subsistence surveys conducted by the ADF&G, reported large land mammal harvest is high and ranged between 21% and 88% of the total harvest by weight in the communities surveyed (Holen, et al. 2015; Kukkonen & Zimpleman 2012; La Vine et al. 2013; La Vine & Zimpleman 2014). In the communities with the closest proximity to the southern portion of Unit 11 moose was harvested at 13 lb per capita in McCarthy and 8 lb per capita in Chitina. Additionally, use was high with 67% of households reporting use in Chitina and 62% households reporting use in McCarthy (La Vine and Zimpleman 2014).

During each study year, communities within the Copper River Basin harvested or hunted for moose in Units 11, 12, and 13. While many communities documented harvest and search areas for moose in Unit 11 in general, Chitina, Copper Center, Glennallen, Kenny Lake/Willow Creek, and McCarthy reported harvest and search areas in the southern portion specifically (Holen et al. 2015, La Vine and Zimpleman 2014, La Vine et al. 2013). Harvest and search areas documented in the southern portion of Unit 11 include the 60 mile stretch of McCarthy Road, and Dan Creek across the Nizina River from McCarthy (Holen, et al. 2015; La Vine, et al. 2013; La Vine & Zimpleman 2014).

Harvest History

Moose harvest from 1963 to 1974 averaged 164 moose per year in Unit 11. During this time there was both a fall and winter season and cows made up as much as 50% of the harvest (Tobey 2010). In response to declining moose numbers, seasons were shortened, the winter season was eliminated, and harvest was restricted to bulls only from 1975 to 1989. The average annual bull harvest was 45 (range 21-58) between 1975 and 1989. In 1990 the State season was shortened to Sept. 5 - Sept. 9 to align the season with adjacent Unit 13 and because of population declines due to increased mortality during the severe winter of 1989/1990 (Tobey 1993, 2010). During the 1990s, the average harvest was 34 bulls (range 22-42). Since 2000, the mean harvest has been 58 bulls, which includes an estimated 10 unreported moose being harvested each year (**Table 4**) (Tobey 2010, FWS 2017). One moose was harvested in Unit 11 under the Copper Basin Community Permit Hunt (CM300) in 2009 (FWS 2017). Sixty nine permits were issued between 2014 and 2016. During that period 10 individuals hunted and one moose was reported harvested in the winter hunt area largely south of the Chitina River (Putera et al. 2017).

Table 4. State and Federal Moose harvest in Unit 11 from 2000-2015 (Tobey 2010, Hatcher 2014, FWS 2017, ADF&G 2017).

Year	M	F	Unk	Estimate of Unreported Kill	Federal Total	State Total	Total
2000/2001	52	0	1	10	23	30	63
2001/2002	43	1	1	10	14	31	55
2002/2003	40	0	1	10	8	33	51
2003/2004	45	0	0	10	15	30	55
2004/2005	56	0	1	10	27	30	67
2005/2006	47	1	0	10	24	24	58
2006/2007	41	0	1	10	20	22	52
2007/2008	47	2	0	10	25	24	59
2008/2009	53	0	0	10	28	25	63
2009/2010	64	0	2	10	20	36	66
2010/2011	38	0	0	10	20	18	48
2011/2012	74	0	0	10	27	37	74
2012/2013	48	0	0	10	9 ^a	39	58
2013/2014	61	0	0	10	12 ^a	39	61
2014/2015	39	0	0	10	10 ^a	30	49
2015/2016	47	0	0	10	13 ^a	34	57
2016/2017	62	0	0	10	17 ^a	45	72

^a Harvests by Federally qualified subsistence users under the joint State/Federal permit established in 2012 are included in the "Total State" column

Effects of the Proposal

If this proposal is adopted, it would extend the winter moose season from Dec. 20 to Jan. 20 in a portion of Unit 11 south of the Chitina River. This season would provide Federally qualified subsistence users with an additional 31 days of harvest opportunity in areas that are difficult to access during the fall season. The two-month season would allow hunters to take advantage of periods of good weather and ice conditions that would allow them to safely cross the Nizina and/or the Chitina River.

Although no moose population surveys have been conducted in the area south of the Chitina River, moose populations in other areas of Unit 11 have remained stable to slightly increasing through 2012/2013. Even

though the hunt season is restricted to bulls, many of the bulls will have shed their antlers by January so the potential of inadvertently harvesting a cow would increase. In addition, WRST has delegated authority to open and close the winter moose season and establish quotas in Unit 11. Conducting GSPE surveys in the winter hunt area in Unit 11 would provide additional information for biologists and managers to determine a quota that is biologically sustainable.

OSM CONCLUSION

Support Proposal WP18-16/50.

Justification

Extension of the winter moose season in Unit 11 will allow Federally qualified subsistence hunters to be able to cross the Chitina and Nizinia Rivers when the rivers are frozen thus providing access and more opportunity to harvest a moose. The hunt would also occur later in the winter when the temperatures are expected to be colder, thus making it easier for subsistence users, who live off the electrical grid and do not have freezers, to keep the meat from spoiling.

Moose populations in surveyed areas of Unit 11 have remained relatively stable to slightly increasing through 2012/2013. The population should be able to sustain an additional harvest of bulls during the proposed one month winter harvest season extension. Winter moose harvest is likely to be low and will be controlled by quotas set by the WRST.

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Written Public Comments



Ahtna Intertribal Resource Commission

dba/Copper River-Ahtna Inter-Tribal
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July 26, 2017

Chairperson of Federal Subsistence
Board or his Designated Field Officer
Office of Subsistence Management
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199

Dear Mr. Christensen or Designated Field Officer:

Enclosed are Ahtna Inter-Tribal Resource Commission's (AITRC) comments on 2018-2020 Federal Wildlife proposals. Please consider our viewpoint on wildlife proposals, when decisions are made on federal wildlife regulations.

Sincerely,

A handwritten signature in black ink that reads "Shirley Smelcer". The signature is written in a cursive, flowing style.

Shirley Smelcer, Chairperson of CRITR

Comments on 2018-2020 Federal Wildlife Proposals

Southcentral Subsistence Regional Advisory Council

WP18-14 Change season dates for wolverine hunting and trapping

We support Proposal WP18-14 to extending Unit 11 Wolverine hunting season to February 28th, and extending Unit 13 Wolverine hunting and trapping seasons to February 28th.

Wolverine population in Unit 11 and Unit 13 is considered to be healthy and abundant. There isn't a conservation concern for wolverine in these two game management units.

Other Federally qualified subsistence users and Ahtna People will be able to hunt and trap longer in these two GMUs, allowing more opportunity to harvest a wolverine for personal use or to sell for extra income.

Wolverine is commonly used for clothing, ruff, or for moccasins, coats or jackets. Wolverine fur is also sold to acquire extra income, which supplements cash, food cost and bills.

WP18-16 Extend winter season [Unit 11 moose]

We do not support WP18-16. See comments under WP18-17.

WP18-17 Extend season [Unit 11 moose] (CRITR)

We support Proposal WP18-17 to extend moose hunting season and to allow Ahtna Intertribal Resource Commission to distribute moose permits on federal public lands in Unit 11.

Moose population in Unit 11 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 11 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communities before moose permits are distributed to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AITRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capability to distribute Unit 11 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-18 Extend season [Unit 13 moose] (CRITR)

We support WP18-18 to extend moose season and to allow AITRC to distribute moose permits. Moose population in Unit 13 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. Bureau of Land Management Biologist reported in 2016 1,384 moose permits were distributed, 681 moose permits were used and 99 moose were harvested by federally qualified subsistence hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 13 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communities before moose permits are distributed to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AITRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capability to distribute Unit 13 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-19 Caribou – Revise permitting system [Unit 13 caribou] (CRITR)

We support WP18-19 to allow AITRC to distribute Unit 13 Nelchina Caribou hunting permits to Ahtna tribal members, who are federally qualified customary and traditional use hunters.

AITRC has management capability to distribute Unit 13 Nelchina Caribou permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since the year 2009. AITRC has experienced staff to distribute Nelchina Caribou permits and ensure tribal hunters return caribou permits.

Eastern Interior Subsistence Regional Advisory Council

WP18-50 Extend season [Unit 11 moose]

We do not support WP18-50, we support WP18-17. See comments under WP18-17.

WP18-51 Statewide – Modify baiting restrictions to align State regulations

We support WP18-51 to modify bait regulations to align with State regulations. Federal regulations are more restrictive than State regulations. Adding skinned carcasses of furbearers and fur animals, small game, with the exception of the meat of birds, to bait bear regulations will align State and Federal regulations, provide more opportunities for federal subsistence hunters who use bait stations to harvest bears.

Traditional use of grease, parts of wild game, and other methods of harvesting bears at bait stations would occur, hunters who use bait stations would have an improved chance of harvesting a bear with more options to choose from to use as bait.

WP18-54 – Increase harvest limit and Delegate Authority to set harvest limit for [Unit 12 caribou] to be announced winter season

We do not support WP18-54 to change Unit 12 Caribou regulations to “up to 3 caribou” may be taken with a federal registration permit. This will increase the take of caribou beyond sustainable limits and will stress the herd in its winter range. We have seen overharvest of caribou in the past with liberal bag limit that has taken decades to recover. This is not a wise proposal and we oppose it..

WP18-55 Extend Winter and fall season [Unit 12 moose]

Unit 12 Moose

That portion within Tetlin National Wildlife Refuge Aug. ~~24~~ 20 - Sept. ~~29~~ 30

and those lands within the Wrangell-St. Elias National

Preserve north and east of a line formed by the

Pickeral Lake Winter Trail from the Canadian border

to Pickerel Lake – 1 antlered bull by Federal registration Nov. 1 - ~~Feb-28~~ Apr. 30

permit (FM1203)

We are neutral on WP18-55 to extend Unit 12 Moose season to allow longer hunting opportunity.

WP18–51 Executive Summary	
General Description	Proposal WP18-51 requests that Federal (statewide) bear baiting restrictions be aligned with State regulations, specifically the use of biodegradable materials. <i>Submitted by: Eastern Interior Alaska Subsistence Regional Advisory Council.</i>
Proposed Regulation	<p>§ __.26(b) <i>Prohibited methods and means. Except for special provisions found at paragraphs (n)(1) through (26) of this section, the following methods and means of taking wildlife for subsistence uses are prohibited:</i></p> <p style="text-align: center;">* * * *</p> <p>(14) <i>Using bait for taking ungulates, bear, wolf, or wolverine; except you may use bait to take wolves and wolverine with a trapping license, and you may use bait to take black bears and brown bears with a hunting license as authorized in Unit-specific regulations at paragraphs (n)(1) through (26) of this section. Baiting of black bears and brown bears is subject to the following restrictions:</i></p> <p style="text-align: center;">* * * *</p> <p>(iii) <i>You may use only biodegradable materials for bait; if fish or game is used as bait, you may use only the head, bones, viscera, or skin of legally harvested fish and big game, the skinned carcasses of furbearers and fur animals, small game (including the meat, except the breast meat of birds), and unclassified game wildlife for bait may be used, except that in Units 7 and 15, fish or fish parts may not be used as bait. Scent lures may be used at registered bait stations;</i></p>
OSM Preliminary Conclusion	<p>Support Proposal WP18-51 with modification to establish a definition for scent lure and clarify the regulatory language.</p> <p>The modified regulation should read:</p> <p>§ __.25(a) <i>Definitions. The following definitions apply to all regulations contained in this part: scent lure (in reference to bear baiting) means any biodegradable material to which biodegradable scent is applied or infused.</i></p> <p>§ __.26(b)(14)(iii) <i>You may use only biodegradable materials for bait; if fish or wildlife is used as bait, you may use only the head, bones, viscera, or skin of legally harvested fish and wildlife for bait, the skinned carcasses of furbearers, and unclassified wildlife may be used, except that in Units 7 and 15, fish or fish parts may not be used as bait. Scent lures may be used at registered bait stations;</i></p>

WP18–51 Executive Summary	
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	
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WP18-51 Executive Summary	
Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	3 Oppose

**DRAFT STAFF ANALYSIS
WP18-51**

ISSUES

Proposal WP18-51, submitted by the Eastern Interior Alaska Subsistence Regional Advisory Council, requests that Federal (statewide) bear baiting restrictions be aligned with State regulations, specifically the use of biodegradable materials.

DISCUSSION

The proponent states that the current Federal bear baiting restrictions are much more restrictive than the State's and do not provide for a Federal subsistence priority. The proponent proposes to align Federal and State bear baiting restrictions in order to reduce regulatory complexity, reduce user confusion, and allow baiting with items (e.g. dogfood, anise, popcorn, baked goods, grease, syrup, etc.) that have traditionally been used as bear bait by Federally qualified subsistence users and are currently allowed under State regulations.

Existing Federal Regulations

§__ .26(b) Prohibited methods and means. Except for special provisions found at paragraphs (n)(1) through (26) of this section, the following methods and means of taking wildlife for subsistence uses are prohibited:

* * * *

(14) Using bait for taking ungulates, bear, wolf, or wolverine; except you may use bait to take wolves and wolverine with a trapping license, and you may use bait to take black bears and brown bears with a hunting license as authorized in Unit-specific regulations at paragraphs (n)(1) through (26) of this section. Baiting of black bears and brown bears is subject to the following restrictions:

* * * *

(iii) You may use only biodegradable materials for bait; you may use only the head, bones, viscera, or skin of legally harvested fish and wildlife for bait;

Proposed Federal Regulations

§__ .26(b) Prohibited methods and means. Except for special provisions found at paragraphs (n)(1) through (26) of this section, the following methods and means of taking wildlife for subsistence uses are prohibited:

* * * *

(14) Using bait for taking ungulates, bear, wolf, or wolverine; except you may use bait to take wolves and wolverine with a trapping license, and you may use bait to take black bears and brown bears with a hunting license as authorized in Unit-specific regulations at paragraphs (n)(1) through (26) of this section. Baiting of black bears and brown bears is subject to the following restrictions:

* * * *

(iii) You may use only biodegradable materials for bait; **if fish or game is used as bait, you may use only the head, bones, viscera, or skin of legally harvested fish and big game, the skinned carcasses of fur-bearers and fur animals, small game (including the meat, except the breast meat of birds), and unclassified game** ~~wildlife for bait~~ may be used, except that in Units 7 and 15, fish or fish parts may not be used as bait. Scent lures may be used at registered bait stations;

Note: The proposal as submitted omitted the word “fish”. However, this was an oversight as the proponent’s intention was to align State and Federal regulations.

State Regulations

5 AAC 92.044. Permit for hunting bear with the use of bait or scent lures.

(a) A person may not establish a bear bait station to hunt bear with the use of bait or scent lures without first obtaining a permit from the department under this section.

(b) In addition to any condition that the department may require under 5 AAC 92.052, a permit issued under this section is subject to the following provisions:

* * * *

(8) only biodegradable materials may be used as bait; if fish or big game is used as bait, only the head, bones, viscera, or skin of legally harvested fish and game may be used, except that in Units 7 and 15, fish or fish parts may not be used as bait;

5 AAC 92.085. Unlawful methods of taking big game; exceptions: The following methods and means of taking big game are prohibited in addition to the prohibitions in 5 AAC 92.080:

* * * *

(4) with the use of bait for ungulates and with the use of bait or scent lures for any bear, except that bears may be taken with the use of bait or scent lures as authorized by a permit issued under 5 AAC 92.044;

5 AAC 92.210. Game as animal food or bait. A person may not use game as food for a dog or furbearer, or as bait, except for the following:

(1) the hide, skin, viscera, head, or bones of game legally taken or killed by a motorized vehicle, after salvage as required under 5 AAC 92.220;

(2) parts of legally taken animals that are not required to be salvaged as edible meat, if the parts are moved from the kill site;

(3) the skinned carcass of a bear, furbearer, or fur animal, after salvage as required under 5 AAC 92.220;

(4) small game; however, the breast meat of small game birds may not be used as animal food or bait;

(5) unclassified game;

(6) deleterious exotic wildlife;

(7) game that died of natural causes, if the game is not moved from the location where it was found; for purposes of this paragraph, "natural causes" does not include death caused by a human;

(8) game furnished by the state, as authorized by a permit under 5 AAC 92.040.

Extent of Federal Public Lands

Federal public lands comprise approximately 54% of Alaska and consist of 20% U.S. Fish and Wildlife Service (USFWS) managed lands, 15% Bureau of Land Management (BLM) managed lands, 14% National Park Service (NPS) managed lands, and 6% U.S. Forest Service (USFS) managed lands.

Customary and Traditional Use Determinations

Customary and traditional use determinations for specific areas and species are found in subpart C of 50 CFR part 100, §__.24(a)(1) and 36 CFR 242 §__.24(a)(1).

Regulatory History

In 1990, Federal regulations for bear baiting were adopted from State regulations. These regulations, specifically §__.26(b)(14)(iii), have not been modified since that time.

In 1992, Proposal P92-149 requested that bear baiting be prohibited due to habituation of bears to bait stations and human garbage, which results in bears becoming more dangerous. The Federal Subsistence Board (Board) rejected the proposal as there was no biological reason to restrict subsistence opportunity.

Currently, black bears may be taken at bait stations under Federal regulations in all units, except Units 1C, 4, 8, 9, 10, 14, 18, 22, 23, and 26. In 2014, the Board adopted Proposal WP14-50, allowing brown bears to be taken at bait stations in Unit 25D. In 2016, the Board adopted Proposal WP16-18, allowing brown bears to be taken at bait stations in Units 11 and 12.

In 2001, the Alaska Board of Game (BOG) adopted Proposal 156 to prohibit the use of fish parts as bear bait in Units 7 and 15 (ADF&G 2001). The intent of the proposal was to minimize human-bear interactions and to reduce defense of life or property (DLP) brown bear kills on the Kenai Peninsula (ADF&G 2001).

In 2015, the NPS published Final Rule 36 CFR 13.42(g)(10) prohibiting the take of black and brown bears over bait on National Preserves under State regulations. In 2016, the USFWS published a similar rule prohibiting the take of brown bears over bait on National Wildlife Refuges under State regulations. The USFWS rule was nullified when the President of the United States signed House Joint Resolution 69 into law on April 3, 2017. The Resolution invoked the Congressional Review Act, a law that permits regulations passed during the last six months of a previous administration to be overturned.

In 2016, the BOG adopted Proposal 61 as amended to insert the word “big” before game in 5 AAC 92.044(8) (see State regulations above). This was done to clarify that the skinned carcasses of legally harvested furbearers could be used as bear bait (ADF&G 2016).

In January 2017, the NPS published Final Rule 36 CFR 13.480(b) limiting types of bait that may be used for taking bears under Federal Subsistence Regulations to native fish or wildlife remains from natural mortality

or parts not required to be salvaged from a legal harvest. Based on public comment, the final rule includes a provision that allows to allow the superintendent of Wrangell-St. Elias National Park and Preserve (WRST) to issue a permit to allow use of human-produced foods upon a determination that such use is compatible with park purposes and values and the applicant does not have reasonable access to natural materials that could be used as bait (36 CFR 13.1902(d)). The exception for WRST was based on documented history of bear baiting.

Cultural Knowledge and Traditional Practices

Both black bears and brown bears are traditionally and contemporarily harvested, used, and shared across much of Alaska, though regional variations in harvest patterns, seasonal rounds and methods exist (Blackman 1990; Burch 1984; Clark 1981; Crow & Obley 1981; de Laguna & McClellan; de Laguna 1990; Hosley 1981; Lantis 1984; Slobodin 1981; Snow 1981; Townsend 1981). Historical methods of harvest among Alaska Native cultural groups included spearing (Brown 2012; Crow & Obley 1981; de Laguna & McClellan 1981; de Laguna 1990; Townsend 1981), harvest at winter den sites (Brown 2012; Hosley 1981; de Laguna 1990), snaring (Burch 1984; de Laguna & McClellan 1981; de Laguna 1990), bow and arrows (de Laguna 1990; Townsend 1981), deadfalls (de Laguna & McClellan 1981; de Laguna 1990), and with dogs (de Laguna & McClellan 1981; de Laguna 1990). Today, bears are frequently hunted with rifles while in pursuit of other large land mammals (ADF&G 1992; ADF&G 2008; Brown 2012).

The occurrence of bear baiting as a component of traditional harvest methods is limited within published literature; it is unknown if the practice occurred rarely or if it was merely seldom documented. Among the Upper Kuskokwim (Kolchan) Athabascans, some hunters were known to use ground squirrel nests to attract bears that had recently emerged from their dens in the spring (Brown 2012). A squirrel would be released near the bear and the bear would follow the tracks back to the nest where it would be harvested with lances (Brown 2012).

In Southeast Alaska, Tlingit hunters sometimes used dead falls to harvest bears and these were either set across bear trails or baited to attract bears (ADF&G 1992). The bait ingredients are unknown. Among several Athabaskan groups in Alaska's interior, documented methods of harvesting black bears included hunting with bow and arrow or lacing bait with coiled baleen that would expand and rupture the bear's digestive tract (ADF&G 2008). Use of bear baiting stations to attract and harvest black bears has also been documented specifically for hunters from the community of Tok (ADF&G 2008). In a 2001-2002 study of 18 southwest Alaska communities there was no documentation of the use of baiting stations for harvesting bears (Holen et al. 2005).

Contemporary use of bait stations for bear hunting in Alaska has been contentious (Harns 2004). While some people believe that baiting black bears is acceptable, others have suggested that the method violates fair chase ethics (Harns 2004). The method allows hunters to be selective and humane, it helps hunters with limited mobility to participate by reducing trekking distance, and it facilitates clean kills by bow hunters that harvest animals at a closer range (Harns 2004). Additionally, it allows hunters to be more selective, to more easily identify sex, and to verify the presence or absence of cubs with sows (Harns 2004).

Opponents of bear baiting often reference safety concerns and food conditioning (Cunningham 2017, Hilderbrand et al. 2013). The National Park Service has also cited concerns regarding preventing the

defense of life and property killing of bears and maintaining natural processes and behaviors (Hilderbrand et al. 2013). To alleviate some of these concerns, BOG and the Board have implemented several restrictions that stipulate where bear baiting stations are allowed, that require bear baiting stations to be registered with ADF&G, and that require the completion of an ADF&G bear baiting clinic for all hunters age 16 and older.

Other Alternatives Considered

Adoption of this proposal would permit the use of scent lures at bear baiting stations under Federal regulations. According to 50 CFR §__.25(a) *Definitions* and 5 AAC 92.990 *Definitions*, bait is defined as “any material excluding scent lures, that is placed to attract an animal by its sense of smell or taste; however, those parts of legally taken animals that are not required to be salvaged and which are left at the kill site are not considered bait.” While scent lures are excluded from the bait definition, they are not explicitly defined under Federal or State regulations. If scent lures are not defined, any material and chemical could be used at registered bait stations on Federal public lands, including toxic and non-biodegradable ones.

Effects of the Proposal

If this proposal is adopted, Federally qualified subsistence users would be able to use any biodegradable material as well as scent lures at registered bear baiting stations on lands administered by the USFWS, BLM, and USFS. As bear bait is limited to native fish and wildlife remains on NPS administered lands, this proposal would not affect NPS lands (with some exceptions in WRST). This will provide Federally qualified subsistence users with greater opportunity on most Federal public lands and will align State and Federal baiting restrictions, reducing regulatory complexity and user confusion. Currently, Federal regulations are more restrictive than State regulations. As the requested changes are already permitted under State regulations, no appreciable differences in bear harvests, populations, subsistence uses, or habituation of bears to human foods are expected from this proposal.

OSM PRELIMINARY CONCLUSION

Support Proposal WP18-51 **with modification** to establish a definition for scent lure and clarify the regulatory language.

The modified regulation should read:

*§__.25(a) Definitions. The following definitions apply to all regulations contained in this part: **scout lure means any biodegradable material to which biodegradable scent is applied or infused.***

*§__.26(b)(14)(iii) You may use only biodegradable materials for bait; **if fish or wildlife is used as bait, you may use only the head, bones, viscera, or skin of legally harvested fish and wildlife for bait, the skinned carcasses of furbearers, and unclassified wildlife may be used, except that in Units 7 and 15, fish or fish parts may not be used as bait. Scent lures may be used at registered bait stations;***

Justification

Adoption of this proposal will reduce regulatory complexity and provide greater opportunity for Federally qualified subsistence users by expanding and clarifying the use of biodegradable materials and scent lures as bear bait. There are no conservation concerns as these proposed clarifications are already permitted under State regulations.

Defining scent lures in regulation is necessary to ensure that only appropriate and non-harmful materials and scents are used on Federal public lands. The terms “game”, “fur animals”, and “small game” are not defined under Federal regulations, but are included in the Federal definition of “wildlife.” While the term “big game” is defined under Federal regulations, it is also included within the Federal definition of “wildlife.”

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WRITTEN PUBLIC COMMENTS



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: comments on proposal WP 18-51, 18-03,18-04, 18-05, 18-24

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 1:55 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **Sharon Alden** <fwxscs@yahoo.com>
Date: Fri, Aug 4, 2017 at 1:52 PM
Subject: comments on proposal WP 18-51, 18-03,18-04, 18-05, 18-24
To: "subsistence@fws.gov" <subsistence@fws.gov>

To: Office of Subsistence Management
Attention: Theo Matuskowitz
From: Sean McGuire
Re: comments on proposal WP 18-51, 18-03, 18-4, 18-5, 18-24

I am opposing proposal WP 18-51 There should be no human food or any human substance to bait any animals. This is so basic. The last thing we want is to habituate bears or any wild animal to human food. This is an ethical as well as a safety issue. The last thing we want to see is the federal baiting regulations aligned with the state of Alaska's. The State baiting regulations are painfully out dated and present a glaring safety issue.

I am opposing proposal WP 18-03 the extended hunting and trapping season in game unit one. Over kill.

I am really opposed to proposal WP 18-04. Why in the world would you want to put more pressure on a wolf population that's already in trouble this appears to be contrary to the basic concept of wildlife management?

I am also opposing proposal WP 18-05 relates to my opposition to WP18-04.

I am also opposing in the strongest possible terms proposal WP 18-24 To heard wildlife with snow machines is one of the most unethical things I can imagine and the backlash would be harsh.

Thank you for your attention
Sean McGuire
159 Kniffen Rd

Fairbanks, Ak.
ph 907-888-0124
email fwxsc@yahoo.com



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Comment on Proposed WP 18-51

AK Subsistence, FW7 <subsistence@fws.gov> Thu, Aug 3, 2017 at 7:48 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Jim & Suzanne Kowalsky** <jimkowalsky@yahoo.com>
Date: Wed, Aug 2, 2017 at 5:07 PM
Subject: Fwd: Comment on Proposed WP 18-51
To: subsistence@fws.gov

Attention as noted below.
Begin forwarded message:

From: Jim & Suzanne Kowalsky <jimkowalsky@yahoo.com>
Subject: Comment on Proposed WP 18-51
Date: August 1, 2017 at 12:17:30 PM AKDT

August 1, 2017

To: Office of Subsistence Management
p: Theo Matuskowitz
FR: Alaskans FOR Wildlife, Jim Kowalsky, Chair
Re: Comments on Proposal WP 18-51

Alaskans FOR Wildlife is a statewide member organization that advocates for naturally occurring Alaskan wildlife through education and advocacy headquartered in Fairbanks, Alaska PO Box 81957 99708 phone 907-488-2434

We wish to most strongly oppose proposal WP 18-51 which proposes to allow federally qualified subsistence hunters to add the use of human-produced foods and scent to the presently permitted use of biodegradable materials used to bait bears on all public federal lands, e.g.: federal wildlife refuges, national forests, BLM and National Park Service lands now open to rural subsistence.

We understand this proposal emerges from a request from the Eastern Alaska Regional Subsistence Advisory Council, purportedly to align federal with state bear baiting regulations which allow use of such as dog food, popcorn, grease, syrup, etc., to be used by federally qualified subsistence users currently, but only on state lands.

Our objection to WP 15-18 arises from the reality that such liberalization increases the already adverse effect of human food used to attract bears especially as a matter of public safety. Use of human foods will continue to alter bear behavior, increasing the numbers of human food-conditioned bears, attracting them to specific locations where conflicts with humans is certain to occur with increasing frequency. Such encounters would likely increase over time, resulting in serious human injuries and wrenching tragic deaths of the sort that Alaska currently experiences, and also more

killing offending bears.

Further negative impacts already occurring with frequency are bears attracted to humans and their food wastes in specific locations being killed in defense of life and property. Recent examples of bears that likely have become habituated to human foods being killed in defense of life and property have occurred at Prudhoe Bay and in Southeast Alaska with many other examples over time.

We view enactment of WP 15-18 would be highly irresponsible by perpetuating and increasing the already unfortunate practice of use of human produced foods at bait sites on state lands. This proposal amounts to making a serious increased threat to public safety on federal lands and to that already perpetuated on state lands.

Important also, WP15-18 proposes to gradually alter what should also be a natural growth and behavior of wild bears which should be allowed to exist and flourish in its natural wildlands habitat.

The proposal should not be enacted in the best interests of human and bear populations.
Thank you for consideration of our comment.



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Comments on Proposals to the Federal Subsistence Board Attn. Theo Matuskowitz

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:51 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **Francis Mauer** <fmauer@mosquionet.com>
Date: Thu, Aug 3, 2017 at 9:02 PM
Subject: Comments on Proposals to the Federal Subsistence Board Attn. Theo Matuskowitz
To: subsistence@fws.gov

Comments Regarding Federal Subsistence Proposals: WP 18-03, 18-04, 18-05, 18-24, and 18-51

Submitted to the Federal Subsistence Board by Fran Mauer, P.O. Box 80464, Fairbanks, AK 99708. August 3, 2017.

WP 18-03 I am opposed to extending the wolf hunting and trapping seasons in Unit 1. Wolves are highly vulnerable to harvest as it is, further extending of seasons is not justified, and would likely lead to excessive harvest of wolves as occurred on Prince of Wales Island last year which was supposed to be regulated by a quota, but even with quota rules in place the actual harvest exceeded the quota by 2.6 times. This proposal should be denied.

WP 18-04 This proposal would allow 30% of the wolf population on Prince of Wales Island to be harvested when existing harvest is 20%. As noted above, wolves are highly vulnerable to harvest, and last year's harvest exceeded the quota by 2.6 times! The extensive network of roads and trails on Prince of Wales render wolves exceptionally vulnerable. Expanding the harvest to 30% of the population following excessive harvest last year can not be justified given the failed management of this quota system last year. This proposal would lead to excessive harvest of an already depleted population and should be denied to conserve wolves on the Island.

WP 18-24 This proposal will open the door to harassment of wildlife by snow machines and violate a basic premise of hunting: respect for animals and fair chase principles. It would also result in excessive impacts to other animals that are not harvested due to disturbance associated with this "practice." Furthermore, it will exacerbate difficulty in enforcement of harassment rules. Approval of this proposal would give a black eye to subsistence in general, and certainly the Federal Subsistence Board, specifically for condoning such an inappropriate practice on the Federal public lands of

Alaska. Deny this proposal.

WP 18-51 This proposal would lower Federal standards for baiting to the lowest common denominator: State requirements. By allowing the use of human food items such as syrup, old dough nuts and other human refuse will habituate bears to humans and contribute to human – bear conflicts, and expose innocent people to risks from bears that no longer fear humans. Every spring the Alaska Dept of Fish and Game sponsors public service announcements advising folks to keep their garbage and bird feeder refuse secure from bears, clearly stating the danger to humans from habituated bears. There is absolutely no justification to also allow the use of human foods and scent to bait bears. I urge the Board to reject this proposal (18-51).

Thank you for the opportunity to comment.

Fran Mauer

WP18–52 Executive Summary	
General Description	Proposal WP18-52 requests that the moose season in Unit 25D remainder be extended to Oct. 7. <i>Submitted by: Eastern Interior Alaska Subsistence Regional Advisory Council.</i>
Proposed Regulation	Unit 25D, remainder—Moose <i>Unit 25D, remainder – 1 antlered moose</i> <i>Aug. 25 – Oct. 4-7</i> <i>Dec. 1 – 20.</i>
OSM Preliminary Conclusion	Oppose
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	

WP18–52 Executive Summary	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
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
WP18-52**

ISSUES

Proposal WP18-52, submitted by the Eastern Interior Alaska Subsistence Regional Advisory Council, requests that the moose season in Unit 25D remainder be extended to Oct. 7 (**Map 1**).

DISCUSSION

The proponent states that the proposed changes will better align the moose hunting season with recent weather changes in the area and will accommodate travel to hunting grounds. The proponent notes that ice is usually already forming on the Porcupine River by early October, but that the Yukon River where locals travel to hunt moose is generally ice-free then.

Existing Federal Regulation**Unit 25D, remainder—Moose**

Unit 25D, remainder – 1 antlered moose

*Aug. 25 – Oct. 1
Dec. 1 – 20.*

Proposed Federal Regulation**Unit 25D, remainder—Moose**

Unit 25D, remainder – 1 antlered moose

*Aug. 25 – Oct. ~~1~~7
Dec. 1 – 20.*

Existing State Regulation**Unit 25D, remainder—Moose**

*Unit 25D,
remainder*

*Residents: One bull
OR*

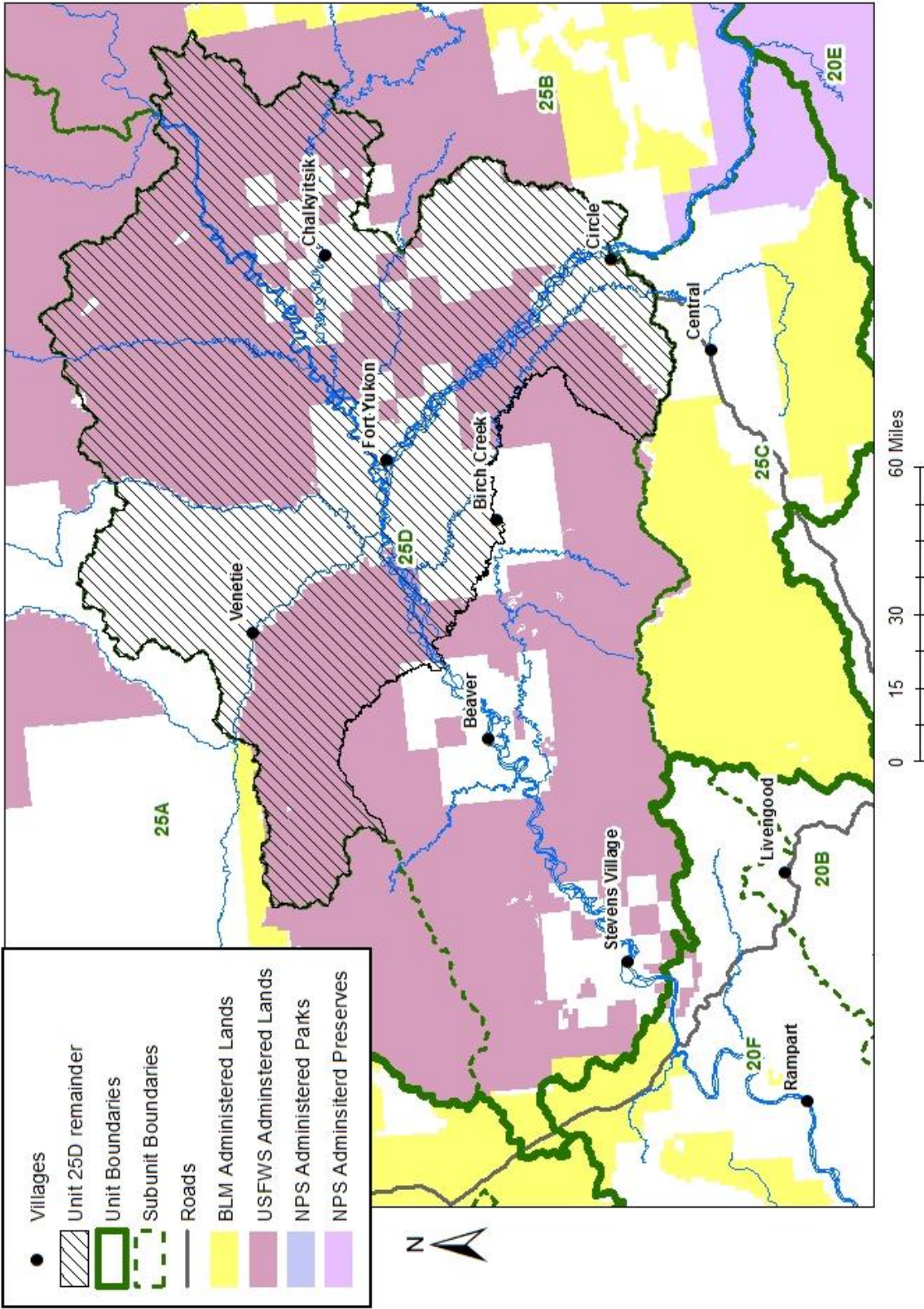
*HT Sept. 10 – Sept. 20
Feb. 18 – Feb. 28*

Residents: One bull by permit

*CM001 Sept. 10 – Sept. 20
Feb. 18 – Feb. 28*

*Nonresidents: One bull with 50-inch antlers
or antlers with 4 or more brow tines on at least
one side*

HT Sept. 10 – Sept. 20



Map 1. Unit 25D remainder moose hunt area.

Extent of Federal Public Lands

Federal public lands comprise approximately 63% of Unit 25D and consist of 62% U.S. Fish and Wildlife Service (USFWS) managed lands and 1% Bureau of Land Management (BLM) managed lands.

Federal public lands comprise approximately 60% of Unit 25D remainder and consist of 60% USFWS managed lands (**Map 1**).

Customary and Traditional Use Determinations

Residents of the remainder of Unit 25 have a customary and traditional use determination for moose in Unit 25D remainder.

Regulatory History

In the early 1980s, the Alaska Board of Game (BOG) divided Unit 25D into Unit 25D West and Unit 25D remainder to allow use of regulatory schemes that reflected the difference status of these moose populations (permits are required in Unit 25D west due to low moose density and relatively high demand for moose by local residents while harvest tickets are required in Unit 25D remainder) (Caikoski 2014).

In 1990, the Federal moose season for Unit 25D remainder ran from Aug. 25 – Sept. 25 and Dec. 1 – Dec. 10 with a harvest limit of one bull.

In 1991, the Federal Subsistence Board (Board) adopted Proposal P91-74 to extend the winter season 10 days to Dec. 20 in order to provide greater harvest opportunity, particularly to accommodate inclement weather in December.

In 1993, the Board adopted Proposal P93-61 to modify the harvest limit to one antlered moose.

In 1995, the Board adopted Proposal P95-52, allowing the take of moose and caribou in Unit 25 from a snowmachine or motor boat. This was done to alleviate unnecessary restrictions on Federally qualified subsistence users in Unit 25 as this provision was already allowed in other units across the State.

In 2000, the BOG established a community harvest permit program for the Chalkyitsik Community Harvest Area (CM001), which includes Unit 25D remainder and Unit 25B remainder (Caikoski 2014).

In 2010, the Board adopted Proposal WP10-93 with modification to extend the closing date of the fall moose season in Unit 25D remainder from Sept. 25 to Oct. 1 to provide additional harvest opportunity.

In 2012, the Board adopted Proposal WP12-63, which required edible meat to be left on the bones of caribou and moose harvested in Unit 25 until removed from the field and/or processed for human consumption. This was done to reduce meat spoilage.

Biological Background

A Yukon Flats Cooperative Moose Management Plan (YFCMMP) was completed in 2002. The Alaska Department of Fish and Game (ADF&G), Division of Wildlife Conservation developed the plan in cooperation with the Yukon Flats Fish and Game Advisory Committee, the Council of Athabaskan Tribal Governments, the Yukon Flats National Wildlife Refuge (NWR), and the U.S. Fish and Wildlife Service, Office of Subsistence Management (ADF&G 2002). The purpose of the plan was to “protect, maintain, and enhance the Yukon Flats moose population and habitat, maintain traditional lifestyles, and provide opportunities for use of the moose resource” (ADF&G 2002).

The YFCMMP recommends goals, objectives, strategies, and actions for the moose population, harvest, and predator management (ADF&G 2002). Current State management goals and objectives for moose in Unit 25D are similar to those in the YFCMMP and include (Caikoski 2014):

- Protect, maintain, and enhance the moose population and its habitat in concert with other components of the ecosystem while providing for maximum sustained harvest.
- Provide for subsistence use and for the greatest opportunity to harvest moose.
- Protect, maintain, and enhance the Yukon Flats moose population and habitat, maintain traditional lifestyles and provide opportunities for use of the moose resource.
- Increase the harvestable surplus of bull moose in key hunting areas near local communities by reducing mortality from bear and wolf predation.
- Improve moose harvest reporting.
- Minimize cow moose harvest, recognizing that some cows will probably be taken for ceremonial purposes when bull moose are seasonally in poor condition.
- Work with local communities to implement harvest strategies to increase bear and wolf harvest.
- Increase the size of the moose population by 2-5% annually in key hunting areas near local communities in Unit 25D.
- With assistance of the Division of Subsistence, implement a systematic household harvest survey in Unit 25D to obtain 90% reporting.
- Reduce illegal and potlatch harvest of cow moose to less than 5% of total annual harvest.
- Maintain a minimum of 40 bulls per 100 cows as observed in fall surveys.

Moose densities have been historically low across Unit 25D. During the 1980s and 1990s, when ADF&G and USFWS began conducting regular surveys, moose densities ranged from a low of 0.1 moose/mi² in 1984 to a high of 0.64 moose/mi² in 1989 (Caikoski 2014). Between 1999 and 2007, moose densities in Unit 25D remainder averaged 0.25 moose/mi² (range: 0.18-0.34 moose/mi², **Table 1**). No population or composition surveys were completed in 2011 or 2012 due to poor survey conditions (Caikoski 2014). In 2015, moose density in Unit 25D remainder was estimated at 0.34 moose/mi² (Bertram 2017, pers. comm.).

Between 1999 and 2015, fall bull:cow ratios in Unit 25D remainder averaged 64 bulls:100 cows (range: 35-95 bulls:100 cows), meeting management objectives (40 bulls:100 cows) in all years except 2015 (**Table 1**, Caikoski 2014, Bertram 2017, pers. comm.). November 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). Between 1999 and 2007, fall calf:cow ratios in Unit 25D remainder averaged 48 calves:100 cows (range: 37-59 calves:100 cows), suggesting a stable or growing moose population (**Table 1**, Caikoski 2014). In 2015, fall calf:cow ratios were extremely high at 80 calves:100 cows (Bertram 2017, pers. comm.). However, Caikoski (2014) cautions that interpretation of demographic trends may be confounded by variations in survey areas and small sample sizes.

Telemetry studies indicate that some moose in Unit 25D remainder migrate between higher elevations in early winter and lower elevations in late winter and summer (Caikoski 2014). Habitat is not considered a limiting factor. Unit 25D remainder contains excellent moose habitat that is maintained by wildfires and moose nutritional status is excellent (Caikoski 2014).

Predation by wolves and bears, however, appears to be limiting the Unit 25 moose population (Caikoski 2014). Lake et al. (2013) investigated wolf kill rates of moose in Unit 25D. They found that wolf kill rates approximated those in areas with higher moose densities, suggesting that wolf predation is contributing to persistent low moose densities (Lake et al. 2013). Similarly, Bertram and Vivion (2002) found that while calf production is high in Unit 25D, only 20% of radio collared calves survived their first year. Predation of neonates (< 1 month old calves) by black and brown bears was the primary source (84%) of mortality. High predation rates combined with illegal cow harvest and low predator harvest may act in concert to maintain low moose densities in Unit 25D (Bertram and Vivion 2002, Caikoski 2014). However, cow harvest may becoming less of a limiting factor as community household surveys of Unit 25D communities documented only 3 cow moose harvested between 2008/09-2010/11 (Van Lanen 2012, CATG 2011).

Table 1. Moose density and composition data for Unit 25D remainder (Caikoski 2014, Bertram 2017, pers. comm.).

Year	Bulls:100 cows	Calves:100 cows	Density (moose/mi²)
1999	57	59	0.28
2000	79	49	0.25
2001	95	43	0.18
2004	43	51	0.26
2005	80	58	0.34
2006	60	37	0.27
2007	64	39	0.20
2015	35	80	0.34
Average	64.13	52.00	0.27

Cultural Knowledge and Traditional Practices

Four communities are included in the customary and traditional use determination for moose in Unit 25D remainder. The communities are the following: Chalkyitsik, Circle, Fort Yukon, and Venetie. In 2010, the populations of these communities ranged from a low of 69 people at Chalkyitsik to a high of 583 people at Fort Yukon. Approximately 922 people comprising 371 households lived in the area (ADLWD 2017). The communities are not road connected to one another; however, the Steese Highway extends from Fairbanks to Circle.

The communities affected by the proposal are culturally affiliated with Gwich'in Athabascans and are situated in the Yukon Flats area of interior Alaska. For centuries, caribou comprised a large part of the harvest of wild resources for food. Large numbers of migratory caribou were available from the Porcupine and Fortymile caribou herds. Communal hunting of caribou was common. Fences were used to guide caribou or funnel them into corrals to be killed. Large quantities of caribou meat (from harvests of sometimes hundreds of caribou) were dried for winter. Since the mid-1800s, agents of change included a growing emphasis on trapping furs to be used in trade and barter, the introduction of sleds pulled by dogs to work trap lines that required the harvest of more fish to feed dogs, and the introduction of accurate rifles and snowmachines that made communal hunting methods less necessary. Settlement patterns since 1900 have been characterized by movement from nomadism to permanent settlements at important harvesting sites, around trading posts, to send children to school, for employment in the developing mining industry, or building highways and communication systems (Hosley 1981 and VanStone and Goddard 1981). The collapse of the Fortymile caribou herd between 1950 and 1970 had an enormous effect on the ability of many villages to harvest caribou. Today, "In terms of effort, use, and social significance, moose is the single most important game resource for Yukon Flats communities. . . . For many Yukon Flats residents moose hunting is the primary fall harvesting activity and moose provides the primary source of wild meat" (Van Lanen et al. 2012:20).

Gwich'in traditionally hunted moose year-round when the need for meat arose. Bull moose are considered prime for harvest from late summer through early fall. Strong food sharing networks continue to operate within and between the communities (Van Lanen et al 2012:21, 35).

Data on the harvest of moose by these communities is sparse, and just how many moose are harvested is unknown. It is likely that many Gwich'in hunters have not reported their harvest efforts (see Van Lanen et al. 2012 and Anderson and Alexander 1992 for a discussion). The State Division of Subsistence conducted community-based house-to-house harvest surveys in the communities in 2008 and 2009 (and one in 1987 at Fort Yukon) describing one-year study periods. Based on these surveys, 53–100% of households used moose, 31–75% of households attempted to harvest moose, and 13–55% of households successfully harvested moose. Moose harvest rates ranged from an estimated low of 28 lb edible weight of moose per person at Circle in 2008 to a high of 168 lb per person at Fort Yukon in 1987. Estimated harvests ranged from a low of 5 moose at Circle in 2008 to a high of 150 moose at Fort Yukon in 1987 (ADF&G 2017 and Van Lanen et al. 2012, **Table 2**).

Table 2. The estimated harvest and use of moose at communities with a customary and traditional use determination in Unit 25D remainder, based on household harvest surveys (ADF&G 2017 and Van Lanen et al. 2012).

Community	Study year	Percentage of households:			Moose harvest		
		Use moose	Attempt to harvest moose	Harvest moose	Estimated harvest of moose	95% confidence interval	Per person harvest in pounds
		%	%	%	moose	+/- %	lb
Chalkyitsik	2008	96	36	32	8	26	75
Chalkyitsik	2009	100	33	33	10	36	103
Circle	2008	100	75	13	5	0	28
Circle	2009	53	47	33	10	57	103
Fort Yukon	1987	99	72	55	150	20	168
Fort Yukon	2008	60	31	24	61	29	76
Fort Yukon	2009	86	49	30	64	23	103
Venetie	2008	95	51	32	22	111	80
Venetie	2009	53	41	13	24	64	86

Harvest History

From 2002-2012, reported moose harvest in Unit 25D remainder averaged 20 moose/year (range: 8-25 moose/year) (**Table 3**, Caikoski 2014). Over the same time period, reported moose harvest by residents of Unit 25 (local residents), nonlocal residents, and nonresidents averaged 42%, 47%, and 10% of the total reported harvest in Unit 25D, respectively (Caikoski 2014). No moose have been reported on the Chalkyitsik community harvest permit since regulatory year 2003/04 (Caikoski 2014).

Moose is the primary and most important wild food resource for residents of Unit 25D (CATG 2011, Van Lanen et al. 2012). Harvest reporting by local residents of Unit 25D has historically been low, partially due to confusion over permit requirements and geographical boundaries (Caikoski 2014). The YFCMMP references community harvest survey data from the 1990s which indicates that local residents (not defined in plan) harvest about 150-200 moose in Unit 25D remainder annually while reported moose harvest (1989-1998) ranged from 14-53 moose per year (ADF&G 2002). The plan assumed a total harvest of 225 moose in Unit 25D remainder, representing a 6-9% harvest rate, which is high for a low density moose population, particularly since cow moose are also harvested (ADF&G 2002).

According to the most recent household survey data (which extrapolate harvests from sampled households to the entire community, resulting in fractions of animals), 105 moose, 123.5 moose, and 95.5 moose were harvested by residents of Unit 25D during regulatory years 2008/09, 2009/10, and 2010/11, respectively (Van Lanen et al. 2012, CATG 2011). Some of these moose were harvested in other subunits or from unknown locations, resulting in at least 93 moose, 105.6 moose, and 48.5 moose being harvested from Unit 25D each year, respectively (Van Lanen et al. 2012, CATG 2011). As total reported moose harvest for all

of Unit 25D averaged 31 moose/year between 2002 and 2012, unreported harvest still appears to account for a significant portion of the harvest (Caikoski 2014, ADF&G 2016, OSM 2016). Only 3 cow moose and 3.5 moose of unknown sex were documented during the 2008/09-2010/11 household surveys of Unit 25D communities (Van Lanen 2012, CATG 2011).

Most of the reported moose harvest in Unit 25D remainder occurs during the 2nd and 3rd weeks of September (Caikoski 2014). However, as the State season closes Sept. 20, any harvest reported during the last week of September is by Federally qualified subsistence users (i.e. local residents except for residents of Unit 25D west). Household surveys of all Unit 25D communities in 2008-2010 showed that the vast majority of moose harvest by local hunters occurs in September (~90%) with no harvest documented in October (CATG 2011, Van Lanen et al. 2012). Boats are the primary transport method used by moose hunters in Unit 25D remainder (Caikoski 2014).

Table 3. Reported moose harvest for Unit 25D remainder (Caikoski 2014). All moose reported were bulls.

Year	Harvest
2002	24
2003	12
2004	8
2005	23
2006	16
2007	15
2008	19
2009	24
2010	25
2011	24
2012	25

Effects of the Proposal

If this proposal is adopted, Federally qualified subsistence users would be able to harvest moose in Unit 25D remainder until Oct. 7, providing an additional 6 days of harvest opportunity. Considering past harvest chronology, hunting pressure and harvest during the extended season is expected to be low. However, given trends of warmer falls due to climate change, harvest may begin to shift later into the season when temperatures are cooler in order to reduce meat spoilage and ease meat care. Considering the relatively high unreported harvest, low density moose population, harvest of cows by local residents, and depressed bull:cow ratios, current harvest rates may already be unsustainable.

Adoption of this proposal could also affect moose breeding and the age structure of harvest. Over a 12 year period, Ballenberghe and Miquelle (1993) found moose in Interior Alaska copulate between September 24 and October 7. Older mature bulls come into rut earlier than young bulls and are more susceptible to harvest when seasons extend into the peak of rut (Timmerman and Gollat 1982). If this proposal is adopted, Federally qualified subsistence users would have additional opportunity to hunt later

into the breeding season, which could disrupt mating moose, impede or delay impregnation, and cause mature bulls to be more susceptible to harvest. If this proposal is adopted, closely monitoring the moose population and harvest by Federally qualified subsistence users would be necessary to measure any effects from an extended season and to inform sustainable management.

OSM PRELIMINARY CONCLUSION

Oppose Proposal WP18-52.

Justification

There are conservation concerns for this moose population. The moose density in Unit 25D remainder is low and the most recent (2015) bull:cow ratio declined substantially and is below management objectives for the first time. Additionally, extending the season into the peak of rut could disrupt moose reproduction and productivity. While additional harvest during the extended season is expected to be low, current harvest rates are relatively high and may already be unsustainable. Therefore, a conservative approach is warranted.

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WP18–53a Executive Summary	
General Description	Proposal WP18-53a requests to establish a customary and traditional use determination for moose for the residents of Units 25B and 25C. <i>Submitted by: Eastern Interior Subsistence Regional Advisory Council.</i>
Proposed Regulation	<i>Customary and Traditional Use Determination – Moose</i> <i>Unit 25B and Unit 25C All rural residents Residents of Units 25B and 25C</i>
OSM Preliminary Conclusion	Support Proposal WP18-53a with modification to add the residents of Unit 25D, Unit 20D, Unit 20E and residents of Tok, and Livengood to the customary and traditional use determination for moose in Units 25B and 25C.
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	

WP18-53a Executive Summary	
Recommendation	
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
WP18-53a**

ISSUES

Proposal WP18-53a, submitted by the Eastern Interior Alaska Subsistence Regional Advisory Council (Eastern Interior Council), requests to establish a customary and traditional use determination for moose for the residents of Units 25B and 25C (see **Map 1**).

A related analysis, WP18-53b, addresses requested changes to hunting seasons for moose in Unit 25B.

DISCUSSION

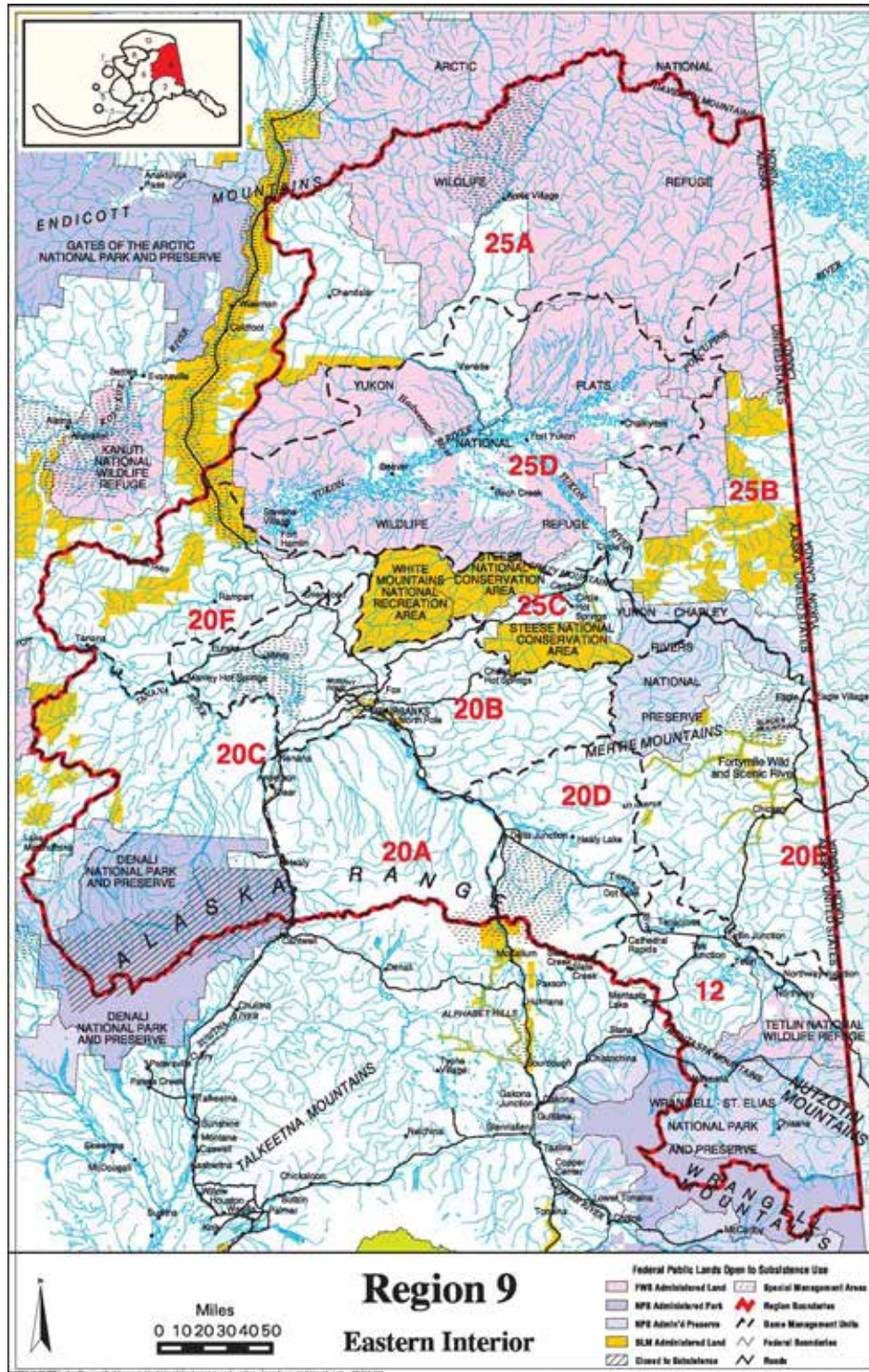
The proponent expresses concern that if the moose hunting season is extended in Unit 25B and there is no customary and traditional use determination, more Federally qualified subsistence users residing outside of the unit will attempt to harvest moose within the unit. The proponent also states that this may increase overcrowding and competition “in an area where the moose population densities are one of the lowest in the state.” The proponent also suggests that this proposal, in conjunction with its companion proposal to extend the moose season in Unit 25B (WP18-53b), will provide more hunting opportunities to Federally qualified subsistence users and fulfill their basic subsistence needs.

To date there have been no customary and traditional use determinations made for moose in Units 25B and 25C and therefore all rural residents may currently hunt for moose in these units under Federal regulations. While this would include residents living remotely within those units, the only established community within these units is Central, located in Unit 25C. Central is currently included in the customary and traditional use determination for moose in Unit 20E.

While the request was written to establish a customary and traditional use determination for residents of Units 25B and 25C, transcripts from the Eastern Interior Council’s winter 2017 meeting regarding the motion to submit the proposal suggest ambiguity with respect to the extent of the intended determination (EIRAC 2017: p.168-171). The Council Chair repeatedly indicated that OSM staff should define the extent of the determination based on a thorough analysis (EIRAC 2017: p.168-171). The Chair and other members of the Council suggested that the determination could include residents of Units 25D, 20E, and 12 north of Wrangell-St. Elias National Park and Preserve (WRST) (EIRAC 2017: p.168-171). Immediately prior to voting on the motion, the Council Chair stated in regard to the scope of the proposed customary and traditional use determination (EIRAC 2017: p.171):

I propose guys that we’re volunteers. We don’t sit here and come up with the answer right now. Let them [OSM] do all the work. They get paid to do that. That’s the way I look at it... The proposal before us is to do a C&T for moose in Unit 25B and its probably going to have to be C too.

Note: Currently the fall moose season closing date is September 30 for all portions of Unit 25B except Unit 25B Remainder which has a fall closing date of September 25. The proponent simultaneously submitted proposal WP18-53b to change the fall moose season ending date to October 7 for all portions of Unit 25B.



Map 1. Region Map.

Existing Federal Regulation

Customary and Traditional Use Determination—Moose

Unit 25B and Unit 25C All rural residents

Proposed Federal Regulation

Customary and Traditional Use Determination—Moose

Unit 25B and Unit 25C ~~All rural residents~~ Residents of Units 25B and 25C

Extent of Federal Public Lands

Federal public lands comprise approximately 82% of Unit 25B and consist of 38% Bureau of Land Management (BLM) managed lands, 36% U.S. Fish and Wildlife Service (USFWS) managed lands, and 8% National Park Service (NPS) managed lands (**see Unit Map**).

Federal public lands comprise approximately 73% of Unit 25C and consist of 63% BLM managed lands, 9% NPS managed lands, and 2% USFWS managed lands (**see Unit Map**).

Regulatory History

At the beginning of the Federal Subsistence Management Program in 1992, no customary and traditional use determination was adopted for moose in Units 25B and 25C (72 CFR 22961; May 29, 1992). The Federal Subsistence Board (Board) has not adopted any changes to the customary and traditional use determination for moose in Units 25B and 25C since 1992 and no wildlife regulatory proposals or wildlife special actions have been submitted requesting a change.

In 1997, Proposal P97-72 was submitted by the Eagle Fish and Game Advisory Committee (Eagle AC) and requested changes to moose hunting seasons in Unit 20E and in the Yukon River hunt area of Unit 25B in order to provide local hunters more opportunity and relief from competition with nonlocal hunters. The Board adopted P97-72 with modification to only modify Unit 20E moose seasons with no regulatory changes for Unit 25B. The justification for maintaining the existing season in Unit 25B was to reduce regulatory complexity via continuing alignment of Federal and State seasons and because the proposal would not have had the desired effect of reducing competition from nonlocal hunters due to the lack of a customary and traditional use determination for moose in Unit 25B. Therefore, all rural residents would be able to hunt in Unit 25B under an extended Federal moose season.

The Board's stated policy is to defer to the recommendations of the Regional Advisory Councils on customary and traditional use determinations (FSB 2012), consistent with Section 805(c) of the Alaska

National Interest Lands Conservation Act (ANILCA). Additionally, the Board can adopt Council recommendations on determinations that include entire management units or entire management areas when residents of a community have demonstrated taking fish or wildlife in a portion of a management unit or management area.

Community Characteristics

Units 25B and 25C are primarily located within the Upper Yukon Census Tract as defined by the U.S. Census Bureau (ADLWD 2017). Unit 25B falls within the traditional territories of the Gwich'in and Han Athabascan people while Unit 25C falls within the traditional territories of the Gwich'in, Han, Tanana, and Koyukon Athabascan people (Krauss et al. 2011; **Figure 1**).

Residents of Units 25B, 25C, 25D, 20E, and 12 north of WRST were mentioned by the Eastern Interior Council as possible candidates for a customary and traditional use determination for moose in Units 25B and 25C. Communities in these units are situated entirely within the traditional boundaries of several Athabascan cultural groups (**Figure 1**), including the Gwich'in, Han, Koyukon, Tanana, Upper Tanana, Tanacross and Ahtna. **Table 1** shows the origin of several communities in the region.

Units 25B and 25C encompass upper Yukon River drainages. Traditional Han Athabascan territory extended along the Yukon River on both sides of the U.S. and Canada border, upstream from the Yukon flats (Crow and Obley 1981). Settlement patterns in the upper Yukon region were heavily impacted by the gold rush in the 1890s that brought tens of thousands of miners. Large numbers of Han and Peel River *Gwich'in* were attracted to the Eagle area and Dawson. Their descendants are the primary residents of Eagle Village. The enforcement of the U.S-Canada boundary since the 1940s has cut them off from much of their hunting and trapping areas in Canada. Eagle, Chicken, and Central were established as gold mining supply sites; however, most miners left the area by 1910. Native and non-Natives worked on steamboats, in mines, and in wood chopping camps, as well as on traplines. In the 1970s land auctions attracted new residents to Eagle, and the construction of the oil pipeline, development of oil and gas in the area, and road construction provided wage employment. Gold miners continue to return to the area seasonally. The communities rely on subsistence resources, government wage employment, such as firefighting, and other seasonal work, such as mining and handicrafts. Roads have linked Eagle with the Alaska Highway since the 1950s, and the Steese Highway connected Central with Fairbanks in 1927. Additionally, the Yukon River continues to be used as a water "highway" (ADCCE 2017, Caulfield 1979, Crow and Obley 1981, Hosley 1981).

The community of Central is the only Census Designated Place (CDP) within Units 25B and 25C, and is situated 125 miles northeast of Fairbanks. During the late 19th century, gold was discovered in the Circle Mining District (ADCCE 2017). By the 1890s, a centrally located roadhouse was needed between Circle (a supply point on the Yukon River) and mining operations at Mammoth, Mastodon, Preacher, and Birch Creeks (ADCCE 2017). A roadhouse was built in 1894 along this route at its intersection with Crook Creek (ADCCE 2017) and developed into a small community of miners. In 1906 the Alaska Road Commission began construction of a wagon road to replace the pack trail and by 1908 this road connected to Central (ADCCE 2017). The road link to Fairbanks was completed in 1927 and became known as the

Steese Highway (ADCCE 2017). Mining in the vicinity of Central went through periods of boom and bust but by 1978, the Circle Mining District was the most active in Alaska; 65 gold mining operations employed over 200 people at that time (ADCCE 2017). The 2010 census documented 96 residents of the community

Table 1. Origins and cultural affiliations of the communities in the region of the request.

Unit of residence	Community	Origin of community
12*	Northway	<i>Upper Tanana</i> , salmon fish camp at nearby Moose Creek
	Northway Junction	Alaska Highway construction supply site with airfield (1940s)
	Tanacross	<i>Upper Tanana</i> , Alaska Highway construction supply site with airfield (1940s)
	Tetlin	<i>Upper Tanana</i> whitefish camp
	Tok	Alaska Highway supply site and airfield (1940s)
20B	Livengood	Gold mining supply site (1910s)
	Manley	Homesteaded (1900s), telegraph line maintenance station (1900s), trading post (1900s), mining supply site (1900s), vacation resort
	Minto	<i>Tanana</i> , telegraph line maintenance station (1900s)
20D	Delta Junction	McCarthy telegraph line construction supply site
	Dot Lake	Highway construction supply site
	Dot Lake Village	<i>Tanacross</i> , people from Tanacross, Healy River, and Mentasta Lake
	Fort Greely	McCarthy telegraph station supply site
	Healy Lake	<i>Tanacross</i> , trading post
20E*	Chicken	Gold mining supply site (1880s)
	Eagle City	Gold mining supply site (1880s), Ft. Egbert telegraph line (1902)
	Eagle Village	<i>Han</i> , trading post (1880s), mining supply site (1980s)
20F	Rampart	<i>Koyukon</i> , trading post (1880s)
	Tanana	<i>Koyukon</i> , trading post, telegraph line maintenance station (1900s), hospital (1950s)
25A	Arctic Village	<i>Gwich'in</i>
25C*	Central	Mining supply site (1890s), telegraph line maintenance station (1900s), road-connected to Fairbanks (1927)
25D*	Beaver	<i>Gwich'in</i>
	Birch Creek	<i>Gwich'in</i>
	Chalkyitsik	<i>Gwich'in</i>
	Circle	<i>Gwich'in</i>
	Fort Yukon	<i>Gwich'in</i> , trading post
	Stevens Village	<i>Koyukon/Gwich'in</i>
	Venetie	<i>Gwich'in</i>

*Units mentioned by EIRAC as possible candidates.
Source: Hosley 1981, VanStone and Goddard 1981.
(ADCCE 2017).

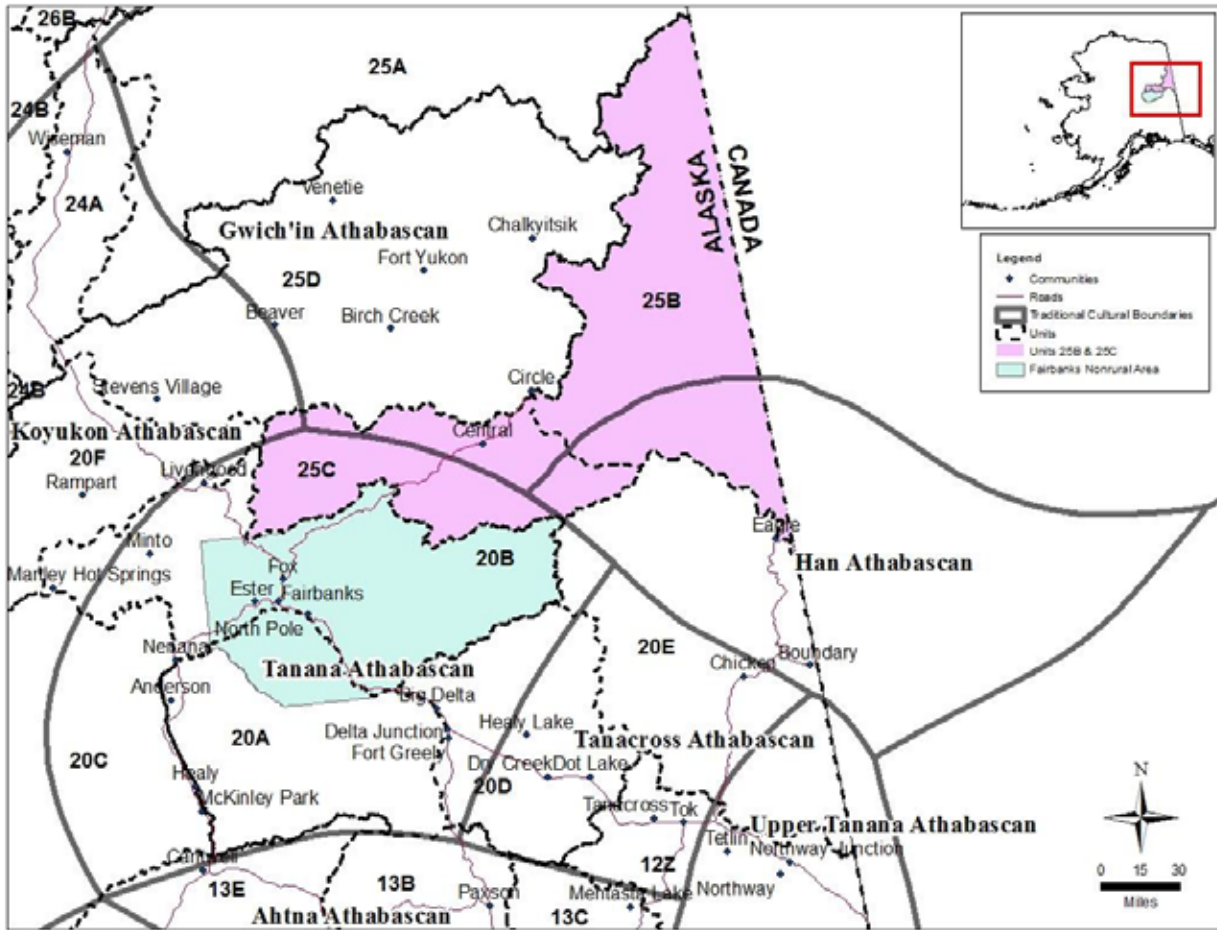


Figure 1. Map depicting Eastern Interior communities, units, and traditional cultural boundaries.

Eight Factors for Determining Customary and Traditional Use

A community or area’s customary and traditional use is generally exemplified through these eight factors: (1) a long-term, consistent pattern of use, excluding interruptions beyond the control of the community or area; (2) a pattern of use recurring in specific seasons for many years; (3) a pattern of use consisting of methods and means of harvest, which are characterized by efficiency and economy of effort and cost, conditioned by local characteristics; (4) the consistent harvest and use of fish or wildlife as related to past methods and means of taking: near, or reasonably accessible from the community or area; (5) a means of handling, preparing, preserving, and storing fish or wildlife, which has been traditionally used by past generations, including consideration of alteration of past practices due to recent technological advances, where appropriate; (6) a pattern of use, which includes the handing down of knowledge of fishing and hunting skills, values, and lore from generation to generation; (7) a pattern of use, in which the harvest is shared or distributed within a definable community of persons; and (8) a pattern of use, which relates to reliance upon a wide diversity of fish and wildlife resources of the area and which provides substantial cultural, economic, social, and nutritional elements to the community or area.

The Board makes customary and traditional use determinations based on a holistic application of these eight factors (50 CFR 100.16(b) and 36 CFR 242.16(b)). In addition, the Board takes into consideration the reports and recommendations of any appropriate Regional Advisory Council regarding customary and traditional use of subsistence resources (50 CFR 100.16(b) and 36 CFR 242.16(b)). The Board makes customary and traditional use determinations for the sole purpose of recognizing the pool of users who generally exhibit the eight factors. The Board does not use such determinations for resource management or restricting harvest. If a conservation concern exists for a particular population, the Board addresses that concern through the imposition of harvest limits or season restrictions rather than by limiting the customary and traditional use finding.

Specific information on each of the eight factors is not required because a community or area seeking a customary and traditional use determination only has to “generally exhibit” the eight factors (50 CFR 100.16(b) and 36 CFR 242.16(b)).

State and Federal harvest reporting data for moose in Units 25B and 25C is available for the years between 1983 and 2010, and between 1983 and 2016 respectively. This data is combined below in **Table 2** for Unit 25B and **Table 3** for Unit 25C. The tables include harvest reporting data for only rural Alaska communities and suggest a **pattern of use** for moose in these units.

The customary and traditional use determinations for other large game species in Unit 25B and Unit 25C can provide additional insights on which residents generally exhibit the eight factors used in the determination for moose, using these other species as proxies. **Table 4** lists the cultural and traditional use determinations for brown bear, caribou, and sheep in Units 25B and 25C. The determinations for these species in Unit 25B and 25C are identical for each species.

Among the communities that have customary and traditional use determinations for brown bear, caribou, or sheep in Units 25B and 25C, and which have some documented harvest, it is also useful to know which residents already have a customary and traditional use determination for moose elsewhere. **Table 5** illustrates that all of these communities have a demonstrated customary and traditional use determination for moose.

The communities listed in **Table 5** are primarily those in proximity to Units 25B and 25C. It is likely that rural Alaska residents living within or adjacent to these units but not living within an established community may also have a customary and traditional use of moose. In fact, many of the existing customary and traditional use determinations for moose in the region identify residents of units and not specific communities.

Because of the potential for underreporting, conventional Alaska Department of Fish and Game (ADF&G) and USFWS harvest reporting systems do not always reflect the true level of harvest. Communities that have customary and traditional use of moose in Units 25B and 25C may not appear in harvest reports. While **Table 5** represents communities in Units 25C, 25D, 20D, and 20E, the customary and traditional use determination for caribou in Units 25B and 25C additionally includes residents of Units 12 north of WRST, 20F, Eureka, Livengood, Manley, and Minto.

Table 2. State (1983-2010) and Federal (1983-2016) harvest reporting data for moose hunting in Unit 25B by residents of rural Alaska communities (OSM 2017).

Hunter Residency	Subunit	Issued	Hunted	Kill
ANGOON	04Z	1	1	1
BARROW	26A	1	1	0
BEAVER	25D	1	1	1
BETHEL	18Z	2	2	0
CENTRAL	25C	95	95	37
CHALKYITSIK	25D	15	15	10
CHICKALOON	14A	1	1	0
CHITINA	13D	1	1	0
CIRCLE	25C	43	43	29
COPPER CENTER	13D	1	1	1
CORDOVA	06C	7	7	2
CRAIG	02Z	7	7	2
DELTA JUNCTION	20D	2	2	0
EAGLE	20E	300	300	134
FORT GREELY	20D	1	1	0
FORT YUKON	25D	219	219	140
GLENNALLEN	13D	1	1	0
HAINES	01D	14	14	2
HEALY	20C	1	1	0
KAKE	03Z	1	1	0
KOBUK	23Z	1	1	1
KODIAK	08Z	4	4	2
LARSEN BAY	08Z	1	1	1
MOOSE CREEK	14A	1	1	0
NINILCHIK	15C	1	1	0
PELICAN	04Z	1	1	1
PETERSBURG	03Z	4	4	1
SITKA	04Z	20	20	10
SKAGWAY	01D	3	3	0
STEVENS VILLAGE	25D	1	1	1
TALKEETNA	14B	2	2	1
TOK	12Z	55	55	19
TRAPPER CREEK	16A	1	1	0
WILLOW	14A	2	2	2
WRANGELL	03Z	17	17	6

Table 3. State (1983-2010) and Federal (1986-2016) harvest reporting data for moose hunting in Unit 25C by residents of rural Alaska communities (OSM 2017).

Hunter Residency	Subunit	Issued	Hunted	Kill
BARROW	26A	3	3	1
BEAVER	25D	8	8	7
BETHEL	18Z	3	3	2
BIRCH CREEK	25D	1	1	1
CENTRAL	25C	458	458	84
CHALKYITSIK	25D	1	1	0
CHUATHBALUK	19A	1	1	0
CIRCLE	25C	28	28	7
COPPER CENTER	13D	7	7	1
DELTA JUNCTION	20D	4	4	1
DILLINGHAM	17C	1	1	1
DUTCH HARBOR	10Z	1	1	0
EAGLE	20E	10	10	3
FORT YUKON	25D	10	10	2
GLENNALLEN	13D	1	1	0
HAINES	01D	21	21	8
HEALY	20C	3	3	1
KLUKWAN	01D	1	1	0
KODIAK	08Z	9	9	2
MARSHALL	18Z	1	1	0
METLAKATLA	01A	1	1	0
NENANA	20A	1	1	0
NINILCHIK	15C	3	3	0
PETERSBURG	03Z	2	2	1
PORTAGE CREEK	17C	1	1	0
SELDOVIA	15C	1	1	0
SITKA	04Z	4	4	0
SLANA	13C	1	1	0
STEVENS VILLAGE	25D	2	2	1
TALKEETNA	14B	2	2	1
TENAKEE SPRINGS	04Z	2	2	0
TOK	12Z	4	4	1
TRAPPER CREEK	16A	6	6	2
UGANIK BAY	08Z	1	1	0
UNALASKA	10Z	6	6	4
WHITESTONE CAMP	04Z	7	7	2
WILLOW	14A	14	14	4
WRANGELL	03Z	4	4	0

Table 4. Customary and traditional uses determinations for brown bear, caribou, and sheep in Units 25B and 25C. Communities that have demonstrated effort to harvest moose in Units 25B and 25C are bolded.

CUSTOMARY AND TRADIITONAL USE DETERMINATIONS				
Unit of residence	Rural community	Brown bear	Caribou	Sheep
25D	Beaver	Yes	Yes	Yes
25D	Birch Creek	Yes	Yes	Yes
25D	Chalkyitsik	Yes	Yes	Yes
25D	Circle	Yes	Yes	Yes
25D	Fort Yukon	Yes	Yes	Yes
25D	Stevens Village	Yes	Yes	Yes
25D	Venetie	Yes	Yes	Yes
25C	Central	Yes	Yes	Yes
25A	Arctic Village	Yes	Yes	
20D	Delta Junction		Yes	
20D	Dot Lake		Yes	
20D	Fort Greely		Yes	
20D	Healy Lake		Yes	
20E	Boundary		Yes	Yes
20E	Chicken		Yes	Yes
20E	Eagle	Yes	Yes	Yes
20F	Rampart		Yes	
20F	Tanana		Yes	
12	Northway		Yes	
12	Northway Junction		Yes	
12	Tanacross		Yes	
12	Tetlin		Yes	
12	Tok		Yes	

Table 5. Customary and traditional use determinations for moose in communities demonstrating harvest reporting for moose in Units 25B and 25C and customary and traditional use determinations for other large wildlife species in these units.

CUSTOMARY AND TRADIITONAL USE DETERMINATIONS			
Unit of residence	Rural community	Moose	Location
25D	Beaver	Yes	25A, 25D West,
25D	Birch Creek	Yes	25A, 25D West,
25D	Chalkyitsik	Yes	25A, 25D Remainder
25D	Circle	Yes	25A, 20E, 25D Remainder
25D	Fort Yukon	Yes	25A, 25D Remainder
25D	Stevens Village	Yes	25A, 25D West, 20F
25C	Central	Yes	20E
20D	Delta Junction	Yes	20D
20D	Fort Greely	Yes	20D
20E	Eagle	Yes	20E
12	Tok	Yes	20E, 12, 11 (portion), 13C

ADF&G Division of Subsistence household subsistence surveys are often another source of spatial information regarding search and harvest areas for a given species. Among the communities having a customary and traditional use determination for caribou in Units 25B and 25C, but no harvest reporting for moose in these units, only Minto and Tanacross have published spatial data from household subsistence harvest surveys. For Minto, moose hunt areas reported for the period between 1960 and 1984 occurred primarily within the Minto Flats Management Area in Unit 20B (Andrews 1988; p. 162-164). This hunt area is said to generally represent search and harvest areas used by community residents traditionally (Andrews 1988; p.162).

Customary and traditional use of Units 25B and 25C for moose may be in part a function of distance. Reported moose search and harvest areas for Tanacross for the period between 1968 and 1988 suggest that the northern extent of moose hunting activity for those communities was in the vicinity of Eagle in Unit 20E (Marcotte 1991; p.90). The reported search and harvest areas in 2011 for the Unit 20B communities of Healy Lake, Dot Lake, and Dry Creek suggest that most moose hunting activities occurred within Unit 20B, primarily in proximity to each community, in that study year (Holen et al. 2012; p.425/463/512). The historical harvest areas of Tanacross and Upper Tanana Athabascans included the Fortymile River drainage where caribou, moose, and sheep were harvested (Haynes and Simeone 2007). Their descendants reside in the contemporary villages of Dot Lake, Healy Lake, Northway, Tanacross, and Tetlin.

Fort Greely has often been considered primarily a military installation though non-military personnel and Federally qualified subsistence users do reside in the vicinity. In 2015 the community had an estimated 430 residents, 42 of which were 16 years of age or older and employed in private, local government or state government sectors (ADLWD 2017). Additionally, both Fort Greely and Delta Junction are located within

Unit 20D and along with other residents of the unit are near and reasonably accessible to Units 25B and 25C.

While the community of Livengood has not reported harvest of moose in Units 25B and 25C and no household subsistence surveys have been conducted there, the community is situated less than 20 miles from the westernmost border of Unit 25C. It is nearer to Unit 25C than most communities in **Table 5** and is located along the road system. The community has a customary and traditional use determination for both moose and caribou in Unit 20B Remainder and Unit 20B, respectively. Additionally, Livengood residents have reported harvest of moose in Unit 25 in multiple years, but the area within the Unit that these activities took place is unknown.

All of the communities listed in **Table 5** and Livengood have an existing customary and traditional use determination for moose; this request would therefore extend the spatial extent of the determinations to include Units 25B and 25C. For these communities, Units 25B and 25C are **near and reasonably accessible**.

Effects of the Proposal

If this proposal is adopted, those eligible to hunt moose under Federal regulations in Units 25B and 25C would decrease. Residents of communities for which a determination is made would be able to hunt moose under Federal regulations in Units 25B and 25C. A customary and traditional use determination would allow residents to continue hunting moose in the event that the species is closed to non-Federally qualified users on Federal public lands, and allow them to be considered in the event of Federal prioritization among Federally qualified subsistence users in Units 25B and 25C.

If this proposal is not adopted, all rural residents of the state would continue to be able to hunt for moose under Federal regulations in Units 25B and 25C. The priority for moose in Units 25B and 25C would continue to be extended to all rural residents so long as no customary and traditional use determination is established.

OSM PRELIMINARY CONCLUSION

Support Proposal WP18-53a **with modification** to add the residents of Unit 25D, Unit 20D, Unit 20E and residents of Tok, and Livengood to the customary and traditional use determination for moose in Units 25B and 25C.

The modification should read:

Customary and Traditional Use Determination—Moose

Unit 25B and Unit 25C Residents of Unit 25B, 25C, 25D, 20D, 20E, Tok, and Livengood.

Justification

Residents of Units 25B, 25C, 25D, 20D, 20E, and Tok have demonstrated use of moose in Units 25B and 25C. Residents of these areas have also demonstrated the use of other large wildlife species within units 25B and 25C and have a customary and traditional use determination for these species in those units. This suggests a pattern of use of the area that is likely to extend to moose. Residents of these areas and Livengood also have a customary and traditional use determination for moose in other units and therefore generally exhibit the 8 factors used for determinations as they relate to moose. In addition, Units 25B and 25C are near and reasonably accessible for the harvest of moose for residents of these areas.

While the proposal requests the establishment of a customary and traditional use determination for residents of Units 25B and 25C for moose in Units 25B and 25C, transcripts of the Council meeting at which the proposal was developed suggest that the proponent intended the determination to be broader than the request. These transcripts also suggest that the proponent preferred the scope of the determination to be defined during the analysis process. For these reasons, the OSM preliminary conclusion reasonably aligns with the stated intent of the proponent.

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WP18–53b Executive Summary

General Description	Proposal WP18-53b requests that the moose season closing date in Unit 25B be extended to Oct. 7. <i>Submitted by: Eastern Interior Alaska Subsistence Regional Advisory Council.</i>
Proposed Regulation	<p>Unit 25B—Moose</p> <p><i>Unit 25B – that portion within Yukon-Charley National Preserve – 1 bull</i> <i>Aug. 20 – Sep 30 Oct. 7.</i></p> <p><i>Unit 25B – that portion within the Porcupine River drainage upstream from, but excluding the Coleen River drainage – 1 antlered bull</i> <i>Aug. 25 – Sep 30 Oct. 7. Dec. 1 – 10.</i></p> <p><i>Unit 25B – that portion, other than Yukon-Charley Rivers National Preserve, draining into the north bank of the Yukon River upstream from and including the Kandik River drainage, including the islands in the Yukon River – 1 antlered bull</i> <i>Sep. 5 – 30 Oct. 7. Dec. 1 – 15.</i></p> <p><i>Unit 25B, remainder – 1 antlered bull</i> <i>Aug. 25 – Sep 25 Oct. 7. Dec. 1 – 15.</i></p>
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	

WP18–53b Executive Summary	
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	
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
WP18-53B**

ISSUES

Proposal WP18-53b, submitted by the Eastern Interior Alaska Subsistence Regional Advisory Council, requests that the moose season closing date in Unit 25B be extended to Oct. 7.

DISCUSSION

The proponent states that climate change and warmer falls are causing meat spoilage concerns, which affects the ability of Federally qualified subsistence users to meet their subsistence needs. A longer season is warranted in order to ease meat care and to provide additional opportunity for Federally qualified subsistence users. The proponent states that there is no conservation concern given the recent increase in moose density within Yukon-Charley Rivers National Preserve according to National Park Service surveys. The proponent also states that moose harvest in Unit 25B during early October is low, occurring mostly near Eagle, Circle, and Central.

Note: Proposal WP18-53a requests that a customary and traditional use determination be established for moose in Units 25B and 25C and is a separate analysis.

Existing Federal Regulation**Unit 25B—Moose**

Unit 25B – that portion within Yukon-Charley National Preserve – 1 bull *Aug. 20 – Sep. 30.*

Unit 25B – that portion within the Porcupine River drainage upstream from, but excluding the Coleen River drainage – 1 antlered bull *Aug. 25 – Sep. 30.
Dec. 1 – 10.*

Unit 25B – that portion, other than Yukon-Charley Rivers National Preserve, draining into the north bank of the Yukon River upstream from and including the Kandik River drainage, including the islands in the Yukon River – 1 antlered bull *Sep. 5 – 30.
Dec. 1 – 15.*

Unit 25B, remainder – 1 antlered bull *Aug. 25 – Sep. 25.
Dec. 1 – 15.*

Proposed Federal Regulation

Unit 25B—Moose

<i>Unit 25B – that portion within Yukon-Charley National Preserve – 1 bull</i>	<i>Aug. 20 – Sep 30 Oct. 7.</i>
<i>Unit 25B – that portion within the Porcupine River drainage upstream from, but excluding the Coleen River drainage – 1 antlered bull</i>	<i>Aug. 25 – Sep 30 Oct. 7. Dec. 1 – 10.</i>
<i>Unit 25B – that portion, other than Yukon-Charley Rivers National Preserve, draining into the north bank of the Yukon River upstream from and including the Kandik River drainage, including the islands in the Yukon River – 1 antlered bull</i>	<i>Sep. 5 – 30 Oct. 7. Dec. 1 – 15.</i>
<i>Unit 25B, remainder – 1 antlered bull</i>	<i>Aug. 25 – Sep 25 Oct. 7. Dec. 1 – 15.</i>

Existing State Regulation

Unit 25B—Moose

<i>Unit 25B, within the Porcupine River drainage upstream from, but excluding the Coleen River drainage</i>	<i>Residents: One bull</i>	<i>HT</i>	<i>Sept. 10 – Sept. 25</i>
	<i>Nonresidents: One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side</i>	<i>HT</i>	<i>Sept. 10 – Sept. 25</i>
<i>Unit 25B, remainder</i>	<i>Residents: One bull</i>	<i>HT</i>	<i>Sept. 5 – Sept. 25</i>
	<i>OR</i>		<i>Dec. 1 – Dec. 15</i>
	<i>Residents: One bull by permit</i>	<i>CM001</i>	<i>Sept. 5 – Sept. 25 Dec. 1 – Dec. 15</i>
	<i>Nonresidents: One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side</i>	<i>HT</i>	<i>Sept. 5 – Sept. 25</i>

Extent of Federal Public Lands

Federal public lands comprise approximately 82% of Unit 25B and consist of 38% Bureau of Land Management (BLM) managed lands, 36% U.S. Fish and Wildlife Service (USFWS) managed lands, and 8% National Park Service (NPS) managed lands.

Customary and Traditional Use Determinations

The Federal Subsistence Board (Board) has not made a customary and traditional use (C&T) determination for moose in Unit 25B. Therefore, all Federally qualified subsistence users may harvest this species in this unit. (Note: This will change if the Board adopts WP18-53a).

Regulatory History

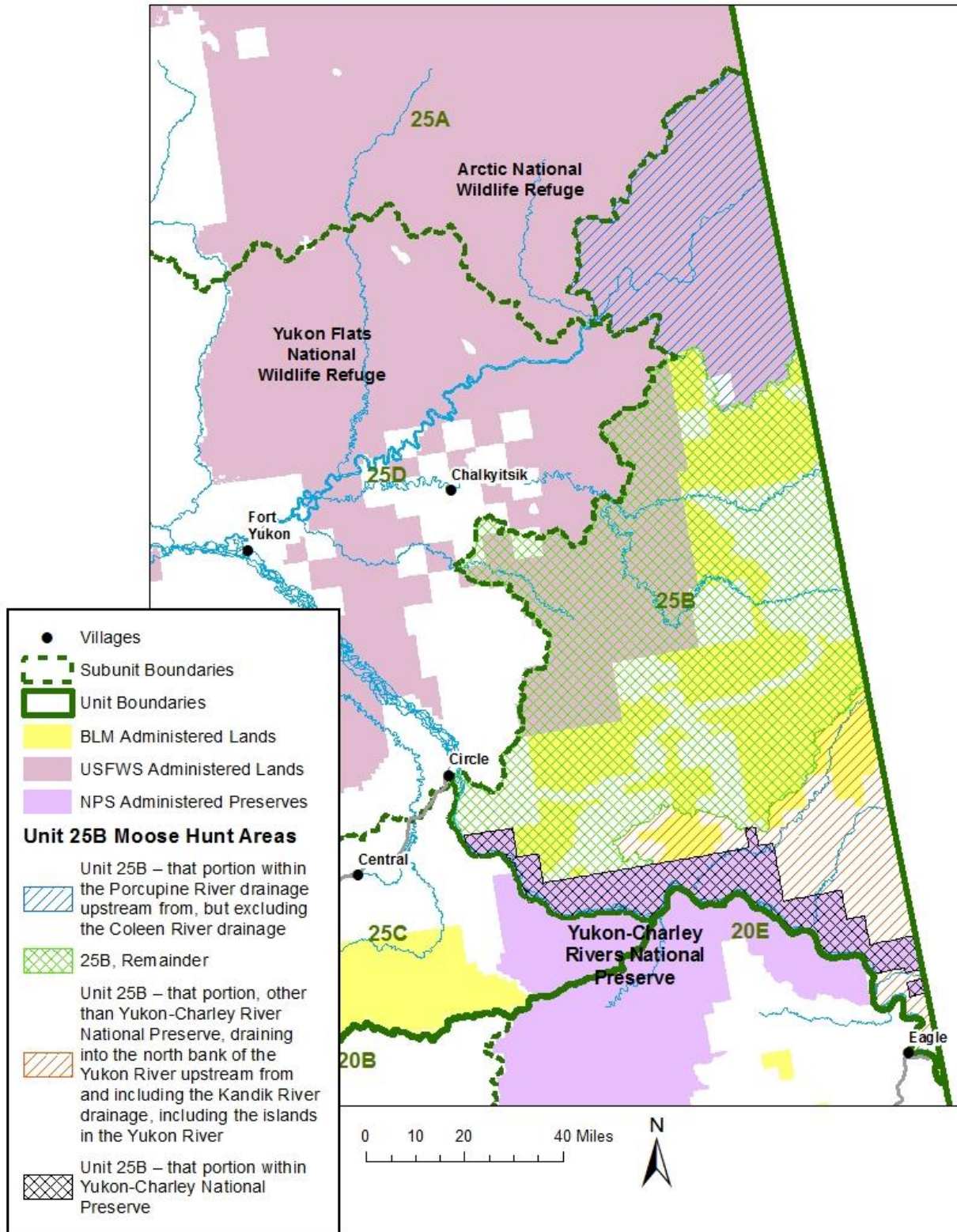
Federal moose hunting regulations for Unit 25B were adopted from State hunting regulations in 1990. There were three hunt areas: Unit 25B, that portion within the Porcupine River drainage upstream from but excluding the Coleen River drainage (Porcupine River hunt area); Unit 25B, that portion within the Yukon River drainage upstream from and including the Kandik River drainage (Yukon River hunt area); and Unit 25B remainder. The harvest limit for all hunt areas was one bull. The seasons for the Porcupine River and Unit 25B remainder hunt areas were Aug. 25 – Sept. 25 and Dec. 1 – 10. The season for the Yukon River hunt area was Sept. 5 – 25 and Dec. 1 – 10.

In 1992, the Yukon River drainage hunt area was not listed under Federal regulations; the fall season closing date for the Porcupine River hunt area was extended 5 days to Sept. 30; and the winter season closing date for Unit 25B remainder was extended 5 days to Dec. 15. In 1994, the harvest limit for moose in Unit 25B was changed to one antlered bull.

In 1996, the Board adopted Proposal P95-58, which established a hunt area along the Yukon River in Unit 25B with a season of Sept. 5 – 30 and Dec. 1 – 15. Specifically, the hunt area was: Unit 25B, those portions draining into the north bank of the Yukon River upstream from and including the Kandik River drainage, including the islands in the Yukon River. This proposal was adopted to provide additional hunting opportunity to local hunters at the end of September when the weather was cooler and competition from State hunters was reduced.

In 1997, Proposal P97-72 was submitted by the Eagle Fish and Game Advisory Committee (Eagle AC) and requested changes to moose hunting seasons in Unit 20E and in the Yukon River hunt area of Unit 25B in order to provide local hunters more opportunity and relief from competition with nonlocal hunters. The Board adopted P97-72 with modification to only modify Unit 20E moose seasons with no regulatory changes for Unit 25B. The justification for maintaining the existing season in Unit 25B was to reduce regulatory complexity via continuing alignment of Federal and State seasons and because the proposal would not have had the desired effect of reducing competition from nonlocal hunters due to the lack of a C&T determination for moose in Unit 25B. Therefore, all rural residents would be able to hunt in Unit 25B under an extended Federal moose season.

In 1998, the Board adopted Proposal P98-105 with modification to create a new hunt area in Unit 25B within Yukon-Charley Rivers National Preserve with a season of Aug. 20-Sept. 30. The proposal, as submitted by the Eagle AC, also requested a March moose season to provide winter harvest opportunities during safer river trail conditions. However, due to conservation concerns about additional bull harvest, the proponent deferred the proposed March season until a C&T determination was made for moose in Unit 25B (and Unit 20E). For a map of the current hunt areas see **Map 1**.



Map 1. Federal moose hunt areas in Unit 25B.

Biological Background

Moose densities in Unit 25B have historically been low and recent population trends are not well understood due to limited data (Caikoski 2014). No population or composition surveys have been conducted for moose in Unit 25B since the late 1980s. However, reports from experienced guides and pilots suggest moose numbers in Unit 25B have declined since the late 20th century. While uncertain, moose are currently believed to be widespread at low density throughout the unit (Caikoski 2014).

State management goals and objectives for moose in Unit 25B include (Caikoski 2014):

- Protect, maintain, and enhance the moose population and its habitat in concert with other components of the ecosystem while providing for maximum sustained harvest.
- Provide for subsistence use and for the greatest opportunity to harvest moose.
- Protect, maintain, and enhance the Yukon Flats moose population and habitat, maintain traditional lifestyles, and provide opportunities for use of the moose resource.
- Increase the harvestable surplus of bull moose in key hunting areas near local communities by reducing mortality from bear and wolf predation.
- Improve moose harvest reporting.
- Minimize cow moose harvest, recognizing that some cows will probably be taken for ceremonial purposes when bull moose are seasonally in poor condition.
- Work with local communities to implement harvest strategies to increase bear and wolf harvest.
- Reduce illegal and potlatch harvest of cow moose to less than 5% of total annual harvest.
- Maintain a minimum of 40 bulls per 100 cows as observed in fall surveys.

Moose surveys have been conducted in Yukon-Charley Rivers National Preserve (YUCH) for nearly 30 years. The past seven surveys have occurred within a 30-40 mile wide corridor along the Yukon River between Eagle and Circle, and included portions of Units 20E, 25B, and 25C. Between 1997 and 2015, moose densities ranged from 0.20-0.37 moose/mi² (**Table 1**, Sorum and Joly 2016). Over the same time period, bull:cow ratios have remained consistently high, averaging 62 bulls:100 cows (Sorum and Joly 2016), which greatly exceeds the State management objective of 40 bulls:100 cows (**Table 1**).

November 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). Calf:cow ratios observed in YUCH surveys averaged 28 calves:100 cows between 1997 and 2015 (Sorum and Joly 2016), indicating a stable moose population in this area (**Table 1**).

Moose population data from adjacent subunits is the best available information for northern Unit 25B. Between 1999 and 2015 in Unit 25D East, moose densities averaged 0.27 moose/mi² (range: 0.18-0.34 moose/mi²); bull:cow ratios averaged 64 bulls:100 cows (range: 35-95 bulls:100 cows); and calf:cow ratios averaged 52 calves:100 cows (range:37-80 calves:100 cows) (Caikoski 2013, Bertram 2017, pers. comm.). The lowest bull:cow ratio occurred in 2015. Between 1991 and 2012 in Unit 25A, the bull:cow ratio averaged 100 bulls:100 cows (range 88-122 bulls:100 cows) and the calf:cow ratio averaged 39 calves:100 cows (range: 34-48 calves:100 cows) (Caikoski 2013). These data suggest that moose density in northern

Unit 25B is low and calf production is adequate to high. While bull:cow ratios have been historically high in adjacent subunits, it is unknown whether the low 2015 ratio is applicable to northern Unit 25B or just a reflection of the higher harvest pressure experienced in Unit 25D East.

Habitat is not considered a limiting factor. Unit 25B contains excellent moose habitat that is maintained by wildfires (Caikoski 2014). Within YUCH, improved forage quality from flooding (2009) and wildfires (1999 and 2004) may have contributed to increases in moose abundance (Sorum and Joly 2016). Predation by wolves and bears, however, may be limiting the moose population (Caikoski 2014). Lake et al. (2013) investigated wolf kill rates of moose in Unit 25D, which is comparable to Unit 25B in habitat and moose density. They found that wolf kill rates approximated those in areas with higher moose densities, suggesting that wolf predation is contributing to persistent low moose densities (Lake et al. 2013).

Table 1. Bull:cow, calf:cow, and moose densities for Yukon-Charley Rivers National Preserve (Sorum and Joly 2016).

Survey Year	Bulls:100 Cows	Calves:100 Cows	Density (moose/mi ²)
1997	60	28	0.22
1999	51	36	0.30
2003	61	25	0.22
2006	73	33	0.20
2009	59	26	0.36
2012	68	24	0.25
2015	64	27	0.37

Harvest History

For this analysis, local hunters are defined as residents of Units 25A, 25B, and 25D as well as residents of Eagle. Few household surveys have been conducted for these local communities (ADF&G 2017b). Additionally, much of the harvest data collected from these surveys is not spatially explicit resulting in the proportion of the moose harvest occurring in Unit 25B to be uncertain. In household surveys of Unit 25D communities in regulatory years 2008/09, 2009/10, and 2010/11 (which extrapolate harvests from sampled households to the entire community, resulting in fractions of animals), 5.1 moose, 5.1 moose, and 12.4 moose were estimated as harvested in Unit 25B, respectively (Van Lanen et al. 2012, CATG 2011). Chalkyitsik and Fort Yukon accounted for most of the moose harvested from Unit 25B (Van Lanen et al. 2012, CATG 2011). As there are no communities in Unit 25B, the communities in Unit 25A are far from the Unit 25B boundary, and Eagle residents primarily hunt moose in southern Unit 25B along the Yukon River, these household survey data indicate moose harvest by local residents in northern Unit 25B is very low.

From 2002-2015, the total reported moose harvest in Unit 25B has ranged from 23-38 moose, averaging 31 moose/year (**Figure 1**). Over the same time period, the number of moose hunters in Unit 25B has ranged from 74-100 hunters, averaging 90 hunters/year (**Figure 1**, Caikoski 2014, ADF&G 2017a).

According to harvest reports, Circle, Eagle, and Fort Yukon are the primary local communities harvesting moose in Unit 25B (ADF&G 2017c). Local hunters account for the minority of the Unit 25B reported moose harvest while nonlocal residents account for the majority. Between 2005 and 2015, the reported moose harvest by local, nonlocal, and nonresidents averaged 28%, 62%, and 10% of the total Unit 25B reported harvest, respectively (**Figure 2**). Over the same time period, local, nonlocal, and nonresident moose hunters averaged 20%, 66%, and 13% of the total hunters reported in Unit 25B, respectively. Over the same time period, harvest success rates for local, nonlocal and nonresidents averaged 47%, 33%, and 26%, respectively (ADF&G 2017c).

Between 2002 and 2015, most of the reported moose harvest in Unit 25B has occurred during the second and third weeks of September (average: 30% and 39%, respectively). Comparatively, only 17% of the reported moose harvest has occurred during the fourth week of September on average (Caikoski 2014, ADF&G 2017c). Boats are the most common transport method used by moose hunters in Unit 25B (Caikoski 2014).

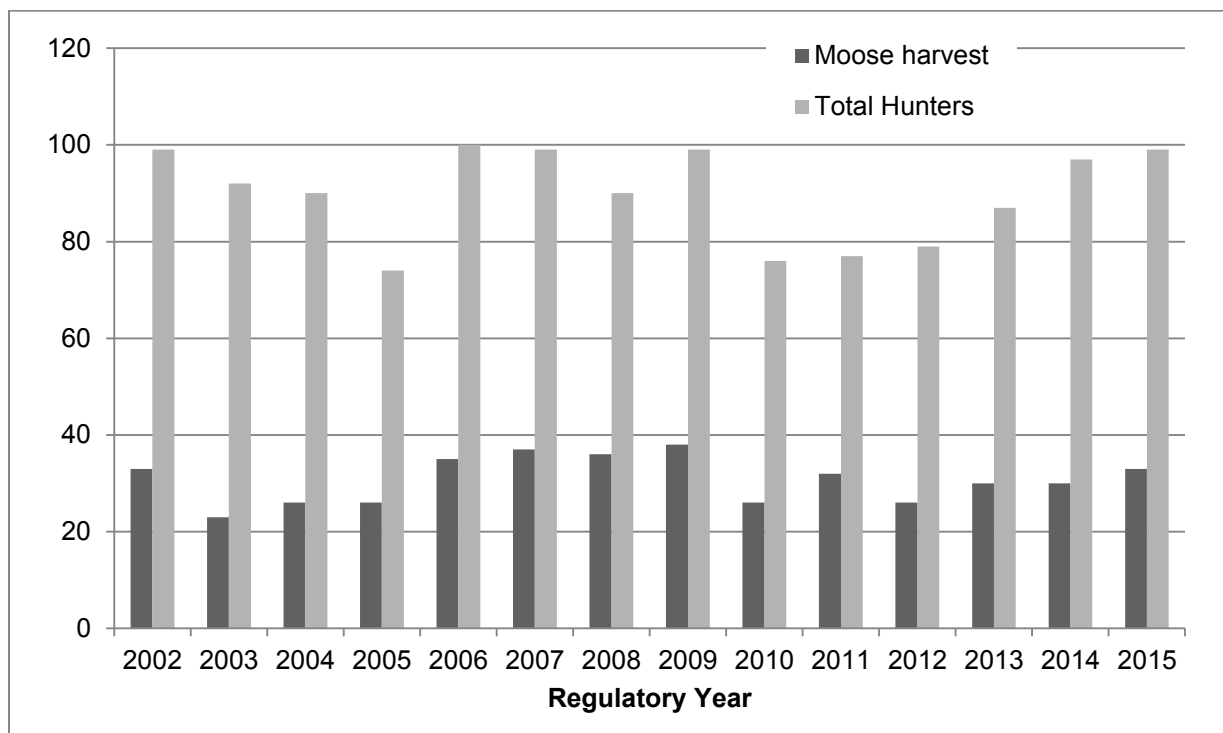


Figure 1. Reported moose harvest and number of hunters in Unit 25B (Caikoski 2014, ADF&G 2017a).

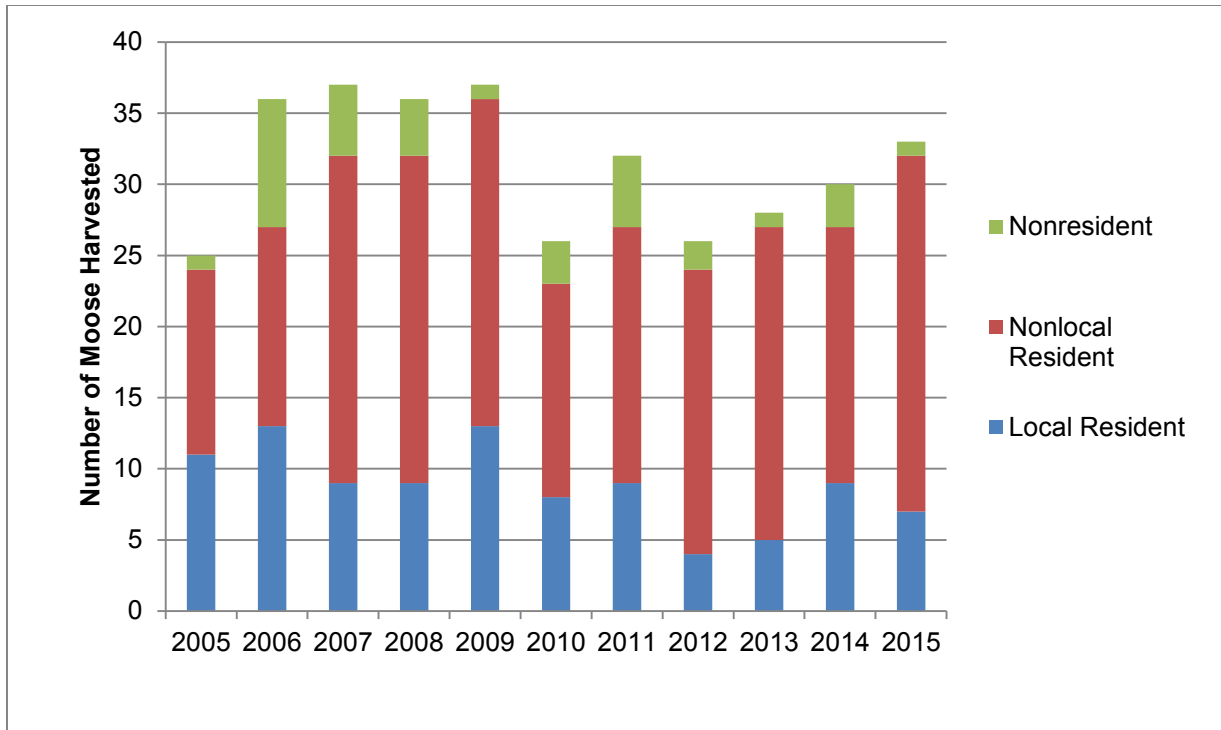


Figure 2. Number of moose harvested by residency in Unit 25B (ADF&G 2017c).

Effects of the Proposal

If this proposal is adopted, Federally qualified subsistence users would be able to harvest moose in Unit 25B until October 7, providing an additional 7-12 days of harvest opportunity depending on hunt area. As there is no C&T determination for moose in Unit 25B, all rural Alaskan residents would be able to hunt under the extended Federal season. Given current trends of warmer falls due to climate change, extending the season could reduce meat spoilage and ease meat care as hunters could wait for cooler temperatures.

While this proposal is for all of Unit 25B, a principal intent of this proposal was to provide more opportunity to residents of Eagle, primarily in YUCH (EI RAC 2017). At the winter 2017 meeting of the Eastern Interior Council, a Council member from Eagle voiced concern over competition from nonlocal hunters who account for most of the Unit 25B moose harvest. He expressed that a longer moose season in Unit 25B may attract more nonlocal hunters to the unit who would directly compete with local hunters. Indeed, competition from nonlocal residents has been a concern since the 1990s (i.e. WP97-72). This concern prompted the Council to submit WP18-53a to establish a C&T determination for moose in Unit 25B (EI RAC 2017). If WP18-53a is adopted, the number of subsistence users qualified to hunt moose in Unit 25B under Federal regulations may decrease substantially as could competition from nonlocal hunters and harvest pressure on the moose population.

If a C&T determination is established, this proposal would benefit Federal qualified subsistence users by providing more harvest opportunity with less competition from other hunters, and there would be minimal conservation concerns given the bulls-only harvest restriction and low harvest pressure from local hunters

(i.e. residents of Units 25A, 25B, 25D, and Eagle). The high bull:cow ratios in the YUCH suggest there is a harvestable surplus of bulls in southern Unit 25B where most of the harvest by Eagle residents occurs. The harvestable surplus of bulls in northern Unit 25B is uncertain, although harvest pressure in this area by local residents (as indicated by household surveys) is very low. Additionally, as a minority of the harvest typically occurs during the fourth week of September, extending the season to October 7 is not expected to result in an appreciable increase in harvest. However, due to climate change or other subsistence priorities such as harvest fall chum salmon, harvest may start to shift later into the season.

Adoption of this proposal could also affect moose breeding and the age structure of harvest. Over a 12 year period, Ballenberghe and Miquelle (1993) found moose in Interior Alaska copulate between September 24 and October 7. Older mature bulls come into rut earlier than young bulls and are more susceptible to harvest when seasons extend into the peak of rut (Timmerman and Gollat 1982). If this proposal is adopted, Federally qualified subsistence users would have additional opportunity to hunt later into the breeding season, which could disrupt mating moose, impede or delay impregnation, and cause mature bulls to be more susceptible to harvest.

However, while hunting pressure during the extended season may increase, it is not expected to substantially affect moose reproduction due to high bull:cow ratios in southern Unit 25B and very low harvest pressure in northern Unit 25B. Similarly, moose abundance is not expected to be substantially affected by adopting this proposal due to the bulls only harvest limit, high bull:cow ratios in southern Unit 25B, past patterns in harvest chronology, low reported harvest (~31 moose per year), and low estimated harvest from household surveys.

OSM PRELIMINARY CONCLUSION

Support Proposal WP18-53b.

Justification

This proposal will provide increased opportunity for Federally qualified subsistence users and may ease meat care and reduce spoilage issues. There are minimal conservation concerns for this proposal due to the high bull:cow ratio in southern Unit 25B, bulls only harvest limit, and relatively low reported harvest and harvest pressure.

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WP18–54 Executive Summary

<p>General Description</p>	<p>Proposal WP18-54 requests that the Tetlin National Wildlife Refuge Manager, in consultation with Wrangell-St. Elias National Park and Preserve Superintendent, Alaska Department of Fish and Game area biologists, and Chairs of the Eastern Interior Alaska Subsistence Regional Advisory Council and Upper Tanana/Fortymile Fish and Game Advisory Committee (AC), be delegated authority to set the harvest limit for the to be announced winter caribou season in Unit 12 remainder. <i>Submitted by: Upper Tanana/Fortymile Fish and Game Advisory Committee.</i></p>
<p>Proposed Regulation</p>	<p>Unit 12 – Caribou</p> <p><i>Unit 12, remainder—1 bull</i> <i>Sep. 1-20.</i></p> <p><i>Unit 12, remainder— Up to 3 1caribou may be taken by a Federal registration permit (FC1202) during a winter season to be announced. Dates for a winter season to occur between Oct. 1 and Apr. 30, harvest limit and sex of animal to be taken will be announced by Tetlin National Wildlife Refuge Manager in consultation with Wrangell-St. Elias National Park and Preserve Superintendent, Alaska Department of Fish and Game area biologists, and Chairs of the Eastern Interior Regional Advisory Council and Upper Tanana/Fortymile Fish and Game Advisory Committee</i></p> <p style="text-align: right;"><i>Winter season to be announced.</i></p>
<p>OSM Preliminary Conclusion</p>	<p>Support Proposal WP18-54 with modification to remove the regulatory language referring to dates and sex of animal to be taken for the winter season, delegate authority to announce season dates, harvest limit, and sex of the animals to be taken via a delegation of authority letter only, and clarify that season dates and harvest limits will be announced prior to any season opening (Appendix 1).</p> <p>The modified regulation should read:</p> <p>Unit 12 – Caribou</p> <p><i>Unit 12, remainder—1 bull</i> <i>Sep. 1-20.</i></p>

WP18–54 Executive Summary	
	<p><i>Unit 12, remainder— Up to 3 caribou may be taken by a Federal registration permit (FC1202) during a winter season to be announced. Season dates and harvest limits to be announced prior to any season opening. Dates for a winter season to occur between Oct. 1 and Apr. 30 and sex of animal to be taken will be announced by Tetlin National Wildlife Refuge Manager in consultation with Wrangell-St. Elias National Park and Preserve Superintendent, Alaska Department of Fish and Game area biologists, and Chairs of the Eastern Interior Regional Advisory Council and Upper Tanana/Fortymile Fish and Game Advisory Committee Winter season to be announced.</i></p>
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	

WP18–54 Executive Summary	
Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
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
WP18-54**

ISSUES

Proposal WP18-54, submitted by the Upper Tanana/Fortymile Fish and Game Advisory Committee, requests that the Tetlin National Wildlife Refuge Manager, in consultation with Wrangell-St. Elias National Park and Preserve (WRST) Superintendent, Alaska Department of Fish and Game (ADF&G) area biologists, and Chairs of the Eastern Interior Alaska Subsistence Regional Advisory Council (Eastern Interior Council) and Upper Tanana/Fortymile Fish and Game Advisory Committee (AC), be delegated authority to set the harvest limit for the to be announced winter caribou season in Unit 12 remainder (**Map 1**).

DISCUSSION

The proponent states that the proposed regulation change will promote adaptive and collaborative management of the FC1202 caribou hunt, reduce administrative workloads by eliminating the need for special action requests to increase harvest limits when the Nelchina Caribou Herd (NCH) is overabundant, and provide for additional subsistence hunting opportunities. The proponent notes that overharvest of the NCH is unlikely due to historically low harvest rates in Unit 12 remainder and because annual harvest limits will be established collaboratively by area land managers. The Mentasta Caribou Herd (MCH) is a small herd that sometimes intermingles with the NCH in Unit 12 remainder during the winter. The proponent states that the ratio of NCH:MCH caribou will be monitored by Tetlin National Wildlife Refuge (Tetlin NWR) and that the winter season will be closed or suspended if the ratio falls below 20 NCH:1 MCH caribou or if large segments of the MCH are in easily accessible areas (i.e. near roads). The proponent also notes that incidental harvest from the Chisana Caribou Herd (CCH) is extremely unlikely as few Chisana caribou are found in the hunt area, particularly during the winter. The CCH hunt has been undersubscribed since its inception in 2012.

Existing Federal Regulation

Unit 12 – Caribou

Unit 12, remainder—1 bull

Sep. 1-20.

Unit 12, remainder—1 caribou may be taken by a Federal registration permit (FC1202) during a winter season to be announced. Dates for a winter season to occur between Oct. 1 and Apr. 30 and sex of animal to be taken will be announced by Tetlin National Wildlife Refuge Manager in consultation with Wrangell-St. Elias National Park and Preserve Superintendent, Alaska Department of Fish and Game area biologists, and Chairs of the Eastern Interior Regional Advisory Council and Upper Tanana/Fortymile Fish and Game Advisory Committee

Winter season to be announced.

Proposed Federal Regulation

Unit 12 – Caribou

Unit 12, remainder—1 bull

Sep. 1-20.

*Unit 12, remainder— **Up to 3** ~~1~~ caribou may be taken by a Federal registration permit (FC1202) during a winter season to be announced. Dates for a winter season to occur between Oct. 1 and Apr. 30, **harvest limit** and sex of animal to be taken will be announced by Tetlin National Wildlife Refuge Manager in consultation with Wrangell-St. Elias National Park and Preserve Superintendent, Alaska Department of Fish and Game area biologists, and Chairs of the Eastern Interior Regional Advisory Council and Upper Tanana/Fortymile Fish and Game Advisory Committee*

Winter season to be announced.

Existing State Regulation

Unit 12 – Caribou

Unit 12, remainder—Both residents and nonresidents

No open season

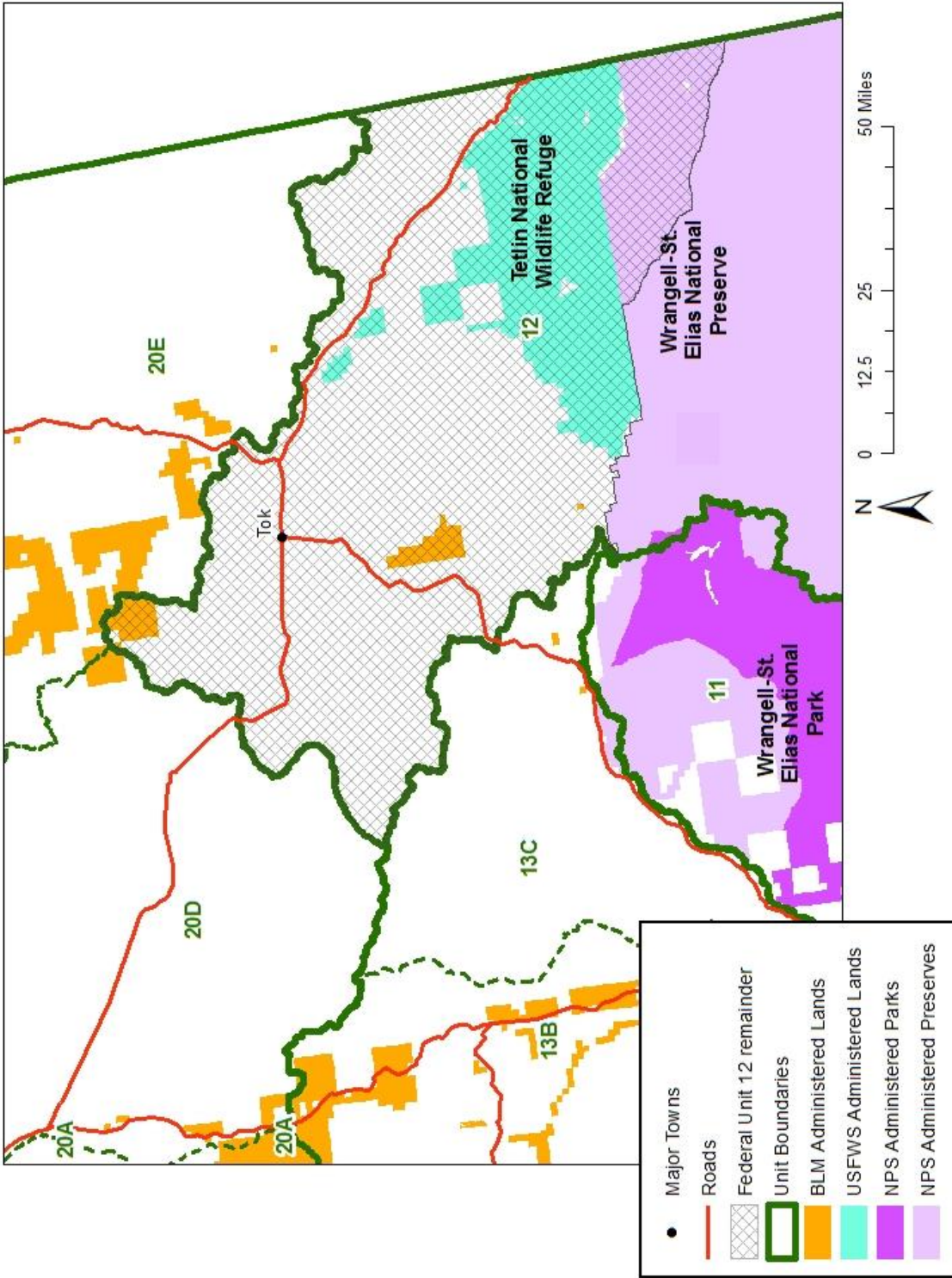
Extent of Federal Public Lands

Federal public lands comprise approximately 60% of Unit 12 and consist of 48% National Park Service (NPS) managed lands, 11% U.S. Fish and Wildlife Service (USFWS) managed lands, and 1% Bureau of Land Management (BLM) managed lands.

Unit 12 remainder is comprised of approximately 29% Federal public lands, which consist of 19% USFWS managed lands (Tetlin NWR), 8% NPS managed lands (WRST), and 2% BLM managed lands (**Map 1**).

Customary and Traditional Use Determinations

Residents of Unit 12, Chistochina, Dot Lake, Healy Lake, and Mentasta Lake have a customary and traditional use (C&T) determination for caribou in Unit 12.



Map 1. Federal Unit 12 remainder hunt area for caribou. Note: BLM lands in Unit 12 are not depicted in the Federal regulations booklet map. These lands have become unencumbered since creation of the maps in the Federal regulations booklet.

Regulatory History

In 1991, Federal subsistence hunting regulations for caribou in Unit 12 remainder were one bull from Sept. 1-20 and one caribou during a to-be-announced winter season for residents of Tetlin and Northway only as they had a C&T determination for the NCH in Unit 12. Regulations for the September season have remained unchanged since then.

Also in 1991, the Federal Subsistence Board (Board) approved Special Actions S91-05 and S91-08. Special Action S91-05 opened the winter caribou hunt in Unit 12 remainder on Oct. 28 and S91-08 closed it on Dec. 9 after subsistence needs had been met.

In 1992, the Board rejected Proposals P92-105 and P92-106 due to biological concerns. Proposal P92-105 requested abolishing the to-be-announced winter caribou season in Unit 12 remainder and Proposal P92-106 requested lengthening the September caribou season in Unit 12 remainder from Sept. 1-20 to Aug. 20-Sept. 20. The Board determined that there was no biological reason to eliminate the winter hunt and that extending the September hunt could impact the declining MCH and jeopardize the more popular winter hunt.

Also in 1992, the Board adopted Proposal P92-107, which changed the harvest limit for the winter caribou season in Unit 12 remainder from one caribou to one bull in order to protect the declining MCH, which mixes with the NCH in Unit 12 during the winter.

In 1993, the Board rejected Proposal P93-53, which requested that the Unit 12 remainder caribou season be closed when a quota of 125 bulls was reached. The Board rejected the proposal because there was no biological basis to restrict harvest. The Board also approved Special Action S93-06, opening a bulls-only caribou season in Unit 12 remainder from Dec. 6-Jan. 4.

In 1994, the Board approved Special Action S94-15, opening a caribou season in Unit 12 remainder from Nov. 16-Dec. 16 for the residents of Tetlin and Northway only, who had a C&T determination for the NCH in Unit 12. (Note: C&T determinations for caribou used to be by herd.)

In 1996, the Board deferred action on Proposals P96-56 and P96-57, which requested that the eligibility for caribou hunts in Unit 12 be expanded. Identifying customary and traditional use by area instead of by herd and submitting a similar proposal for the 1997 regulatory year were recommended.

In 1997, the Board adopted P97-24 with modification, which requested a complex suite of changes to eligibility for caribou hunts in Units 11, 12, and 13. As a result of P97-24, a customary and traditional use determination was made for caribou in Unit 12. Hence, only residents with a customary and traditional use determination could harvest caribou in Unit 12 remainder during the winter season.

In 1998, the customary and traditional use determination for caribou in Unit 12 was revised to include Healy Lake via adoption of Proposal P98-99 by the Board. Proposal P98-98 requested that the C&T

determination for caribou in Unit 12 remainder be expanded. The Board did not take action on Proposal P98-98 due to its action on Proposal P97-24 and an administrative oversight (misprinting of the regulation booklet), which rendered P98-98 moot. The Board also approved Special Action S98-19, opening a caribou season in Unit 12 remainder from Mar. 29 - Apr. 11. The Board also adopted Proposal P98-23, which closed the MCH hunt in Unit 11 due to conservation concerns, including low calf recruitment. This hunt has remained closed.

In 1999, the Board approved Special Actions S99-06 and S99-12, which enabled the Tetlin NWR manager to open/close winter caribou seasons in Unit 12 remainder.

In 2000, the Board adopted Proposal P00-058, which delegated authority to set the opening and closing dates as well as the sex of caribou to be taken for the winter season in Unit 12 remainder to the Tetlin NWR manager in order to increase management flexibility and subsistence opportunities. The Board also adopted Proposal P00-59, which redefined a caribou hunt area in Unit 12, effectively closing the portion of Unit 12 remainder within WRST and west of the Nabesna River in order to protect the declining MCH.

In 2001, the State stopped issuing permits for the winter caribou season in Unit 12 remainder, effectively closing the hunt. This was done because the NCH population was at the lower end of its management objective. The hunt has remained closed due to concerns of overcrowding and safety as well as consideration for the MCH (Butler 2016, pers. comm.).

In 2010, the Board rejected Proposal WP10-102, which requested that the harvest limit for the winter season in Unit 12 remainder be increased from 1 to 2 caribou. The proposal was rejected due to concern for the MCH and uncertainty about the mixing ratio of the Mentasta and Nelchina caribou herds during the winter hunt. The Board also rejected Proposal WP10-103, which requested that the winter season in Unit 12 remainder be opened by regulation on Oct. 21 and remain open until closed by the Tetlin NWR manager, which would have decreased management flexibility and raised conservation concerns for the MCH.

In 2012, the customary and traditional use determination for caribou in Unit 12 was modified to include *Chistochina* via adoption of Proposal WP12-68 by the Board.

In 2016, the Board approved Emergency Wildlife Special Action WSA16-05 to create a may be announced ten-day caribou season between Oct. 1 and Oct. 20 in Unit 13. WSA16-05 targeted the NCH, the same herd affected by this request. WSA16-05 was approved in order to increase harvest of the NCH, which was above State management objectives, and to provide additional hunting opportunity for Federally qualified subsistence users as fall harvest was low. The Board also approved Temporary Wildlife Special Action WSA16-06 to increase the harvest limit for the winter season in Unit 12 remainder from one to two caribou for the 2016/17 regulatory year in order to reduce the NCH population and to increase harvest opportunities for Federally qualified subsistence users.

Biological Background

The ranges of the Nelchina, Mentasta, and Chisana caribou herds overlap in Unit 12 remainder (**Map 2**, CCHWG 2012). Overlap with the CCH range is minimal and occurs in a relatively inaccessible and unfrequented area of Unit 12 remainder. Therefore, the CCH is not considered further in this analysis.

Nelchina Caribou Herd

The NCH calving grounds and summer range lie within Unit 13. The rut also generally occurs within Unit 13. About 60-95% of the NCH overwinters in Unit 20E, although Nelchina caribou also overwinter in Unit 12 and across northern portions of Units 13 and 11 (Schwanke and Robbins 2013). Nelchina caribou are usually found in Unit 12 remainder over the winter and en route to wintering grounds in Unit 20E. Winter competition with the Fortymile caribou herd in Unit 20E may be impacting the NCH and range conditions. While use (location and timing) of the NCH calving grounds remains static, use of other seasonal ranges varies with resource availability and snow cover (Schwanke and Robbins 2013).

State management goals and objectives for the NCH are as follows (Schwanke and Robbins 2013):

- Maintain a fall population of 35,000–40,000 caribou, with a minimum of 40 bulls:100 cows and 40 calves:100 cows.
- Provide for the annual harvest of 3,000–6,000 caribou.

The State manages the NCH for maximum sustained yield, principally by annual adjustments in harvest quotas. The population of the NCH has fluctuated over time, influenced primarily by harvest (Schwanke and Robbins 2013). Between 2001/02 and 2015/16, the NCH population ranged from 31,114 - 49,550 caribou and averaged 39,672 caribou. However, the herd has exceeded State population objectives since 2010 (**Table 1**). Reduced predation resulting from intensive wolf management programs geared toward moose in Unit 13, and the Fortymile herd in Units 12 and 20 may have contributed to NCH population increases (Schwanke and Robbins 2013, ADF&G 2017).

Bull:cow and calf:cow ratios have similarly fluctuated over time. Between 2001/02 and 2016/17, the fall bull:cow ratio ranged from 24-64 bulls:100 cows and averaged 39.5 bulls:100 cows. Over the same time period, the fall calf:cow ratio ranged from 19-55 calves:100 cows and averaged 40 calves:100 cows (**Table 1**).

In recent years (2008-2012), below average fall calf weights and low parturition rates for 3-year-old cows suggest nutritional stress, raising concern for the health of NCH (Schwanke and Robbins 2013). Schwanke and Robbins (2013) caution that without a timely reduction in the NCH population, range quality and long-term herd stability may be compromised. The current management goal is herd reduction (Schwanke and Robbins 2013).

Mentasta Caribou Herd

The calving grounds for the Mentasta caribou herd (MCH) are located in northern Unit 11 within WRST (Route et al. 1995, **Map 2**). The MCH disperses across Unit 12 and southern Unit 20E in winter, often intermingling with the NCH (Route et al. 1995).

A cooperative management plan for the MCH was completed in 1995 and specifies the following management objectives (Route et al. 1995):

- To the extent possible, allow for human harvest that will have minimal effects on the production, composition, and abundance of Mentasta caribou.
- To provide harvest priority to Federally-eligible subsistence users and to allow State authorized hunting to occur whenever possible.
- To monitor the herd demographics and harvest such that all pertinent data on the health of the herd are collected and disseminated to all agencies and citizens concerned with their management.

The MCH population declined from an estimated 3,160 caribou in 1987 to an estimated 512 caribou in 2013 (**Table 2**). Preliminary data from 2016 suggests the herd has declined to the 2010 population estimate of 336 caribou (Putera 2016, pers. comm.). Another population survey was conducted in June 2017, although results are pending (Putera 2017, pers. comm.). Between 1987 and 2016, the bull:cow ratio has fluctuated widely, ranging from 35-120 bulls:100 cows and averaging 57 bulls:100 cows. June and fall calf:cow ratios fluctuated over the same time period, ranging from 1-38 calves:100 cows and 0-33 calves:100 cows, respectively (**Table 2**, Putera 2011, pers. comm. *in* OSM 2012).

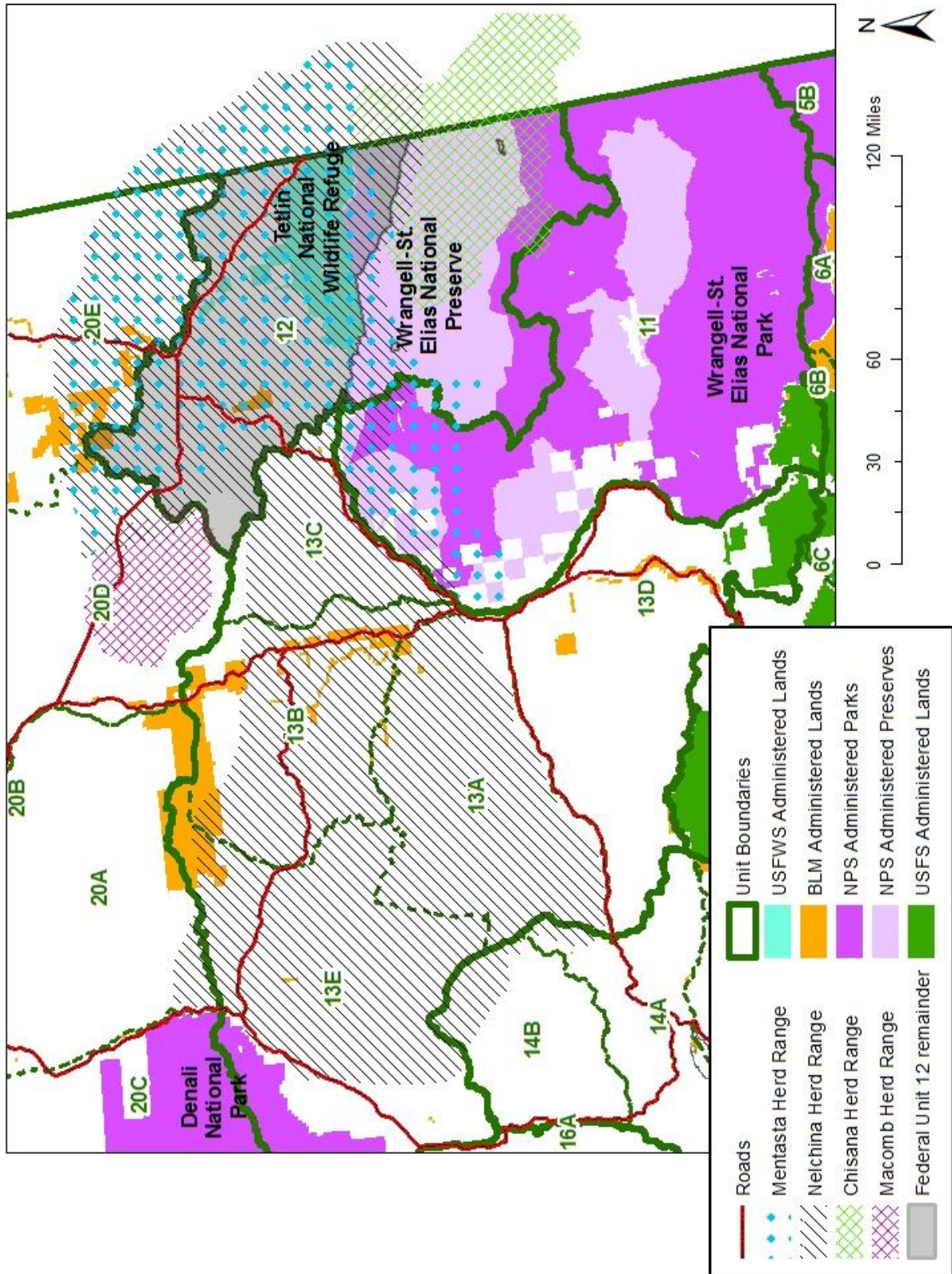


Table 1. Population size and composition of the Nelchina caribou herd (Tobey and Kelleyhouse 2007, ADF&G 2008, 2010, Schwanke 2011, Schwanke and Robbins 2013, Robbins 2015, 2016a, 2016b pers.comm., 2017, pers. comm.).

Year	Total bulls: 100 cows ^a	Calves: 100 cows ^a	Population size ^b
2001	37	40	35,106
2002	31	48	35,939
2003	31	35	31,114
2004	31	45	38,961
2005	36	41	36,993
2006	24 ^c	48 ^c	
2007	34	35	33,744
2008	39	40	
2009	42	29	33,146
2010	64	55	44,954
2011	58	45	40,915
2012	57	31	46,496
2013	30	19	40,121
2014	42	45	
2015	36	45	48,700
2016	57	48	49,550
Average	39.5	40.1	39,672
^a Fall Composition Counts			
^b Summer photocensus			
^c Modeled estimate			

Table 2. Population size and composition of the Mentasta caribou herd (Putera 2011, pers. comm. in OSM 2012, Putera 2016 pers. comm.).

Year	June Calves:100 Cows ^a	Fall Calves:100 cows	Fall Bulls:100 cows	Fall Population Estimate
1987	18	12	41	3,160
1988	34	18	43	2,480
1989	31	16	45	2,600
1990	-	-	-	-
1991	3	2	42	1,940
1992	16	6	41	1,430
1993	9	4	38	970
1994	19	11	38	880
1995	26	22	35	850
1996	16	11	35	780
1997	15	5	40	610
1998	13	10	42	540
1999	13	10	77	430
2000	1	0	59	470
2001	11	5	66	586
2002	21	29	45	410
2003	17	16	46	522
2004	8	5	-	293
2005	23	15	69	261
2006	-	-	-	-
2007	23	29	77	280
2008	14	20	73	319
2009	12	10	86	421
2010	25	25	120	336
2011	-	-	-	-
2012	-	34	84	-
2013	38	23	77	512
2014	-	-	-	-
2015	-	-	-	-
2016	-	33	42	-

^aIncludes small bulls that are indistinguishable from cows during fixed-wing flights.

Cultural Knowledge and Traditional Practices

Reference to the harvest and use of caribou by the people of the Eastern Interior and the Copper River Basin began as early as the 1800s and continues to the present day (Simeone 2006). Archeological evidence and historical accounts suggest that caribou was a primary subsistence resource for the Ahtna Athabascans of the upper Copper River watershed where a successful caribou hunt meant the difference between life and death for those living in the northern portion of the basin and beyond (Simeone 2006). The governor of Russian America, F.P. Wrangell, described witnessing numerous hunts and strategies used to harvest caribou in the 1820s and 1830s, including the use of fences and herd drives (Simeone 2006). As more explorers and early settlers moved into the region, they too depended heavily on the caribou that moved through what are now portions of Units 11, 12, and 13. The traditional practices of drying and smoking meat, as well as the proper and respectful treatment of harvested resources such as caribou and moose, are described in several ethnographic accounts of the Ahtna and people of the upper Tanana (de Laguna and McClellan 1981; Haynes and Simeone 2007; Mishler et al. 1988; Reckord 1983; Simeone 2006).

In recent comprehensive subsistence surveys conducted by the Alaska Department of Fish and Game (ADF&G) in the upper Copper River and Tanana watersheds, it has been noted that large land mammal harvest is high (ranging between 17% and 60% of the total community harvest by weight) and in some villages and towns surpassed that of fish (Holen et al. 2012; Kukkonen and Zimpleman 2012; La Vine, et al. 2013; La Vine and Zimpleman 2014). During each study year, communities within the Copper River Basin harvested or hunted for caribou primarily in Unit 13 (Holen et al. 2015; Kukkonen and Zimpleman 2012; La Vine, et al. 2013; La Vine and Zimpleman 2014). Not all communities in the Upper Tanana watershed participated in recent surveys. Those that have (Dot Lake, Dry Creek, Mentasta Pass, Northway, and Tok) all demonstrate a high reliance on large land mammals with the percentage of the total community harvest in pounds of edible weight ranging from 28% of the harvest in Northway to 42% of the harvest in Dot Lake to 75% of the harvest in Dry Creek (Holen et al. 2012; La Vine et al. 2013; Godduhn and Kostick 2016). In 2011, the per capita caribou harvest from communities in the Upper Tanana watershed ranged from 14 lbs/person in Dry Creek to 31 lbs/person in Tok (Holen et al. 2012). In 2014, the caribou harvest by residents of Northway was 3% of edible weight and 9 lbs/person (Godduhn and Kostick 2016). Both Dot Lake and Dry Creek documented harvest and search areas for caribou close to their communities in Unit 20 during their study year (2011). Tok residents traveled farther. Harvest and search areas for caribou during 2011 extended along the Alaska Highway from Dry Creek east as far as the Canadian border, along the Taylor Highway as far as Eagle, and along the Tok Cutoff toward Mentasta Pass. Some residents reported harvest and search areas that extended into the Tetlin National Wildlife Refuge. Northway caribou harvest and search areas also extend into Tetlin National Wildlife Refuge.

Harvest History

The NCH is a popular herd to hunt and experiences heavy harvest pressure due to its road accessibility and proximity to Fairbanks and Anchorage. Population limits can be controlled solely by human harvest, and harvest quotas are adjusted annually in order to achieve management objectives (Schwanke and Robbins 2013).

Over 95% of the NCH harvest occurs in Unit 13. The Federal harvest limit for caribou in Unit 13A and 13B is two caribou with the sex to be announced, and in Unit 13 remainder the harvest limit is two bulls. Between 2001 and 2016, harvest from the NCH under State regulations ranged from 797-5,709 caribou/year and averaged 2,423 caribou/year (**Table 3**). Between 2012 and 2015, harvest from the NCH under Federal regulations has ranged from 233-608 caribou/year and averaged 550 caribou/year (Robbins 2017, pers. comm.). While the long-term average is below management objectives, the harvest quota and associated harvest has increased in recent years (2010-2015) in response to the increasing NCH population (**Table 3**). In 2016, the initial harvest quota of 4,000 caribou was lifted after population estimates from the summer photocensus showed that the NCH was still growing. No adjusted quota was announced in 2016 (Robbins 2017, pers. comm.). There has been no targeted harvest of the Mentasta herd since 1998 when all caribou hunting in Unit 11 closed due to conservation concerns. Wounding loss and illegal and/or unreported harvest account for an unknown number of mortalities (Schwanke and Robbins 2013).

The only caribou season open in Unit 12 under State regulation is in the northwest portion of the unit. The State hunt targets the Macomb caribou herd and, while technically within the Federal Unit 12 remainder hunt area, contains no Federal public lands (**Map 2**). Therefore, all caribou harvested from Federal public lands within Unit 12 remainder occurs under Federal regulations. No caribou are taken during the September season as caribou are not present on Federal public lands during this time (Berg 2016, pers. comm.). Between 1998 and 2016, caribou harvest during the winter season ranged from 0-71 caribou/year and averaged 27 caribou/year (**Table 4**).

Winter hunts targeted for the NCH may result in incidental harvest of Mentasta caribou as the herds mix during the winter in Unit 12 remainder and Nelchina and Mentasta caribou cannot be differentiated (Route et al. 1995, Berg 2016, pers. comm.). The MCH management plan notes, “It is unrealistic to close seasons directed at other larger caribou herds as long as incidental harvest of Mentasta caribou is biologically insignificant.” The plan continues, “Movement patterns and aggregation behavior of collared caribou suggest that incidental harvest of Mentasta caribou is usually insignificant” (Route et al. 1995:6).

Table 3. Nelchina caribou herd harvest quota and total State harvest (Robbins 2015, pers. comm., 2017, pers. comm., Schwanke and Robbins 2013, Tobey and Schwanke 2009, Tobey and Kelleyhouse 2007).

Regulatory Year	Harvest Quota	Bull Harvest	Cow Harvest	Total Harvest
2001		1,476	17	1,500
2002		1,326	6	1,344
2003		1,077	6	1,087
2004		1,166	93	1,265
2005		1,995	798	2,813
2006		2,142	930	3,090
2007		981	402	1,392
2008		994	370	1,372
2009		781	14	797
2010	2,300	1,708	721	2,439
2011	2,400	1,892	678	2,515
2012	5,500			4,429
2013	2,500			2,640
2014	3,000			2,818
2015	5,000			3,550
2016	N/A ^a			5,709

^a Initial harvest quota of 4,000 was lifted and no adjusted quota was announced

Table 4. Federal (FC1202) caribou harvest and permits issued in Unit 12 remainder (OSM 2016).

Regulatory Year	Permits Issued	Bulls Harvested	Cows Harvested	Unknown Sex Harvested	Total Harvest
1998	46	9	0	2	11
1999	206	32	0	0	32
2000	183	38	0	2	40
2001	40	0	0	0	0
2002	2	0	0	0	0
2003	102	13	0	0	13
2004	114	18	1	0	19
2005	78	6	10	0	16
2006	53	0	3	0	3
2007	88	11	5	2	18
2008	147	15	13	0	28
2009	110	17	0	2	19
2010	120	31	23	0	54
2011	103	37	9	0	49
2012	152	35	35	1	71
2013	113	15	21	0	40
2014	116	15	22	0	37
2015	126	14	35	0	49
2016	114	3	3	0	6
Average	106	16.26	9.47	0.47	26.58

Other Alternatives Considered

WRST staff recommended deferring action on this proposal pending review of the 1995 Mentasta Caribou Herd Cooperative Management Plan and the collaring of additional MCH caribou to ensure that an adequate number of collared animals are available for monitoring. The plan is more than 20 years old and overdue for review.

WRST staff also recommended considering only authorizing a harvest limit of up to 2 caribou and limiting the designated hunter possession limit to no more than 4 caribou. A 2 caribou harvest limit would be consistent with the harvest limit in Unit 13 and double the harvest limit in Unit 20E. Hunts in these adjacent units also target the NCH. Limiting the possession limit could help preclude wanton waste, avoiding the potential of overtaxing a single hunter to properly care for the meat.

Effects of the Proposal

If this proposal is adopted, the authority to set the caribou harvest limit up to 3 caribou for the winter season in Unit 12 remainder would be delegated to the Tetlin NWR Manager in consultation with WRST Superintendent, ADF&G area biologists, and Chairs of the Eastern Interior Council and Upper Tanana/Fortymile Fish and Game AC. For brevity, only the Tetlin NWR manager will be mentioned regarding delegated authority for the remainder of this section.

Harvest during this hunt is primarily from the NCH, which has exceeded State population objectives since 2010 and continues to increase. Concerns have been raised about population crashes and degradation of habitat resulting from overpopulation. Adoption of this proposal would aid in NCH management by allowing annual adjustments in the harvest limit in response to current NCH population levels. As mentioned by the proponent, overharvest of the NCH would not be a concern due to historically low harvest pressure in the area and because area land managers would discuss and agree upon the most appropriate harvest limit for a given year.

The Tetlin NWR manager already has delegated authority to announce the sex of the animals to be taken as well as the dates for the winter season, allowing for management flexibility and quick response to changing conditions. Adding harvest limit to their delegated authority would further increase management flexibility and response as well as decrease the administrative burden of completing special action requests (**Appendix 1**). In 2016, the Board approved Temporary Special Action WSA16-06 to increase the harvest limit to two caribou in Unit 12 remainder for the winter season. This request required a public hearing, Tribal and ANCSA corporation consultations, a full analysis and several rounds of review. A decision by the Board was not made until after the FC1202 hunt opened. Delegating authority to the Tetlin NWR manager to set the harvest limit would alleviate the need for future special action requests and also result in more timely management actions regarding harvest limits.

Adoption of this proposal would provide additional harvest opportunity for Federally qualified subsistence users by increasing the harvest limit when the NCH population exceeds State management objectives, which could result in more efficient hunts by allowing more meat to be harvested in one trip. An increased harvest limit could prove particularly useful during years when other subsistence resources such as the Fortymile caribou herd are relatively unavailable due to shifts in migration and wintering areas. Weather and snow conditions could hamper or enhance access and harvest for the Unit 12 remainder winter caribou hunt.

It is not possible to distinguish between Nelchina and Mentasta herd caribou. While the NCH is the herd targeted by this request, an unknown number of Mentasta herd caribou may be harvested. This concern has been addressed in the past by monitoring herd locations and waiting to open the season until a sufficient number of Nelchina caribou are in the area. As the Tetlin NWR manager already has delegated authority to open/close the season, it is expected that a season would not be opened unless the ratio of Nelchina:Mentasta caribou is high. Mixing ratios are determined by aerial surveys of radio-collared caribou. Tetlin NWR has committed to monitoring this ratio and to closing or suspending the hunt if the

ratio falls below 20 Nelchina:1 Mentasta caribou. While the MCH management plan does not specify an appropriate mixing ratio, the 20:1 ratio has been used to determine winter season openings by the Board since at least 2000 (OSM 2000). The MCH management plan suggests that incidental harvest of Mentasta caribou is usually minimal (Route et al. 1995).

However, given the small number of Mentasta caribou that are currently collared, monitoring could be difficult. Monitoring flights to determine mixing ratios and the location and movements of Mentasta caribou are contingent upon having adequate numbers of radio-collared caribou. Currently, there are at most 10 collared Mentasta caribou (Putera 2017, pers. comm). Lack of availability of the drugs used in the captures prevented WRST staff from collaring additional animals in 2016, and it is unclear whether the capture drugs needed for the collaring will be available in 2017 (Putera 2017, pers. comm.).

OSM PRELIMINARY CONCLUSION

Support Proposal WP18-54 with **modification** to remove the regulatory language referring to dates and sex of animal to be taken for the winter season, delegate authority to announce season dates, harvest limit, and sex of the animals to be taken via a delegation of authority letter only, and clarify that season dates and harvest limits will be announced prior to any season opening (**Appendix 1**).

The modified regulation should read:

Unit 12 – Caribou

Unit 12, remainder—1 bull

Sep. 1-20.

*Unit 12, remainder— **Up to 3** ~~caribou may be taken by a Federal registration permit (FC1202) during a winter season to be announced. Season dates and harvest limits to be announced prior to any season opening. Dates for a winter season to occur between Oct. 1 and Apr. 30 and sex of animal to be taken will be announced by Tetlin National Wildlife Refuge Manager in consultation with Wrangell-St. Elias National Park and Preserve Superintendent, Alaska Department of Fish and Game area biologists, and Chairs of the Eastern Interior Regional Advisory Council and Upper Tanana/Fortymile Fish and Game Advisory Committee~~ Winter season to be announced.*

Justification

Delegating authority to the Tetlin NWR manager in consultation with the WRST superintendent, ADF&G area biologist, and Chairs of the Eastern Interior and Southcentral Councils and Upper Tanana/Fortymile Advisory Committee to set the harvest limit for the FC1202 hunt increases management flexibility and

response. There are no conservation concerns as harvest limits will be established by local land managers in response to current conditions, namely NCH population levels.

Additionally, approval of this proposal will increase harvest opportunities for Federally qualified subsistence users when the NCH population exceeds State management objectives through increases in the caribou harvest limit.

Removal of regulatory language and creation of a delegation of authority letter for the Federal in-season manager will simplify regulations and allow for management flexibility through adjustment of in-season hunt parameters.

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Appendix 1

Refuge Manager
Tetlin National Wildlife Refuge
P.O. Box 779 MS 529
Tok, Alaska 99780

Dear Refuge Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the manager of the Tetlin National Wildlife Refuge 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 the population. This delegation only applies to the Federal public lands subject to Alaska National Interest Lands Conservation Act (ANILCA) Title VIII jurisdiction within Unit 12 remainder for the management of caribou on these lands.

It is the intent of the Board that actions related to management of caribou by Federal officials be coordinated, prior to implementation, with the Alaska Department of Fish and Game (ADF&G), Wrangell-St. Elias National Park and Preserve (WRST), the Chairs of the Eastern Interior Alaska and Southcentral Alaska Subsistence Regional Advisory Councils (Councils), and the Upper Tanana/Fortymile Fish and Game Advisory Committee (AC) to the extent possible. Federal managers are expected to work with managers from the State and other Federal agencies, the Council Chairs, and applicable Council members to minimize disruption to subsistence resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

1. Delegation: The Tetlin National Wildlife Refuge Manager is hereby delegated authority to issue emergency or temporary special actions affecting caribou on Federal public lands as outlined under the **Scope of Delegation** below. 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 dates for a winter season to occur between Oct. 1 and Apr. 30 as well as the harvest limit and sex of animals to be taken during the winter season for caribou in Unit 12 remainder.

This delegation may be exercised only when it is necessary to conserve caribou populations, to continue subsistence uses, for reasons of public safety, or to assure the continued viability of the population.

All other proposed changes to codified regulations, such as customary and traditional use determinations, adjustments to methods and means of take, customary trade, or closures and restrictions for take for only non-Federally qualified users shall be directed to the Federal Subsistence Board.

The Federal public lands subject to this delegated authority are those within Unit 12 remainder.

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 review special action requests or situations that may require a special action and all supporting information to determine: (1) consistency with 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 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 the Office of Subsistence Management (OSM) no later than sixty days after development of the document.

You will notify OSM and coordinate with local ADF&G biologists, WRST superintendent, and the Chairs of the Eastern Interior and Southcentral Councils and the Upper Tanana/Fortymile AC regarding special actions under consideration. 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 representatives. 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 representatives 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 Subsistence Regional Advisory 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, U.S. Fish & Wildlife Service, and the Department of the Interior.

Sincerely,

Anthony Christianson
Chair, Federal Subsistence Board

cc: Commissioner, Alaska Department of Fish and Game
Assistant Regional Director, Office of Subsistence Management
Deputy Assistant Regional Director, Office of Subsistence Management
Chair, Eastern Interior Alaska Subsistence Regional Advisory Council
Chair, Southcentral Alaska Subsistence Regional Advisory Council
Council Coordinator, Eastern Interior Alaska Subsistence Regional Advisory Council, Office of Subsistence Management
Council Coordinator, Southcentral Alaska Subsistence Regional Advisory Council, Office of Subsistence Management
Superintendent, Wrangell-St. Elias National Park and Preserve

Federal Subsistence Liaison Team Leader, Alaska Department of Fish and Game
Federal Subsistence Board
Interagency Staff Committee
Administrative Record

WP18–55 Executive Summary	
General Description	Proposal WP18–55 requests that the fall and winter moose seasons be extended from Aug. 24-Sept. 20 and Nov. 1-Feb. 28 to Aug. 20-Sept. 30 and Nov. 1-Apr. 30, in a portion of Unit 12. <i>Submitted by: Tetlin National Wildlife Refuge.</i>
Proposed Regulation	<p>Unit 12—Moose</p> <p><i>Unit 12—that portion within Tetlin National Wildlife Refuge and those lands within the Wrangell–St. Elias National Preserve north and east of a line formed by the Pickerel Lake Winter Trail from the Canadian border to Pickerel Lake- 1 antlered bull by Federal registration permit</i></p> <p>Aug. 24—Sept. 20 Aug. 20 – Sept. 30</p> <p>Nov. 1 – Feb. 28 Apr. 30</p>
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	

WP18–55 Executive Summary	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
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	3 Neutral

**DRAFT STAFF ANALYSIS
WP18-55**

ISSUES

Proposal WP18-55, submitted by Tetlin National Wildlife Refuge (NWR), requests that the fall and winter moose seasons be extended from Aug. 24-Sept. 20 and Nov. 1-Feb. 28 to Aug. 20-Sept. 30 and Nov. 1-Apr. 30, in a portion of Unit 12.

DISCUSSION

The proponent states that extending the fall and winter moose season in the portion of Unit 12 within Tetlin NWR and Wrangell-St. Elias National Preserve north and east of the Pickerel Lake Winter Trail, would align the fall season dates with the moose season in the southern hunt area of Unit 12 and Unit 20E, and would align the winter season closing date with the caribou season closing date in Unit 12 remainder. The proponent states that this would provide Federally qualified subsistence users with additional opportunity and would reduce user confusion in the unit. The proponent mentions that a majority of moose in the area winter at higher elevations and that harvest at this time is most likely incidental to hunting of caribou. This proposal would allow Federally qualified subsistence users to harvest moose while hunting for caribou during the winter season in Unit 12 remainder.

Existing Federal Regulation

Unit 12—Moose

Unit 12—that portion within Tetlin National Wildlife Refuge and those lands within the Wrangell –St. Elias National Preserve north and east of a line formed by the Pickerel Lake Winter Trail from the Canadian border to Pickerel Lake- 1 antlered bull by Federal registration permit *Aug. 24 – Sept. 20*
Nov. 1 – Feb. 28

Proposed Federal Regulation

Unit 12—Moose

Unit 12—that portion within Tetlin National Wildlife Refuge and those lands within the Wrangell –St. Elias National Preserve north and east of a line formed by the Pickerel Lake Winter Trail from the Canadian border to Pickerel Lake- 1 antlered bull by Federal registration permit ~~*Aug. 24 – Sept. 20*~~
Aug. 20 – Sept. 30
~~*Nov. 1 – Feb. 28*~~ *Apr. 30*

Existing State Regulation

Unit 12—Moose

<i>Unit 12, remainder</i>	<i>Residents—one bull</i>	<i>Aug. 24-Aug. 28</i> <i>Sept. 8-Sept. 17</i>
	<i>Nonresidents—One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side</i>	<i>Sept. 8-Sept. 17</i>

Extent of Federal Public Lands

Federal public lands comprise approximately 59.78% of Unit 12, and consist of 48.01% National Park Service (NPS) managed lands, 10.84% U.S. Fish and Wildlife Service (USFWS) managed lands, and 0.92% Bureau of Land Management (BLM) managed lands (**Figure 1**).

Customary and Traditional Use Determinations

Residents of Units 12, 13C, Dot Lake, and Healy Lake have a customary and traditional use determination for moose in that portion of Unit 12 that lies within the Tetlin NWR and those lands within the Wrangell-St. Elias National Preserve north and east of a line formed by the Pickerel Lake Winter Trail from the Canadian border to Pickerel Lake.

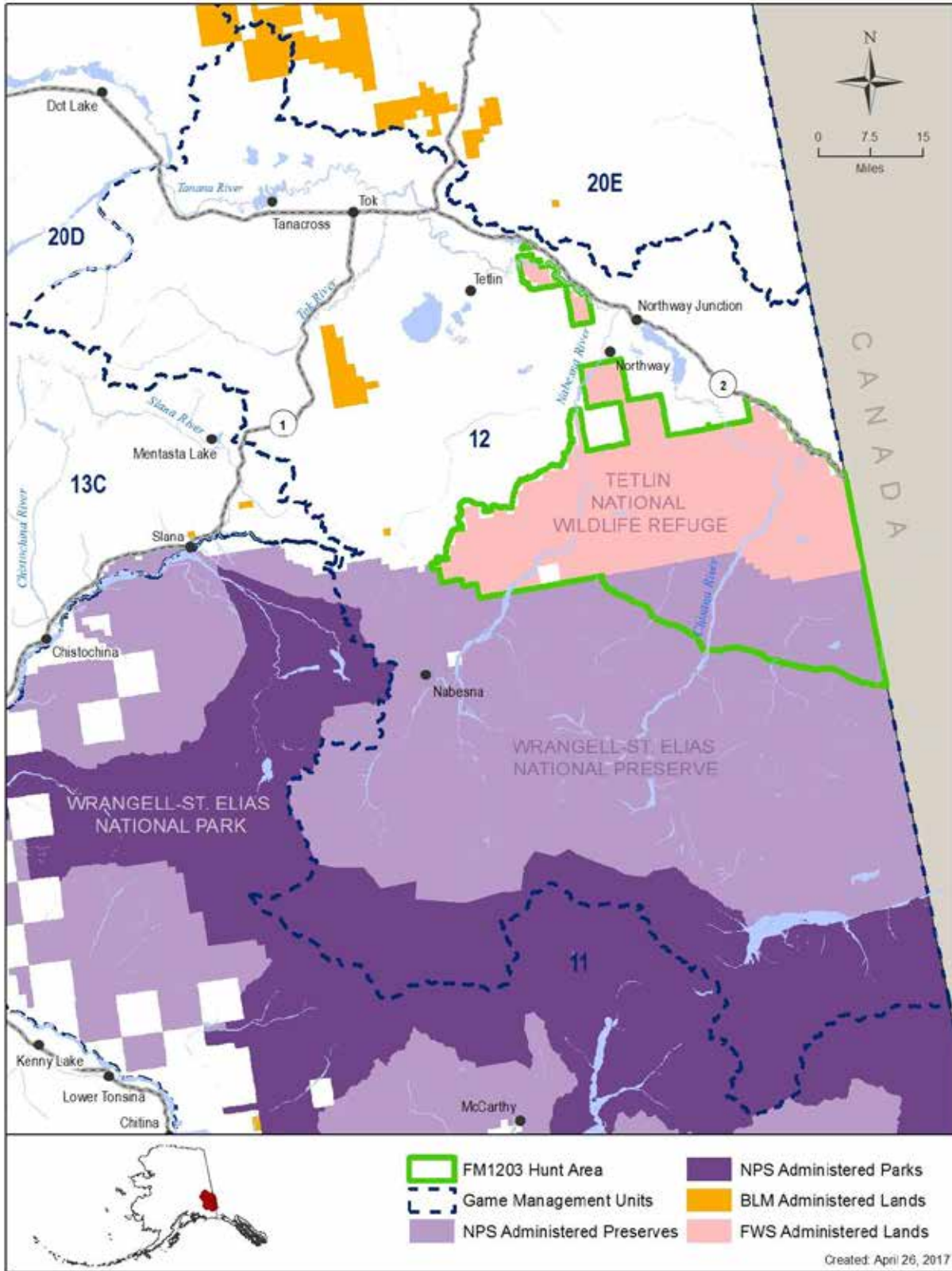


Figure 1. Federal public lands and the hunt area for FM1203 in Unit 12.

Regulatory History

Federal and State moose hunting regulations in Unit 12 have changed numerous times since 1989. The Federal seasons and harvest limits have most often been changed in response to the State's establishment, modification, and/or subsequent discontinuance of spike-fork seasons. State and Federal regulations for the remote hunt area south of the Pickerel Lakes Winter Trail remained consistent until the Alaska Board of Game (BOG) added the unit-wide Aug. 20-Aug. 28 spike-fork season in 1995, and the Federal Subsistence Board (Board) followed suit in 1996. In 1998, the BOG opened the Unit 12 spike-fork season on August 15 — five days earlier. In 1999, the Board aligned Federal regulations with the longer State season.

The BOG continued to modify moose regulations in Unit 12 throughout the 2000s. In March of 2000, the BOG adopted Proposal 38, submitted by the Alaska Department of Fish and Game (ADF&G), which changed the State's Unit 12 moose hunting season into a five day August season and a ten day September season. In March of 2012, the BOG adopted Proposal 186 with modification to change the hunting seasons and harvest limit of moose in Units 11 and 12. In Unit 12 this added a resident and nonresident bull (with antler restrictions) registration hunt (RM291) season from Aug. 20-Sept. 17 in a portion of the Nabesna River Drainage (Wells 2014). In 2017, the BOG adopted Proposal 88 which clarified the antler-restricted moose hunting area within the Tok River drainage.

Federal Regulations also changed multiple times since the year 2000. Due to conservation concerns expressed by ADF&G and staff of the Tetlin NWR, the Eastern Interior Subsistence Regional Advisory Council submitted Proposal WP01-41 requesting changes to the dates (from Aug. 15-Aug. 28 and Sept. 1-Sept. 15 to Aug. 24-Aug. 28 and Sept. 8- Sept. 17) of the fall season and the removal of the August spike-fork season from a portion of Unit 12. The Board adopted the proposed regulations for the 2001/02 regulatory year for the Tetlin National Wildlife Refuge hunt area portion of Unit 12.

Throughout the following years, the Board took action on many proposals concerning moose in Unit 12. In May 2003, the Board adopted Proposal WP03-45 with modification, which established new dates for the fall moose season (from Aug. 15-Aug. 28 and Sept. 1-Sept. 30 to Aug. 24-Sept. 30) and paralleled the State actions eliminating the spike-fork season, in that portion of Unit 12 east of the Nabesna River and the Nabesna Glacier and south of the Winter Trail running southeast from Pickerel Lake to the Canadian border (Unit 12 southern hunt area). The Board adopted Proposal WP06-59 in 2006 to clarify moose regulations in Unit 12. This proposal simplified the language for hunt area boundaries within the unit to reduce user confusion. In 2006, WP06-60 was also adopted with modification to eliminate the spike fork antler restriction in Unit 12 remainder during the Aug. 24-28 and Sept. 1-17 portion of the season while maintaining the restriction during the Aug. 15-23 season. In 2007, the Board adopted WP07-57 with modification, which requested a change in the winter season dates (from Nov. 20-Nov. 30 to Nov. 20-Dec. 10) in the FM1203 hunt.

The Board addressed multiple proposals concerning moose in Unit 12 during the 2012 regulatory cycle. The Board adopted Proposal WP12-71/72 with modification to extend the winter season in the Tetlin NWR hunt area portion of Unit 12 from Nov. 20-Dec. 10 to Nov.1-Feb. 28 and to extend the fall season from Aug. 24-Aug. 28 and Sept. 8-Sept. 17 to Aug. 24-Sept. 20, while also maintaining the Federal registration permit

requirement for the winter season. The same year, Proposal WP12-70/73 was also adopted with modification to align the Unit 11 and Unit 12 remainder moose seasons to Aug. 20-Sept. 20 and to create a joint-State Federal registration permit for a portion of Unit 11 (that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage) and Unit 12 remainder. In 2012, a Wildlife Special Action Request (WSA12-05) was submitted by Wrangell-St. Elias National Park and Preserve (WRST) to extend the moose season for the Batzulnetas Culture Camp by 31 days, changing the season end date from July 31 to August 31, 2012. This request was unanimously approved by the Board.

Biological Background

Habitat

Moose rely on willow and shrub habitats for browsing and for cover from predators and typically select areas with habitat heterogeneity (Maier et al. 2005) to meet their nutritional and shelter needs. Wildfire (the primary driver of boreal forest succession and habitat heterogeneity; Maier et al. 2005) frequency is forecast to increase as the Arctic climate warms, causing projected moose habitat to increase (Joly et al. 2012). Currently, moose have been found to occur in greater densities in areas where fire occurred within the past 11-30 years (Maier et al. 2005). Due to changes in climate, connectivity between moose populations is expected to increase as populations expand to make use of habitat expansion (Schmidt et al. 2008, Tape et al. 2016).

In Unit 12, moose typically inhabit areas below 4,500 feet with extensive river margin (Maier et al. 2005, Wells 2014, 2016). Approximately 6,000 mi² is categorized as suitable moose habitat within the unit, with approximately 5,250 mi² available in the winter and 6,572 mi² available in the summer (Wells 2014, 2016).

The landscape within the Tetlin NWR hunt area of Unit 12 contains large swaths of boreal forest, shrub and sedge meadows, and interspersed wetlands (Collins et al. 2005, Wells 2016). Shrub habitat is commonly found near water bodies and in recently burned areas (Collins et al. 2005). These areas are typically comprised primarily of willow, alder, and dwarf birch species (Collins et al. 2005). Shrub habitat can also be found above 4,000 feet, in gullies that drain subalpine tundra (Collins et al. 2005). These higher elevation habitat areas attract higher concentrations of moose during fall and early winter, following the rut (Collins et al. 2005).

Ecosystems can be modified by moose foraging (Maier et al. 2005, Schmidt et al. 2008) and thus, habitat and browse surveys are an important component of wildlife monitoring and management. In Unit 12 browse surveys have been periodically conducted since the 1970s (Wells 2014). Although fire suppression led to many areas of potentially good moose habitat becoming dominated by spruce forest, browse surveys have shown that use of preferred browse species in the unit is low relative to availability (Wells 2014). During these surveys it was noted that early successional species of browse were used far more than species in undisturbed areas. Habitat was not found to be a limiting factor on the moose population in Unit 12 (Wells 2014).

A fire management plan was developed by ADF&G in 2013 and Tetlin NWR developed a fire management plan in 2001. In 2003, a 40,000 acre wildfire burned on the Tetlin NWR (ADF&G 2017a). That portion

of the refuge would now fall into the 11-30 year post fire timeframe that moose prefer. Prescribed burns have not taken place over the last few years, but many wildfires have occurred over the past 10 years (**Figure 2**; Bayless 2017, pers. comm.). Since 2010, there have been wildfires in three locations on the refuge (Bayless 2017, pers. comm.): on either side of the Upper Chisana River (2013 and 2015) and southeast of Northway (2016).

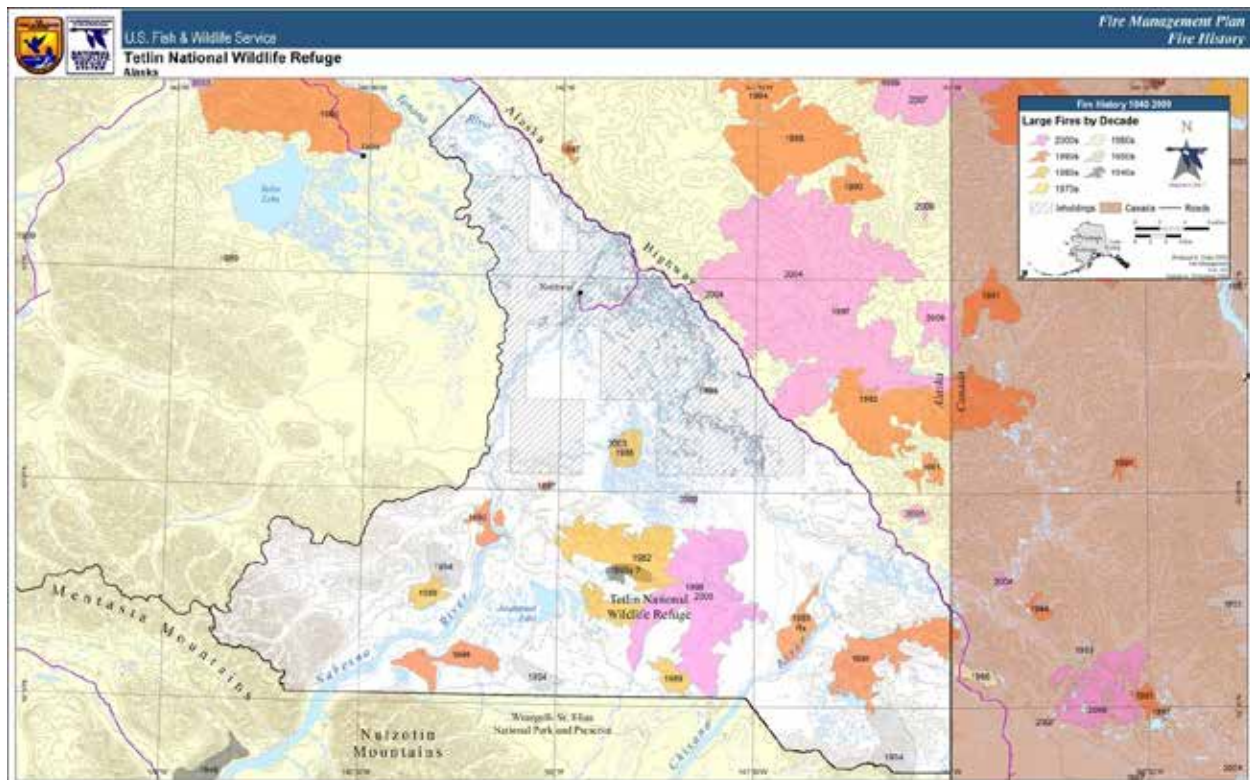


Figure 2. Major wildfires that took place on and adjacent to Tetlin National Wildlife Refuge between 1940 and 2009 (Bayless 2017, pers. comm.).

Population Management

State moose management goals for Unit 12 include protecting the moose population in conjunction with ecosystem function, maintaining subsistence use of moose, maximizing moose hunting opportunities, and maximizing nonconsumptive use opportunities for moose (Wells 2014, 2016). The State management objective for moose in Unit 12 is to maintain a post hunt ratio of 40 bulls:100 cows east of the Nabesna River and a bull:cow ratio of 25:100 in the remainder portion of the unit (Wells 2014, 2016).

Management goals pertaining to moose, developed by the Tetlin NWR in the Comprehensive Conservation Plan, include continuing surveys to monitor population trends, distribution, and habitat needs of moose on, and adjacent to, the refuge (USFWS 2008). Moose are an important subsistence resource for communities of the Upper Tanana Valley and other area residents (Collins et al. 2005), with moose being the preferred red meat resource in many households in Northway and the most available source of red meat for communities in the eastern upper Tanana Valley (Godduhn and Kostick 2016).

Tetlin NWR began collaborating with ADF&G to collect moose population data shortly after the refuge was established in 1981 (Collins et al. 2005: 3). An estimate of 4,300-5,600 moose was determined in 2008 using fall Geospatial Population Estimation (GSPE) survey data (ADF&G 2017a). This is a slight increase from the 2003 estimate of 2,900-5,100 moose (ADF&G 2017a). Moose densities vary widely throughout the unit, ranging from approximately 0.03 moose/mi² in Northway Flats to >2 moose/mi² by the north side of the Nutzotin Mountains (ADF&G 2017a).

Region and habitat specific surveys have been conducted since the unit-wide 2008 population survey (**Table 1**), with unit-wide estimates being extrapolated from regional data. The Tetlin NWR portion (included in the southeastern Unit 12 survey area; **Figure 3**) of Unit 12 was surveyed in November of 2012 along with the northern and northwestern sections (excluding WRST) of the unit. The GSPE surveys conducted in these areas produced an estimate of 4,773 moose present in these Unit 12 survey areas (Wells 2014). This data was then extrapolated to the rest of the 6,000 mi² of estimated moose habitat within Unit 12 to develop an estimate of 4,883-6,571 (0.8-1.1 moose/mi²) observable moose (Wells 2014). Similarly, data collected throughout the unit from 2010-2014 was summarized to develop a unit-wide observable November population estimate of 4,492-6,444 moose (Wells 2016). Surveys are only conducted in each survey area approximately every three or four years, which can make it difficult to determine and respond to population trends in a timely manner (Wells 2016). Additionally, moose population surveys have not taken place on Tetlin NWR in the last five years due to inadequate survey conditions (Bayless 2017, pers. comm.). Moose densities appear to have been relatively stable within the southeastern and northwestern survey areas since 2008 and are expected to remain stable throughout most of the unit (ADF&G 2017a, Wells 2016).

The current unit-wide bull:cow ratios are above the management goals of 40:100 east of the Nabesna River and 25:100 in the remainder of the unit (ADF&G 2017a, Wells 2016). A majority of the moose harvest takes place near the highway system and the Tok, Little Tok, and Tanana rivers due to easy access. In these heavily hunted areas the bull:cow ratio dropped to 20-40 bulls:100 cows in the past, but this ratio has improved since antler restrictions were put in place in portions of the unit (ADF&G 2017a). The last composition survey conducted in the Tetlin NWR survey area (Southeastern Unit 12) was in 2012 when the bull:cow ratio was estimated at 52 bulls:100 cows, which is a decrease from 89 bulls:100 cows for the survey area in 2003 (**Table 2**; Wells 2014). Similarly, the calf:cow ratio also decreased from 33 calves:100 cows to 18 calves:100 cows from 2003 to 2012 (Wells 2014). According to Stout (2010) population guidelines, a ratio of less than 20 calves:100 cows may indicate the population is in decline while a ratio of 20-40 calves:100 cows may indicate a stable population.

Table 1. Unit 12 moose population estimates from 2003-2014. The sightability correction factor (SCF) used for 2003-2006 was a factor of 1.25 and a factor of 1.20 for the years 2008-2012 (Wells 2014). No SCF was available for the Chisana survey area in 2014 (Wells 2016).

Survey Area	Year	Population Estimate (±90% CI)	Population Estimate with SCF	Moose/mi ² w/SCF
Northwestern Unit 12	2003	3,064 (±35%)	3,830	1.35
	2005	2,129 (±15%)	2,661	0.94
	2006	2,317 (±18%)	2,896	1.07
	2008	3,225 (±18%)	3,870	1.43
	2012	3,058 (±12%)	3,670	1.36
Southeastern Unit 12	2003	1,317 (±19%)	1,646	0.56
	2004	1,272 (±20%)	1,590	0.54
	2008	1,843 (±20%)	2,212	0.75
	2012	1,613 (±17%)	1,936	0.66
Nabesna Road	2011	1,272 (±17%)	1,526	0.95
Chisana Alaska Portion	2014	673 (±23%)	---	---

Table 2. Fall aerial moose composition counts for Unit 12 from 2003-2014 (Wells 2014, 2016).

Survey Area	Year	Bulls:100 Cows	Calves:100 Cows	Percent Calves	Calves Observed	Adults Observed
Northwestern Unit 12	2003	25	32	19	111	464
	2005	22	30	18	69	315
	2006	37	41	21	185	688
	2008	46	35	20	218	899
	2012	29	27	16	133	650
Southeastern Unit 12	2003	89	33	16	89	475
	2004	70	48	20	89	351
	2008	62	24	13	81	552
	2012	52	18	9	65	634
Nabesna Road	2011	34	27	14	75	476
Chisana Alaska Portion	2014	50	11	---	---	---

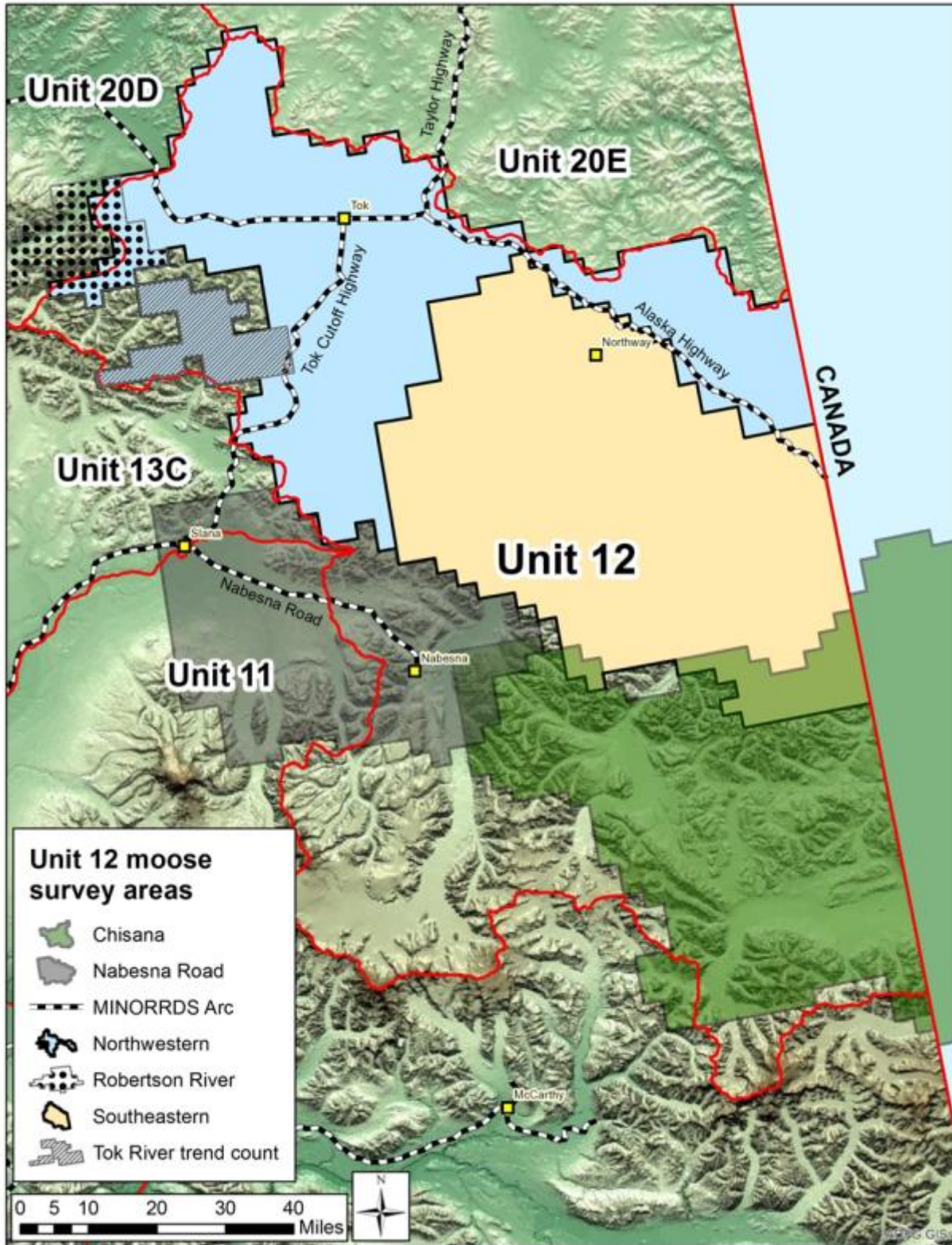


Figure 3. Survey areas used by ADF&G for moose surveys in Unit 12. Map is from Wells (2016).

Harvest History

The State sustainable harvest rate for moose in Unit 12 is 3-4% (Wells 2014). Most of the unit is difficult to access, especially within the Tetlin NWR, which leads to those areas near roads and rivers receiving higher harvest than the rest of the unit. An average of 132 moose have been harvested annually over the last ten years, with 163 moose being harvested in 2015, the last year for which data are available (**Table 3**; ADF&G 2017b). This falls within the State sustainable harvest rate for the unit. Only one cow moose was reported harvested during the fall and winter seasons in this ten year period, due to regulatory restrictions that only allow bull harvest and include antler restrictions, although an average of four cow moose were taken annually between 2011 and 2014 for potlatch use (Wells 2016). In 2015, approximately 30% of the moose harvest was taken by local Unit 12 users (**Figure 4**; ADF&G 2017b). It is important to note that some nonlocal (those residing outside of Unit 12) resident users also have a cultural and traditional use determination for portions of Unit 12 and therefore some of the nonlocal resident harvest may have also been from Federally qualified subsistence users for each of the hunt areas.

Table 3. All moose harvest in Unit 12 from 2006 through 2015 according to ADF&G harvest reports (ADF&G 2017b).

Year	Species	Local Resident Harvest	Nonlocal Resident Harvest	Total Resident Harvest	Non-Resident Harvest	Unknown Residency Harvest	Total Harvest	Bulls Harvested	Cows Harvested	Unknown Gender
2015	Moose	49	78	127	34	2	163	162	0	1
2014	Moose	59	72	131	38	0	169	169	0	0
2013	Moose	35	39	74	25	1	100	99	0	1
2012	Moose	33	59	92	34	1	127	124	0	3
2011	Moose	45	40	85	27	0	112	112	0	0
2010	Moose	44	47	91	18	0	109	109	0	0
2009	Moose	57	59	116	26	3	145	142	1	2
2008	Moose	55	53	108	49	0	157	157	0	0
2007	Moose	52	46	98	24	0	122	121	0	1
2006	Moose	45	44	89	26	2	117	117	0	0
Total:		474	537	1011	301	9	1321	1312	1	8
Average:		47.4	53.7	101.1	30.1	0.9	132.1	131.2	0.1	0.8

Currently harvest tickets are mandatory within Unit 12 when State or Federal registration permits are not required. These harvest tickets require users to submit a harvest report to track harvest throughout the unit. To increase the reporting rate for harvest tickets, ADF&G sends reminder letters to users who did not initially report their harvest (Wells 2014). The State also conducts community household surveys in local communities, which helps assess unreported harvest.

A community household survey was completed in Unit 12 for 2011 in Tok. Based on this survey, 48 moose were recorded as being harvested by Tok residents (ADF&G 2011). This is greater than the overall harvest recorded (45 moose) in harvest reports for all local users in Unit 12. Due to only 26% of Tok households being surveyed, the State used a conversion factor to develop an estimated harvest of 187 moose taken by Tok residents, some of which may not have been harvested in Unit 12 (ADF&G 2011,

Holen et al. 2012). The most recent community household survey for Northway was completed for 2014. Ninety six percent of Northway households reported using moose meat in 2014 (Godduhn and Kostick 2016). An estimated 23 moose were recorded as harvested by Northway residents during this survey with 20 of these moose being harvested in September (Godduhn and Kostick 2016).

There is currently a Federal registration hunt (FM1203) for the Tetlin NWR hunt area. On average, 55 permits are issued annually with 22 users actually hunting (**Table 4**; USFWS 2017). The average annual harvest during this Federal registration hunt is approximately two moose. The communities of Tok and Northway take part in the FM1203 hunt more than any other community (**Table 5**; USFWS 2017).

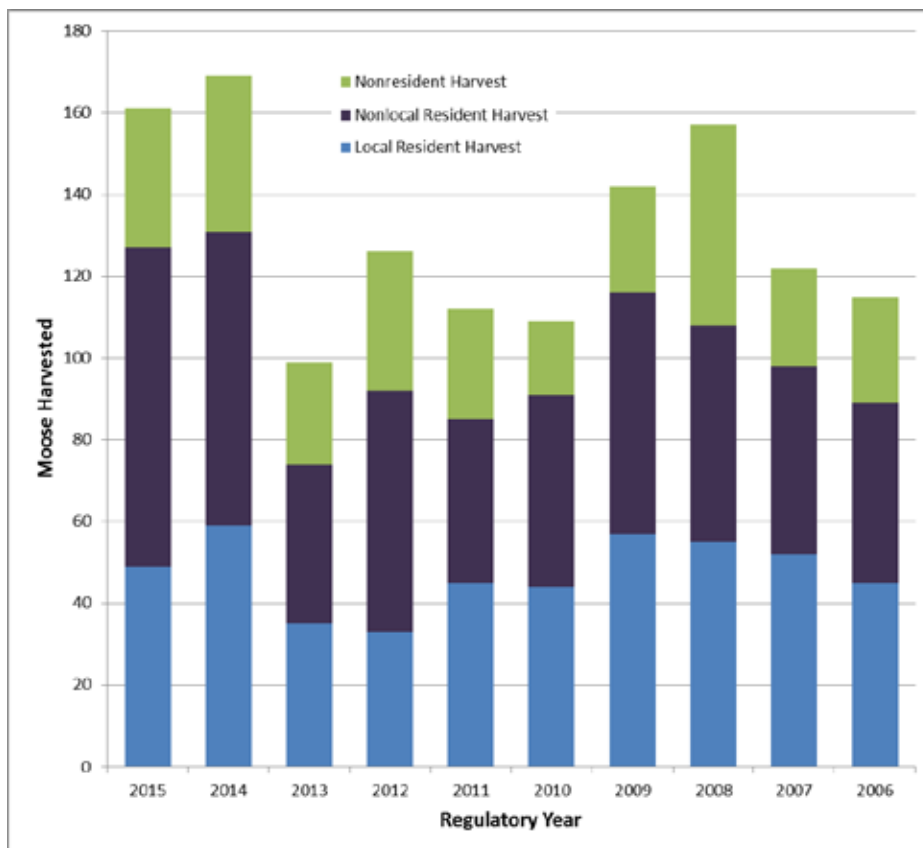


Figure 4. Moose harvest in Unit 12 broken down by user residency from 2006-2015 according to ADF&G harvest reports (ADF&G 2017b).

Table 4. Moose harvest for the FM1203 Federal registration permit in Unit 12 by year for 2006-2015 (USFWS 2017).

Year	Species	FM1203 Permits Issued	Number Who Hunted	Total Harvest	Bulls Harvested	Cows Harvested	Unknown Harvested	Percent Success
2015	Moose	97	28	4	4	0	0	14.30%
2014	Moose	84	36	3	1	0	1	8.30%
2013	Moose	95	46	5	4	0	0	10.90%
2012	Moose	101	51	2	2	0	0	3.90%
2011	Moose	25	8	3	3	0	0	37.50%
2010	Moose	30	12	1	1	0	0	8.30%
2009	Moose	20	9	0	0	0	0	0%
2008	Moose	46	12	0	0	0	0	0%
2007	Moose	41	9	0	0	0	0	0%
2006	Moose	11	4	0	0	0	0	0%
TOTAL		550	215	18	15	0	1	

Table 5. Moose harvest by community for the FM1203 Federal registration permit in Unit 12 for 2006-2015 (USFWS 2017).

Res Comm	Unit	FM1203 Permits Issued	Individuals Who Hunted	Total Harvest	Bulls Harvested	Cows Harvested	Unknown Harvested	Percent Success
UNKNOWN	---	4	1	0	0	0	0	0%
BORDER	12	10	7	0	0	0	0	0%
NABESNA	12	2	2	0	0	0	0	0%
TOK	12	259	99	13	12	0	0	13.10%
TETLIN	12	1	0	0	0	0	0	---
CHISANA	12	1	0	0	0	0	0	---
NORTHWAY	12	267	104	5	3	0	1	4.80%
SLANA	13	2	0	0	0	0	0	---
MENTASTA LAKE	13	2	2	0	0	0	0	0%
GLENNALLEN	13	1	0	0	0	0	0	---
FAIRBANKS	20	1	0	0	0	0	0	---
TOTAL		550	215	18	15	0	1	

Effects of the Proposal

If adopted, this proposal would extend the moose season and increase harvest opportunity for Federally qualified subsistence users.

If adopted, this proposal would align the fall season with the Unit 20E season and the fall season end date with the Unit 12 hunt area south of the hunt area being addressed, but it would misalign the FM1203 moose season with the Unit 12 remainder hunt area which completely surrounds the northern portion of the FM1203 hunt (**Figure 5**). Currently the Federal Unit 12 remainder and the Unit 12 FM1203 fall hunt end dates align.

If adopted, this proposal would also create parallel winter season end dates with the FC1202 caribou season, which could reduce user confusion and would allow Federally qualified subsistence users to harvest caribou and moose opportunistically. This would increase opportunities for users and decrease time and resources spent to harvest moose and caribou in the same season.

The average harvest by users using the FM1203 Federal registration permit since 2012, when the season was extended, is only three-and-a-half moose annually. Although community household surveys show that much of the harvest is unreported throughout the unit, harvest reporting during the FM1203 hunt should be more accurate due to the requirement of a Federal registration permit. Due to these factors, it is unlikely that the extension of the season as requested would have a significant negative impact on the moose population in Unit 12. Extending the season into spring when days are longer and temperatures are more moderate may result in increased user participation and harvest, however.

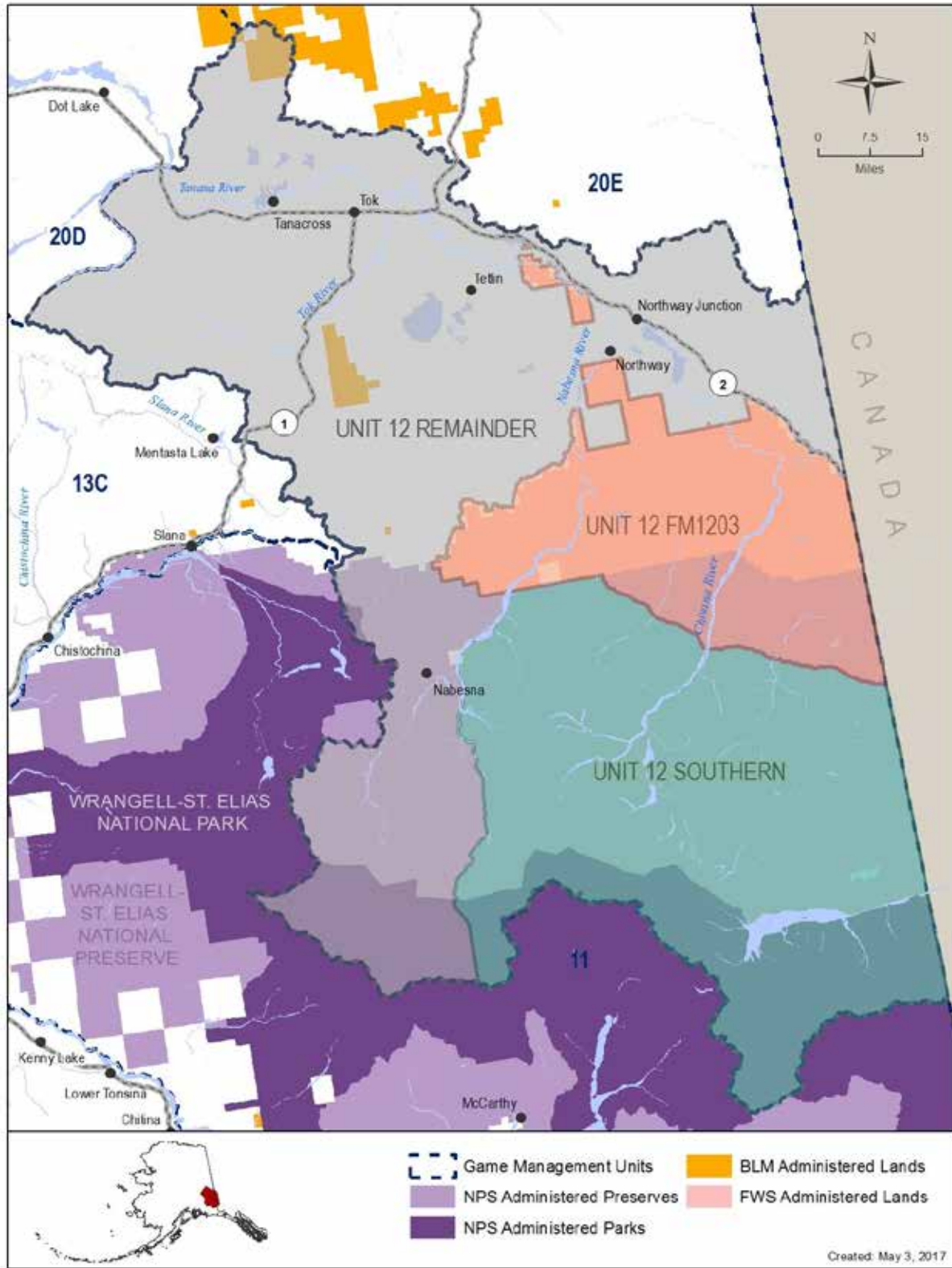


Figure 5. Federal hunt areas located in Unit 12.

OSM PRELIMINARY CONCLUSION

Support Proposal WP18-55.

Justification

This proposal is not likely to have a significant impact on the moose population. Few moose are harvested by Federally qualified subsistence users during this Federal registration hunt. Antlered bulls migrate to areas that provide limited accessibility to users during the harvest season. It is unlikely that harvest will increase dramatically by lengthening the harvest season as proposed.

By creating parallel winter season end dates with the FC1202 caribou season, user confusion may be reduced and Federally qualified subsistence users will be able to harvest caribou and moose at the same time. This would increase opportunities for users and decrease time and resources spent to harvest subsistence food sources.

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WRITTEN PUBLIC COMMENTS



Ahtna Intertribal Resource Commission

dba/Copper River-Ahtna Inter-Tribal
Resource Conservation District
PO Box 613
Glennallen, Alaska 99588
907-822-8154
contact@ahtnatribal.org

July 26, 2017

Chairperson of Federal Subsistence
Board or his Designated Field Officer
Office of Subsistence Management
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199

Dear Mr. Christensen or Designated Field Officer:

Enclosed are Ahtna Inter-Tribal Resource Commission's (AITRC) comments on 2018-2020 Federal Wildlife proposals. Please consider our viewpoint on wildlife proposals, when decisions are made on federal wildlife regulations.

Sincerely,

A handwritten signature in black ink that reads 'Shirley Smelcer'.

Shirley Smelcer, Chairperson of CRITR

Eastern Interior Subsistence Regional Advisory Council

WP18-50 Extend season [Unit 11 moose]

We do not support WP18-50, we support WP18-17. See comments under WP18-17.

WP18-51 Statewide – Modify baiting restrictions to align State regulations

We support WP18-51 to modify bait regulations to align with State regulations. Federal regulations are more restrictive than State regulations. Adding skinned carcasses of furbearers and fur animals, small game, with the exception of the meat of birds, to bait bear regulations will align State and Federal regulations, provide more opportunities for federal subsistence hunters who use bait stations to harvest bears.

Traditional use of grease, parts of wild game, and other methods of harvesting bears at bait stations would occur, hunters who use bait stations would have an improved chance of harvesting a bear with more options to choose from to use as bait.

WP18-54 – Increase harvest limit and Delegate Authority to set harvest limit for [Unit 12 caribou] to be announced winter season

We do not support WP18-54 to change Unit 12 Caribou regulations to “up to 3 caribou” may be taken with a federal registration permit. This will increase the take of caribou beyond sustainable limits and will stress the herd in its winter range. We have seen overharvest of caribou in the past with liberal bag limit that has taken decades to recover. This is not a wise proposal and we oppose it..

WP18-55 Extend Winter and fall season [Unit 12 moose]

Unit 12 Moose

That portion within Tetlin National Wildlife Refuge Aug. ~~24~~ 20 - Sept. ~~29~~ 30

and those lands within the Wrangell-St. Elias National

Preserve north and east of a line formed by the

Pickeral Lake Winter Trail from the Canadian border

to Pickerel Lake – 1 antlered bull by Federal registration Nov. 1 - ~~Feb-28~~ Apr. 30

permit (FM1203)

We are neutral on WP18-55 to extend Unit 12 Moose season to allow longer hunting opportunity.



AK Subsistence, FW7 <subsistence@fws.gov>

Proposal 18-55

1 message

Charlotte <cenorthway@yahoo.com>
To: subsistence@fws.gov

Fri, Aug 4, 2017 at 11:49 PM

This comment is in regards to proposal 18-55 to expand the season two weeks for moose hunting to match unit 20. Please consider more important factors in your decision than matching seasons such as: 1) actual annual moose count trends, 2) ability of the Refuge to patrol, & 3) increased hunting by locals in the future due to Alaska's difficult economic conditions. These factors must be considered before a matching of seasons. Thank you.

Charlotte Brinkman
Northway/Scotty Creek/Tok

Sent from my iPhone



AK Subsistence, FW7 <subsistence@fws.gov>

Moose

1 message

esther frykman <wagon_girl@hotmail.com>

Fri, Aug 4, 2017 at 11:52 PM

To: "subsistence@fws.gov" <subsistence@fws.gov>

This comment is in regards to proposal 18-55 to expand the moose hunting season within the Refuge in Unit 12 to match Unit 20. The expansion of a season should also consider actual annual moose counts, patrolling ability by the Refuge, and increasing hunting to moose numbers by local communities in the future due to economic conditions instead of matching seasons. Please consider these additional factors before expanding the season. Thank you.
Signed, Esther Frykman

Sent from my iPhone

WP18–56 Executive Summary	
General Description	Proposal WP18-56 requests that the Arctic Village Sheep Management Area in Unit 25A be open to the harvest of sheep by non-Federally qualified users. <i>Submitted by: Richard Bishop of Fairbanks, Alaska.</i>
Proposed Regulation	<p>Unit 25A—Arctic Village Sheep Management Area</p> <p><i>2 rams by Federal registration permit only. Aug. 10–Apr. 30</i></p> <p><i>Federal public lands are closed to the taking of sheep except by rural Alaska residents of Arctic Village, Venetie, Fort Yukon, Kaktovik, and Chalkyitsik hunting under these regulations.</i></p>
OSM Preliminary Conclusion	Oppose
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	

WP18–56 Executive Summary	
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	
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	51 Support

**DRAFT STAFF ANALYSIS
WP18-56**

ISSUES

Proposal WP18-56, submitted by Richard Bishop of Fairbanks, Alaska, requests that the Arctic Village Sheep Management Area (AVSMA) in Unit 25A be open to the harvest of sheep by non-Federally qualified users.

DISCUSSION

The proponent states that the restriction of sheep hunting to only residents of a few communities (Arctic Village, Chalkyitsik, Fort Yukon, Kaktovik, and Venetie) is not necessary to accommodate local subsistence uses, and that residents of these communities do not hunt sheep in the AVSMA. The proponent also states that sheep hunting opportunity on Federal public lands in the AVSMA should be open to the public under State hunting regulations because there is no biological or subsistence related reasons to preclude sheep hunting opportunities by the public in the AVSMA.

Federal closures to the harvest of sheep in the AVSMA by non-Federally qualified users have been in effect since 1991. The closure was expanded in 1995 to include Cane Creek and Red Sheep Creek drainages but was rescinded in these drainages for the 2006 to 2011 regulatory years between Aug. 10 and Sept. 30 each year. The last time the Federal Subsistence Board (Board) received a proposal to rescind the closure in the entire AVSMA was 2006 (WP06-57).

Existing Federal Regulation

Unit 25A — Sheep

Unit 25A — Arctic Village Sheep Management Area

2 rams by Federal registration permit only.

Aug. 10–Apr. 30

Federal public lands are closed to the taking of sheep except by rural Alaska residents of Arctic Village, Venetie, Fort Yukon, Kaktovik, and Chalkyitsik hunting under these regulations.

Proposed Federal Regulation

Unit 25A — Sheep

Unit 25A—Arctic Village Sheep Management Area

2 rams by Federal registration permit only.

Aug. 10–Apr. 30

~~Federal public lands are closed to the taking of sheep except by rural Alaska residents of Arctic Village, Venetie, Fort Yukon, Kaktovik, and Chalkyitsik hunting under these regulations.~~

Existing State Regulations

Unit 25 Sheep

Unit 25A, east of the Middle Fork Chandalar River

Residents, One ram with full-curl horn or larger HT Aug. 10–Sept. 20

Or

Three sheep by permit available online at <http://hunt.alaska.gov> or in person in Fairbanks and Kaktovik beginning Sept. 14. The use of aircraft for access to hunt sheep and to transport harvested sheep is prohibited in this hunt except into and out of the Arctic Village and Kaktovik airports. No motorized access from the Dalton Highway. RS595 Oct. 1–Apr. 30

Nonresidents, One ram with full-curl horn or larger every four regulatory years. HT Aug. 10–Sept. 20

5 AAC 92.003 Hunter education and orientation requirements.

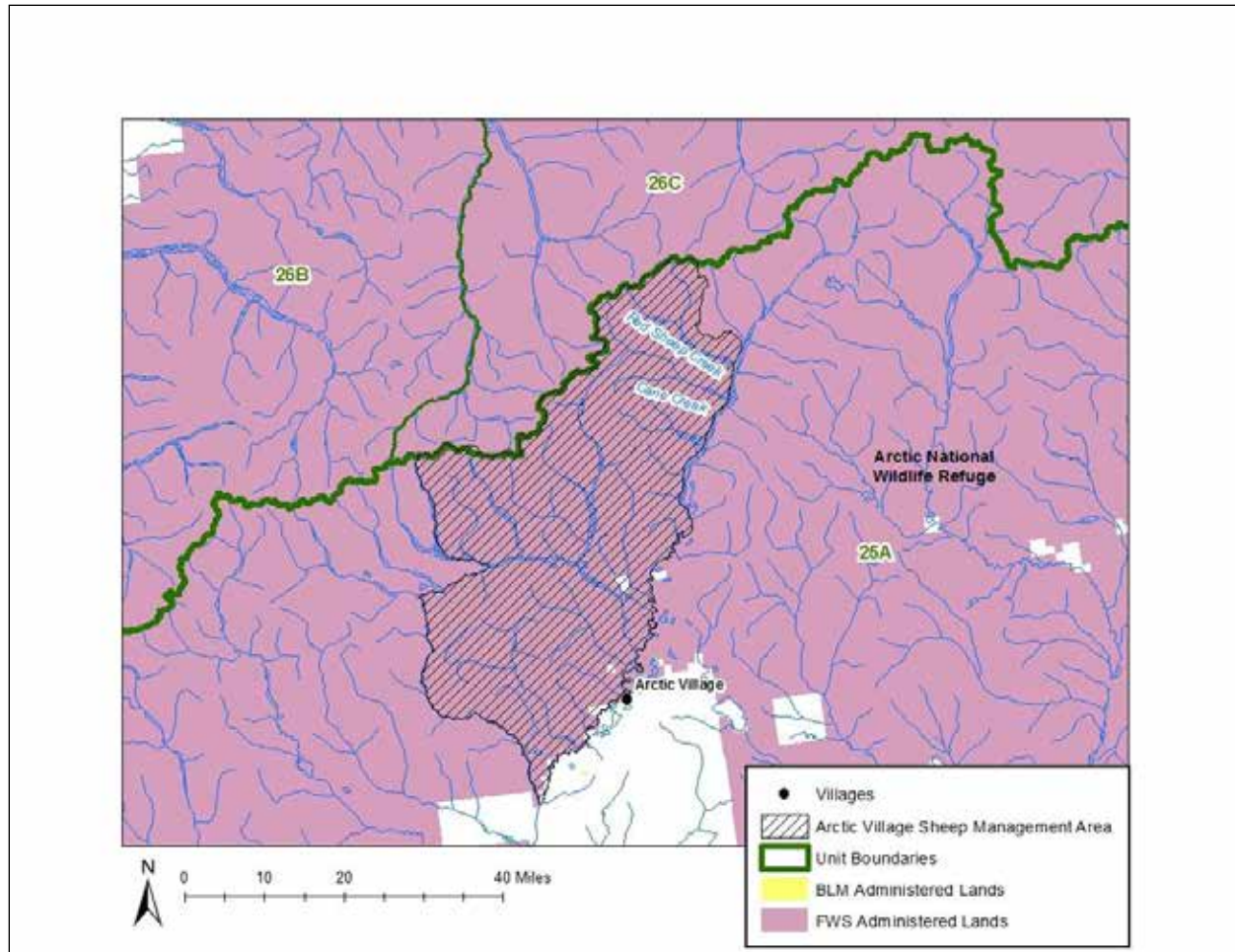
(i) Before a person hunts within the Red Sheep Creek/Cane Creek portion of the Arctic Village Sheep Management Area of Unit 25A, that person must possess proof of completion of a department-approved hunter ethics and orientation course, including land status and trespass information.

Extent of Federal Public Lands

Federal public lands comprise approximately 99% of the Arctic Village Sheep Management Area in Unit 25A and consist of U.S. Fish and Wildlife Service managed lands. These Federal public lands are within the Arctic National Wildlife Refuge (**Map 1**).

Customary and Traditional Use Determination

Rural residents of Arctic Village, Chalkyitsik, Fort Yukon, Kaktovik, and Venetie have a customary and traditional use determination for sheep in Unit 25A.



Map 1. The Arctic Village Sheep Management Area in Unit 25A.

Regulatory History

Knowledge of regulatory history necessary to analyze Proposal WP18-56 is extensive. It is described in **Appendix A**.

Biological Background

Sheep populations across the eastern Brooks Range of Alaska have appeared relatively stable at low densities since the late 1990s (Caikoski 2014). However, geographic barriers such as large valleys and rivers naturally limit sheep movements and distribution, resulting in discrete subpopulations (Arthur 2013, Caikoski 2014). Therefore, repeated, fine-scale surveys are necessary to understand sheep population status and trends in a specific area such as the AVSMA.

State management goals and objectives for sheep in Unit 25A (Caikoski 2014) include:

Protect, maintain, and enhance the sheep population and its habitat in concert with other components of the ecosystem.

- Provide for continued general sheep harvest and subsistence use of sheep.
- Provide an opportunity to hunt sheep under aesthetically pleasing conditions.
- Maximize hunter opportunity using a full-curl harvest strategy.
- Maintain an average harvest of rams ≥ 8 years old.

Arctic National Wildlife Refuge conducts periodic aerial sheep surveys of the AVSMA and surrounding areas. Due to differences in survey areas, comparisons across years are difficult. Sheep densities within the AVSMA have generally been low compared to other areas in the Brooks Range, which is likely due to poor habitat quality (Payer 2006 in OSM 2014a). Within the AVSMA, sheep densities north of Cane Creek have been much higher than sheep densities south of Cane Creek (Mauer 1990 in OSM 2014a, Wald 2012). This is probably related to shale formations that are more common north (versus south) of Cane Creek, which support more vegetation and therefore more sheep (Smith 1979 in OSM 2014a). The presence of mineral licks south of Cane Creek also influences sheep densities as most sheep observed by Mauer (1996) and Payer (2006) were clustered around such licks (OSM 2014a).

In 1991, AVSMA sheep densities north and south of Cane Creek averaged 2.25 sheep/mi² and 0.2 sheep/mi², respectively (Mauer 1996 in OSM 2014a). In 2006, AVSMA sheep density north of Cane Creek averaged 1.7 sheep/mi² (Wald 2012). The observed decline in density is thought to be weather related (OSM 2014).

The AVSMA sheep population likely declined between 2012 and 2015 due to several years of poor lamb production and severe winters (particularly the winters of 2012-13 and 2013-14). In 2012, surveys within and near the AVSMA indicated an average sheep density of 0.79 sheep/mi² and 27 lambs:100 ewes (Arthur 2017, pers. comm.). Density north and south of Cane Creek ranged from 1.5–1.8 sheep/mi² and 0.25–0.7 sheep/mi², respectively (Wald 2012). In 2015, estimated sheep density for the same areas averaged 0.67 sheep/mi² and the lamb:ewe ratio was 34 lambs:100 ewes. The 2015 survey also indicated a decline in rams of all age classes (Arthur 2017, pers. comm.).

In 2016, a larger area was surveyed, including the Hulahula River drainage in Unit 26C, which contains higher sheep densities than the AVSMA. While the 2016 overall sheep density averaged 0.86 sheep/mi², density within the AVSMA was likely 0.70-0.75 sheep/mi² (Arthur 2017, pers. comm.). The ram:ewe ratio for the entire survey area averaged 28 rams:100 ewes. Due to improved lamb production in 2015 and 2016 (>30 lambs:ewe), the AVSMA sheep population has likely not declined below 2015 levels and may be increasing. However, it will be at least 3–5 years before an increase in mature (8+ year old) rams are observed in the AVSMA sheep population (Arthur 2017, pers. comm.).

Cultural Knowledge and Traditional Practices

The AVSMA was traditionally occupied by *Netsi Gwich'in* who occupied the northern reaches of the East Fork Chandalar, Koness, and Sheenjek Rivers. By the 1930s most *Netsi Gwich'in* were living in three semi-permanent settlements of Arctic Village, Christian Village, and Venetie, and traditional land use remained largely intact (McKenna 1965). In the past, *Netsi Gwich'in* relied upon sheep as a food source primarily in late summer or whenever caribou were scarce (Hadleigh-West 1963). Hadleigh-West (1963) identified four very specific sheep hunting areas used by Arctic Village residents along the Junjik River, East Fork Chandalar River, Cane Creek, and Red Sheep Creek.

The customary and traditional use determination for sheep in Unit 25A, including the AVSMA, consists of five communities with a total population of roughly 1,200 people according to the 2010 U.S. Census (Table 1).

Table 1. The population of communities in the customary and traditional use determination for sheep in Unit 25A, 1960-2010.

Community	U.S. Census					
	1960	1970	1980	1990	2000	2010
Arctic Village	110	85	111	96	152	152
Chalkyitsik	57	130	100	90	83	69
Fort Yukon	701	448	619	580	595	583
Kaktovik		123	165	224	293	239
Venetie	107	112	132	182	202	166
Total	975	898	1,127	1,172	1,325	1,209

Source: ADCCED 2017.

Of the five communities with recognized customary and traditional uses of sheep in Unit 25A, the residents of Arctic Village have the strongest ties to and are the primary users of the Red Sheep and Cane Creek drainages (OSM 1993; see also Dinero 2003, Gustafson 2004, and Reed et al. 2008). Sheep hunting is a “longstanding” tradition for Arctic Village residents, most of whom are *Gwich'in* Athabaskan (Caulfield 1983:68; Dinero 2003; EISRAC 2006:110–137, 2007, 2011; Gustafson 2004), and the Red Sheep and Cane Creek areas have been a longstanding focus of this activity. Sheep are a prestigious subsistence resource and providing sheep meat to the community is highly respected (cf. Caulfield 1983 and Dinero 2003 for discussion). Sheep are also known as an important “hunger food,” that is, a food source that is critical when caribou are unavailable (Caulfield 1983, Dinero 2011, pers. comm.; Gilbert 2011, pers. comm.). Local people report increasing uncertainty of caribou migrations in recent years, declining quality of caribou meat, and increasing difficulty and travel distance to obtain moose in recent years: in light of this, local residents claim that sheep are an increasingly important resource (Gilbert 2011, pers. comm.; Swaney 2011, pers. comm.). As noted by one prominent elder, “When we have no caribou, that’s the time we have to go up [to get sheep]” (Gilbert 2011, pers. comm.).

The public record supports the fact that Arctic Village residents have a long history of using the Cane Creek and Red Sheep Creek drainages, and that it continues to be a culturally significant area to them. Extensive

discussion included in previous proposal analyses (OSM 1993, 1995a, and 2014a) pointed to regular use of these drainages by residents of Arctic Village. Gustafson (2004), in a study of traditional ecological knowledge, discusses the importance and continued use of the Red Sheep Creek area for sheep hunting. Testimony by Arctic Village residents in 2006, 2007, and 2011 at the Eastern Interior Alaska Regional Advisory Council (Eastern Interior Council) meeting about hunting in the Red Sheep and Cane Creek drainages demonstrates continued hunting in these areas. Discussions with Refuge Information Technicians from Arctic Village, other Arctic National Wildlife Refuge staff, researchers working in the area, and subsistence hunters from Arctic village also confirm continued sheep hunting in the Red Sheep and Cane Creek drainages (Bryant 2011, pers. comm.; Dinero 2011 pers. comm.; Mathews 2011, pers. comm.; John 2011, pers. comm.).

The trip from Arctic Village to Red Sheep Creek is over 100 miles and residents use great effort both physically and economically to hunt sheep in these drainages (Bryant 2011, pers. comm.; John 2011, pers. comm.; Gilbert 2011, pers. comm.; Swaney 2011, pers. comm.). The residents of Arctic Village have repeatedly expressed concerns about non-Federally qualified users hunting sheep in Red Sheep Creek and Cane Creek drainages and have provided testimony and public comment at numerous Council and Board meetings to attest to the importance of Red Sheep Creek, to describe their use of the area, and to explain that the presence of non-Federally qualified users has affected their access and reduced their harvest opportunities (EIRAC 2006, 2007, 2011; FSB 1991d:291-311, 1995, 2006a, 2007:292-306, and 2012; (OSM 1993, 1995a, 1996, 2006b, 2007a, and 2014a; Swaney 2011, pers. comm.; Gilbert 2011, pers. comm.; John 2011, pers. comm.).

Among the Gwich'in, there is a story about how Red Sheep Creek was named which illustrates the link between subsistence and religious practices and beliefs. It also underscores the importance of this area to the residents of Arctic Village. The story relates Red Sheep Creek to the Episcopal Church, an influential factor in establishing Arctic Village, and sheds some light on why Arctic Village residents consider Red Sheep Creek a revered place (Dinero 2007; Dinero 2011, pers. comm.). The story begins with people who were hungry. One day at the church someone spotted caribou moving in the brush. Upon closer inspection people realized they were looking at unusual sheep with red markings, or what many say were crosses on their coats. The next day, the people followed the red sheep far into the mountains where they were finally able to harvest them. The hides of the sheep were kept and passed down because of their distinctive markings (Dinero 2011, pers. comm.). The story of the red sheep links a prestigious subsistence resource (sheep) to traditional and modern beliefs and practices, and demonstrates the complementary nature of subsistence to place, tradition, culture, and modern beliefs.

Traditionally Arctic Village residents have harvested sheep in early fall (late August or early September) or in early winter (November) (Caulfield 1983, FSB 2007:292-306). "Sheep taste best in the fall," as documented in earlier research (OSM 1995a:353, Proposal 54). Residents generally travel to hunt sheep by boat, then by foot from hunting camps in the fall or by snowmachine in late fall, but not in winter given the dangerous terrain and winter weather (OSM 1993, Proposal 58).

Arctic Village residents have commented that allowing non-Federally qualified users to harvest sheep in Red Sheep Creek and Cane Creek during the time when Arctic Village residents customarily and

traditionally harvested sheep (with the exception of November) affects Arctic Village residents' ability to access an important sheep hunting area. Since 1993, Arctic Village residents have noted to the Board that plane traffic and use by non-Federally qualified users have interfered with their ability to successfully hunt sheep in the Red Sheep and Cane Creek drainages. Residents reported that plane fly-overs "spooked" sheep and that, "older rams can climb to higher elevations, making them more difficult to hunt" (OSM 1993:4, Proposal 58; see also OSM 1995a, Proposal 54 for additional discussion). Gideon James from Arctic Village explained that Red Sheep and Cane Creek are both very narrow valleys, and consequently flights through the area disturb the sheep (FSB 2012:201). These disturbances have continued to be described by Arctic Refuge staff (Matthews 2011, pers. comm.), and local residents (Swaney 2011, pers. comm., John 2011 pers. comm., Gilbert 2011, pers. comm.). Frid (2003) found that fixed-wing aircraft disrupted resting or caused fleeing behavior in Dall sheep in the Yukon Territory during overflights. This disruption was of a longer duration during direct flight approaches. Results of this study could help provide managers with guidelines for determining spatial and temporal restrictions to aircraft in areas frequented by this species.

Harvest History

Federal closures to the take of sheep in the AVSMA by non-Federally qualified users have been in effect since 1991. In 1995, the AVSMA was expanded to include the area north of Cane Creek and the Red Sheep Creek drainage. The closure to the take of sheep in the area north of Cane Creek and the Red Sheep Creek drainage, Aug. 10–Sept. 30, by non-Federally qualified users was rescinded for the 2006 through 2011 regulatory years

Data on the reported use of the AVSMA by Federally qualified subsistence users is sparse, and just how many sheep are harvested by Federally qualified subsistence users in the AVSMA is unknown. It is likely that many Gwitch'in hunters have not reported their harvest efforts (see Van Lanen et al. 2012 and Anderson and Alexander 1992 for a discussion).

Since 1995, Federally qualified subsistence users have been required to get a Federal registration permit to hunt for sheep in the AVSMA. Permit reports kept by the U.S. Fish and Wildlife Service show that residents of Arctic Village have requested 25 Federal permits to hunt sheep in the AVSMA, 7 hunters reported attempting to harvest sheep, and a total of 5 sheep harvests were reported (**Table 1**). Residents of Fort Yukon have requested 5 permits to hunt sheep in the AVSMA, 4 hunters reported attempting to harvest sheep, and a total of 2 sheep harvests were reported. The majority of permits were issued after 2005. The location of the harvest for the majority of sheep taken was not reported. One hunter reported taking a sheep in the area north of Cane Creek and the Red Sheep Creek drainage.

The Alaska Department of Fish and Game maintains a harvest reporting database where hunters using State harvest tickets or State permits report their hunting efforts (ADF&G 2017b). Complete records were not kept until the mid-1980s, and it is likely that many Gwitch'in hunters have not reported their harvest efforts or have reported their harvest efforts on Federal permits (see above).

Table 1. The harvest of sheep reported on Federal permits in Unit 25A by communities in the customary and traditional use determination, 1995-2015 cumulative.

FEDERAL PERMITS ONLY - Unit 25A Sheep Harvest						
Community	Arctic Village Sheep Management Area Permit FS2502			Unit 25A remainder Permit FS2503		
	Issued	Hunted	Taken	Issued	Hunted	Taken
Arctic Village	25	7	5	16	3	3
Fort Yukon	5	4	2	2	0	0
Kaktovik	0	0	0	6	4	4
Total	30	11	7	24	7	7

Source: OSM 2017a.

From 1983 to 2015 regulatory years, hunters with State harvest tickets or State permits reported harvesting 1,690 sheep (about 50 sheep annually) from within the entire Unit 25A area (see **Table 2**, ADF&G 2017b and OSM 2017a). The harvest of 7 sheep by Federally qualified subsistence users were all reported before 1995, which is when Federal permits became available. Using the State’s harvest reporting database, after 1995 all sheep harvests were reported by non-Federally qualified users using State harvest tickers or State permits.

From 1983 to 1990 regulatory years, approximately 61 sheep harvests (about 8 sheep annually) were reported in an area approximating the AVSMA using uniform coding units, including the area north of Cane Creek and the Red Sheep Creek drainage, before most of the area was closed to the harvest of sheep by non-Federally qualified users in 1991 (OSM 2017a, 4 of the 61 sheep harvests were reported by Federally qualified subsistence users).

From 1983 to 1994 regulatory years, approximately 27 sheep harvests (about 2 sheep annually) were reported in the area north of Cane Creek and in the Red Sheep Creek drainage, before it closed to the harvest of sheep by non-Federally qualified users in 1995 (OSM 2017a, no sheep harvests was reported by Federally qualified subsistence users).

From 2006 to 2010 regulatory years, approximately 22 sheep harvests (about 4 sheep annually) were reported in the area north of Cane Creek and in the Red Sheep Creek drainage while it was open to the harvest of sheep by non-Federally qualified users (OSM 2017a, harvest site information is not readily available after the 2010 regulatory year). One sheep harvest was reported in 2005 by a non-Federally qualified user, when the area was closed.

Effects of Proposal

If adopted, Proposal WP18-56 would open the AVSMA to the harvest of up to 3 sheep annually by a non-Federally qualified user who is a resident of Alaska or 1 ram every four years by a nonresident of Alaska.

Table 2. Number of sheep harvested in Unit 25A, 1983-2016, by user group, based on ADF&G harvest reporting system.

STATE PERMITS ONLY - Unit 25A Sheep Harvest								
Year	Federally qualified subsistence users		Non-Federally qualified uses				Total	
			Residents of Alaska		Nonresidents of Alaska			
	Issued	Harvested	Issued	Harvested	Issued	Harvested	Issued	Harvested
2016			61	20	36	24	97	44
2015			62	16	41	24	103	40
2014			77	24	40	20	117	44
2013			91	36	48	31	139	67
2012			90	36	41	26	131	62
2011			93	42	61	44	154	86
2010			158	47	51	30	212	77
2009			145	45	59	39	204	84
2008			149	38	56	36	205	74
2007			126	36	53	40	179	76
2006			110	36	46	33	156	69
2005			108	28	52	38	160	66
2004			84	9	47	37	131	46
2003			101	20	51	33	153	53
2002			89	14	45	25	134	39
2001			95	15	50	36	145	51
2000			72	12	35	19	107	31
1999			70	16	33	25	103	41
1998			51	12	21	15	72	27
1997			57	15	20	15	77	30
1996			57	13	19	13	76	26
1995			62	14	20	9	82	23
1994			31	2	15	8	46	10
1993			70	17	18	10	88	27
1992			96	15	33	24	130	40
1991			92	19	46	36	140	56
1990			125	28	44	40	172	71
1989			117	23	52	39	169	62
1988			88	23	46	38	135	62
1987			82	22	34	29	116	51
1986			90	22	31	27	122	49
1985			77	22	29	23	106	45
1984			56	14	19	16	75	30
1983			65	13	25	17	90	30
Total	13 ^a	7 ^a	2,997	764	1,317	919	4,327	1,690

^a Four or fewer reports were received in any given year. Only the total is provided to protect confidentiality of Federally qualified subsistence users reporting their effort and harvest.

Source: ADF&G 2017b and OSM 2017a.

Adopting this proposal and opening the AVSMA to non-Federally qualified users may adversely affect subsistence users' access and ability to harvest sheep in the AVSMA and thereby fail to provide a meaningful preference for Federally qualified subsistence users.

If adopted, this proposal could negatively impact the sheep population in the AVSMA especially south of Cane Creek where sheep density estimates are low.

OSM PRELIMINARY CONCLUSION

Oppose Proposal WP18-56.

Justification

Federal public lands in the Arctic Village Sheep Management Area should remain closed to the harvest of sheep except by Federally qualified subsistence users. Sheep densities within the AVSMA have generally been low compared to other areas in the Brooks Range, which is likely due to poor habitat quality (Payer 2006 in OSM 2014). In 1991, when the closure was adopted by the Board, portions of the area did not appear to be able to support more sheep than were present, and the Board said that the remainder of Unit 25A supported a substantial opportunity for all hunters (FSB 1991b:150–164). Sheep populations in the AVSMA situated south of Cane Creek continue to exist at low densities (Arthur 2017, pers. comm.) and should remain closed to nonsubsistence uses in order to protect healthy populations of sheep, as mandated in ANILCA Section 815(3).

Since 1995 the Board has continued to hear substantial testimony and ethnographic evidence demonstrating the importance of Cane Creek and Red Sheep Creek drainages to Federally qualified subsistence users, especially Netsi Gwich'in who occupied the area historically and continue to occupy the area today. In 2012, the Board reiterated that the closure was needed to ensure the continuation of traditional subsistence uses of sheep by Arctic Village hunters (OSM 2012b:7), and again in 2014 (OSM 2014a:350). There have been no indications that the phenomenon has changed. This area should remain closed to nonsubsistence uses in order to protect subsistence uses, as mandated in ANILCA Section 815(3).

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WRITTEN PUBLIC COMMENTS



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP-18-56

AK Subsistence, FW7 <subsistence@fws.gov> Tue, Aug 1, 2017 at 3:46 PM
To: Gene Peltola <gene_peltola@fws.gov>, Thomas Doolittle <thomas_doolittle@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Theo Matuskowitz <theo_matuskowitz@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Jeff Alling** <jeffa@alcanbuilders.com>
Date: Tue, Aug 1, 2017 at 3:29 PM
Subject: WP-18-56
To: "Subsistence@fws.gov" <Subsistence@fws.gov>

My name is Jeff Alling and I am a founding member of RHAK (Resident Hunters of Alaska) and I oppose the continued closure of Dall Sheep hunting in the AVDSMA area on the grounds that it is apparent that the local hunters do not use or do not report the use of this resource. Also I oppose the closure because there is no biological concern about hunting of Full Curl Rams.

This area has been closed to the taking of Dall Sheep by non-local hunters since 1991 for supposed "Social" concerns. This reason is nonsense as any contact I have had with locals from that area has been very positive.

Please reopen this area in an effort to revive this cherished freedom that has been taken from us by our Federal Government since 91.

Thank you.

Jeff Alling

Alcan Builders Inc.

3009 International Rd. Fairbanks, AK 99701

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<mailto:jeffa@alcanbuilders.com>

Check us out at www.Alcanbuilders.com



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: AOC comments on proposal WP18-56

2 messages

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 3:44 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

-- -- Forwarded message ----- --

From: **Alaska Outdoor Council** <alaskaoutdoorcouncil@gmail.com>
Date: Fri, Aug 4, 2017 at 1:49 PM
Subject: Re: AOC comments on proposal WP18-56
To: subsistence@fws.gov
Cc: AOC Board <aocboard@alaskaoutdoorcouncil.com>, Richard Bishop <dmbishop@ptialaska.net>

August 4, 2017

Federal Subsistence Board
Office of Subsistence Management
Attn: Theo Matuskowitz
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199
Sent electronically to subsistence@fws.gov

RE: Proposal WP18-56

Chairman Christianson and Members of the Board:

The continued closure of hunting by non-qualified subsistence users in the Arctic Village Sheep Management Area (AVSMA) is a clear violation of ANILCA, therefore, the Alaska Outdoor Council (AOC) asks the Board to approve Proposal WP18-56 to discontinue the closure, providing hunting opportunities per the Refuge purpose, being once more in harmony with the Refuge's Comprehensive Conservation Plan (CCP)

Most egregious is continued disregard for and violation of ANILCA, to which the previous Administration clearly allowed the Federal Subsistence Board (FSB) to willfully violate federal law. Secretary of the Interior, Ryan Zinke is likely to take a different view of the matter and personal representing the DOI on the FSB will be more inclined to vote consistent with federal law and intent of ANILCA Section 816. "Unless necessary for the conservation of healthy populations of fish and wildlife and to continue subsistence uses", hunting on the Refuge by non-federally qualified subsistence users is supposed to be the rule and not the exception per ANILCA Title 815(3).

Conservation concern, meeting subsistence uses, administration, and public safety are the only criteria for closing hunting to non-federally qualified subsistence users per ANILCA Sec. 816(b). And indeed, because there is a healthy population in the area in question, and there is no substantial evidence showing need to keep the area closed to provide a meaningful preference for actual and bona fide subsistence uses, the FSB should, our members believe, be making a diligent effort to abide by ANILCA rather than continue its flagrant violation of it, and in so doing pass this proposal.

In addition, worse than just ignoring ANILCA, the FSB, by keeping this area closed for the reasons it has given, has also brought the FSB even more out of compliance with Congressional intent because it has ignored and trumped ANILCA's legitimate reasons for closure, and having done so has instead implemented the current closure for reasons absolutely disallowed in ANILCA, which gives no other reason for closure aside from those stated at the top of the

previous paragraph. Certainly social or cultural or emotional reasons for closure of hunting in the face of no conservation concern or absence of subsistence uses are clearly illegal, yet the FSB has continued to unlawfully create and implement its own rules, depending instead on contrived excuses as to close what is otherwise a legitimate and heralded activity according to ANILCA and the Refuge's CCP.

Reported harvests of Dall sheep over the last 25 years suggest inconsequential use of Dall sheep and inconsequential subsistence harvests. And by all accounts, a healthy population of Dall sheep is resident in the area. If there is no actual demand for full curl rams to meet legitimate subsistence use, then non-federally qualified hunters, by all the federal laws and management plans, can participate in the hunt. Exclusion of these hunters continues to have no biological benefit to either sheep or humans.

Conflicts in the field between residents of Arctic Village, Chalkitsik, Fort Yukon, Kaktovik, Venetie and any non-federally qualified subsistence users in the AVSMA has never been likely do to the extremely low number of sheep hunters, nor is it a factor for the FSB to take into consideration when deliberating on proposals to ban non-local resident regulated hunting opportunities. Nothing in Section 816 of ANILCA comes close to even alluding to that being a criteria for closure to non-federally qualified subsistence users.

According to ANWR's official website, the Refuge is characterized as "amazing public land owned by all US citizens," and that people commonly come to the Refuge to "camp, hike, float rivers, hunt, or fish," all officially allowable uses on federal public land. Hunting on Refuges is a customary and traditional activity for Americans, and therefore should be reopened in the area proposed. It is the right of all Americans to recreate on federal public land.

Closures due to perceived cultural or social reasons are not supported by either ANILCA as already noted, but the continued closure also comes into violation of the Refuge's Comprehensive Conservation Plan (CCP). In fact, paraphrased below, the latter document says:

- The Refuge has local, state, and national constituent users who must be considered in developing and implementing visitor use programs and policies. These visitor constituencies' use is best addressed through a fair and open public planning process. (Objective 5.4)

(AOC: Rights of use of the resource by non-federally-qualified subsistence users given the current conditions as stated above are EQUAL to that of federally-qualified subsistence users. There is no current legitimate reason to preclude use of any resource by anyone per this CCP.)

- Uses will not be prohibited unless a public process determines the use is detrimental to the area's resource values. (Objective 5.1)

(AOC: Note that "cultural" or "social" uses are not legitimate criteria on which to order any closure to hunting. The current closure is NOT based on resource values in violation of this CCP.)

- Public access to Refuge lands for recreation is allowed to "provide the public with opportunities for wildlife dependent recreation." (Objective 5.4)

Because hunting is an allowed and publicized use on the Refuge, it appears Refuge intent is that hunting is clearly considered "wildlife dependent recreation," and thus should not be precluded in the face of no conservation concern or jeopardy to the area's resource values or abrogation of any subsistence use. ANILCA Article 815 supports this very clearly as well.

In conclusion, the Alaska Outdoor Council believes there is no legal reason, and there are no supporting data, to keep the Arctic Village Sheep Management Area closed to open hunting any longer. In truth, ANILCA and the Refuge guiding documents both EXPECT uses to not be limited EXCEPT when a documented conservation concern to meet subsistence use clearly requires it. These conditions have not been shown to exist, and to be in harmony with the Refuge's purposes, the Refuge Comprehensive Conservation Plan, and ANILCA, Proposal WP18-56 to open hunting should be passed. There never has been a legitimate reason for closure and there remains NO legitimate reason to continue the closure.

Appended to this letter is the State of Alaska's Federal Subsistence Liaison Team's talking points to this issue when the Federal Subsistence Board last considered opening the AVSMA to open hunting in 2014. These points are apropos and still relevant.

Sincerely,

Rod Arno
Executive Director
Alaska Outdoor Council

On Fri, Aug 4, 2017 at 2:43 PM, Alaska Outdoor Council <alaskaoutdoorcouncil@gmail.com> wrote

Alaska Outdoor Council comments in support of proposal WP18-56.

Please also include the 2014 comments from the State of Alaska liaison to the FSB from 2014 on proposal WP14-51 with AOC's comments.

Alaska Outdoor Council
310 K Street, Suite 200
Anchorage, Alaska 99501
Phone 907-841-6849

Alaska Outdoor Council
310 K Street, Suite 200
Anchorage, Alaska 99501
Phone 907-841-6849

AK Subsistence, FW7 <subsistence@fws.gov>

To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From **Alaska Outdoor Council** <alaskaoutdoorcouncil@gmail.com>

Date Fri, Aug 4, 2017 at 1:43 PM

Subject: AOC comments on proposal WP18-56

To: subsistence@fws.gov

Fri, Aug 4, 2017 at 3:44 PM

Cc: AOC Board <aocboard@alaskaoutdoorcouncil.com>, Richard Bishop <dmbishop@ptialaska.net>

Alaska Outdoor Council comments in support of proposal WP18-56.

Please also include the 2014 comments from the State of Alaska liaison to the FSB from 2014 on proposal WP14-51 with AOC's comments.

Alaska Outdoor Council
310 K Street, Suite 200

Anchorage, Alaska 99501
Phone 907-841-6849

2 attachments

 **AOC comments on WP-18-56.pages.zip**
269K

 **Liaison Team talking points RFR Red Sheep Creek WP14 51 FSB Jan 2014.doc**
78K

ADF&G FEDERAL SUBSISTENCE LIAISON TEAM

TALKING POINTS:
REQUEST FOR RECONSIDERATION: RED SHEEP CREEK / WP14-51

JAN 2014 - JYUHAS

THE STATE URGED THE REOPENING OF RED SHEEP / CANE CREEK DRAINAGES WITHIN AVSMA TO SHEEP HUNTING FOR OTHER USERS:

- Two years ago this area was closed to non-federally qualified users unnecessarily.
- It was closed aside from any conservation concerns, noting an abundance of sheep in this area and an extremely low use of this resource by local people.
- Federal Public Land is held in trust for all people.
- The Board must act within the authority provided it under ANILCA.
- Any new precedent must be defensible. The precedent set by the FSB in April by maintaining this closure is not.

CLOSED UNNECESSARILY

- The Board is aware there is no justification under either the Board's Closure Policy or ANILCA 8.15 to close this area for conservation.
- The issues brought forth in requesting a closure for this area are rightfully addressed in other venues.
- The State of Alaska took swift action two years ago to assist federal land managers in addressing the complaints heard at the time of closure.

CLOSURE IS OUTSIDE THE BOARDS AUTHORITY UNDER ANILCA AND THEREFORE INDEFENSIBLE

- Federal Public Land, is just that – Public Land.
- ANILCA 8.15 speaks to closures to hunting for the conservation of the resource of continuance of subsistence uses only.
- NO REFERENCE to trespass or littering – an issue federal land managers and enforcement rightfully govern, which the State has taken measures to assist them with these efforts – providing tools through our actions two years ago.
- NO REFERENCE to the new idea of “cultural preservation” being circulated by federal staff based on testimony at this board meeting two years ago that one local resident did not see it as his culture to hunt when an outsider was present in the valley.
 - “Cultural preservation” itself is a debatable concept within the scientific community.
 - Closing an area on this basis would set a new precedent for utilization all around the state.

- This concept is clearly outside the intent of ANILCA 8.15s authority for closure
- Nearly every parcel of Federal Public Land Park, Preserve, Refuge, and Forest with any indigenous population adjacent to that land will have areas which are reported to be “special to those people.”
 - Measures exist to truly address the specialness of lands to a people – just not in the Federal Subsistence Program arena.
- These arguments cannot defensibly be used as a new precedent to close lands to hunting to one group of people by this Board – most notably because the Board does not have the authority to do so for these reasons.
- While the Board does not have the legal means to close this area to hunting by one group of people, the federal system does possess other means to address these issues.
 - Federal land managers can enforce already illegal behavior with the new tools the State has provided it.
 - Federal land managers can pursue a land swap to provide Venetie the purportedly most special lands thereby excluding others.
- THIS PARTICULAR CLOSURE SIMPLY DOES NOT FIT IN THIS ARENA.
- The Board fully recognized the lack of any conservation concern during its deliberations both to close and to deny the reopening of this area citing instead: identification with the wishes of the local people, a deference to the spirituality of those who wish the closure to remain, and simply that “it would keep some people out.”

CLOSURE DOES NOT ACHIEVE DESIRED EFFECT

- The only people this action closes this area to are non-federally qualified sheep hunters for the purposes of hunting.
 - That’s a Maximum of 7 people per year – which has already been recognized as a di minimis impact to the sheep population.
 - Not closed to their landing near or walking through the area or any other uses by those people.
 - Not closed to *anyone* else.
- As the Fairbanks AC pointed out: Federal staff has testified at public meetings that many other parties use this area.
 - Those users included hikers, rafters, sheep hunters traveling through the area to other open areas.
 - Those users could trespass, vandalize, or scare sheep in that area – likely more so than an individual attempting to minimize their presence in order to successfully hunt sheep.
 - This does not preserve the area for the local users who simply want to keep others out.
- Two years ago this board and the RACs heard testimony referring to egregious trespass, vandalism, and general disrespect for the lands near this area.

Those reports were never successfully attributed to one group of people, and conflicting opinions persist as to who may have committed these acts.

We've established that closure for these reasons already lies outside the framework of this program, but even so – if anybody intends to dole out a punishment they must first successfully determine the offender.

The changes made by the State since your last meeting give federal managers and enforcement the tools to begin to do that.

ONLY WAY TO REMAIN WITHIN THE BOUNDS OF ANILCA FOR THE BOARDS AUTHORITY IS TO REOPEN THE AREA

- These Federal Public Lands are held in Trust for the people.
- Any reasons for the Board acting to keep this area closed to one group of users must be legally defensible / it is each Board Members responsibility to know their vote, especially to set a new precedent, is defensible.
- Established no conservation concern – therefore no justification under ANILCA 8.15 – even to preserve “subsistence uses.”

While “culture as a use” may be an interesting intellectual argument for some federal staff, it is the individual Board Members who must understand the legal parameters of attempting to embark on any new interpretations of the law that governs their actions.

- Attempting to point out that the State does not have a class already developed is a contrived argument / a stalling tactic.

The State responded expediently to local concerns two years ago – and took special actions to address these concerns.

The Department created a mechanism to address issues the federal land managers and enforcement had not & the Board of Game approved an Agenda Change Request for and approved this plan in very short order to respond to these concerns.

The State has been clear that any class will be developed with the local people rather than forced upon them.

There is currently no incentive for local cooperation to develop this class if the area remains closed.

No agency would expend staff resources or funding under these conditions /when no outcome or cooperation is expected.

- Some federal staff advocated rejecting this proposal denouncing any “new information” related to the discussion.

In reinstating this closure two years ago the Board noted that while it was encouraged by recent State response to the issue, that the Board of Game had not yet met at the time of this Boards meeting, and that action was not guaranteed.

That action did take place – two weeks after the FSB met to close the area.

While the information is two years old, and the State has waited two years for corrective action, that information is precisely what was

stated on the record as being necessary to keep this area open by this Board at the time of the closure.

- The entertainment of interesting intellectual arguments by staff or others has its place. That place is best reserved to academia rather than through a direct negative impact to the users of the resource.

The State urged the Board to take action in their April meeting to lift this closure and return to process, recognizing that land managers now possess greater tools to assist them in their charge to maintain order, as well as other appropriate means to address the issues outside the jurisdiction of this body, and ensuring the use of this land to all those for whom it is held in trust.



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7 50 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From **Pete Buist** <grizzlybear@mosquionet.com>
Date: Fri, Aug 4, 2017 at 4:13 AM
Subject: Proposal WP18-56
To subsistence@fws.gov

Please APPROVE proposal WP 18-56.

Obviously no sheep hunting by the listed communities actually occurs. Historically the only consistent use of the area (before the closure) was by guides and some non-local AK resident hunters. There is no cogent reason, either biological or subsistence-related, for the closure to remain in force.

Leaving this area closed continues to send a message to the rest of the world: "The federal subsistence program in Alaska is a joke and not actually intended to help local rural residents." Silly, politically correct closures make a mockery of an important system.

Thank you for the opportunity to comment.

Pete Buist
Fairbanks, AK



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: sheep hunt

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 7 58 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From **Kodiak Adventures Lodge** <kodiakadventureslodge@gmail.com>
Date: Sun, Jul 30, 2017 at 8:05 PM
Subject: sheep hunt
To subsistence@fws.gov

Hello ,
I am writing in support of opening sheep hunting in federal public land within the Artic National wildlife refuge. There is a proposal # **WP-18-56**
This needs to be addressed in a biological manner not favoring one group of people over another. All would benefit from opening this up. Please consider my request.

Larry Carroll



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 10 15 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From **Walter Chuck** <the4chucks@aol.com>
Date: Fri, Aug 4, 2017 at 10:14 AM
Subject: Proposal WP18-56
To: subsistence@fws.gov

Federal Subsistence Board,

I am writing you to express my strong support for Proposal WP18-56 which would reopen an area in the Eastern Brooks Range within the ANWR for the take off full curl Dall Sheep Rams in accordance with all hunting regulations and fees. This area contains a healthy and the resumption of allowing the hunting of Dall Sheep will increase access and utilization for other recreation opportunities as well on our public lands. The Alaska National Interest Lands Conservation Act allows hunting for non-locals if there is no conservation concern, the Dall Sheep population is healthy and exists in numbers that would sustain the harvest of adult males. Subsistence opportunities would continue to be available and users needs would continue to be met. Once again please pass Proposal WP18-56.

Thank you for your time,

Walter Chuck
166 NE 71st St
Newport, OR 97365
541 5749078



Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP-18-56 Proposal

1 message

AK Subsistence, FW7 <subsistence@fws.gov>

Mon, Jul 31, 2017 at 8:00 AM

To: Theo Matuskowitz <theo_matuskowitz@fws.gov>

Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **Clemens M. Clouten** <CClouten@fairbanks.us>

Date: Mon, Jul 31, 2017 at 7:28 AM

Subject: WP-18-56 Proposal

To: "subsistence@fws.gov" <subsistence@fws.gov>

Attn: Theo Matuskowitz

I request that Proposal WP-18-56 be adopted to allow Alaskans the opportunity to harvest sheep in this area because there is no harvest of sheep by the local people and it would bring money into this area.

Therefore, with essentially no harvest of sheep, there is no conservation reason to keep this area closed. Sheep hunting opportunity on these federal public lands should be available to the public under State of Alaska hunting regulations. Opening this area to hunting would not only benefit the local economies of nearby villages, but would also increase hunter opportunities in Alaska and lessen pressure on other Dall sheep hunting areas in the state.

Thank you for your time and consideration

Clem Clouten

1163 Linda Lou Lane

Fairbanks, Alaska 99712



Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd:

1 message

AK Subsistence, FW7 <subsistence@fws.gov>

Mon, Jul 31, 2017 at 8:02 AM

To: Theo Matuskowitz <theo_matuskowitz@fws.gov>

Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **John Davis** <jcdavis@gci.net>

Date: Sun, Jul 30, 2017 at 9:12 PM

Subject:

To: subsistence@fws.gov

Proposal WP-18-56.

- a) there is no biological concern about hunting of full curl rams in general and,
- b) that the local hunters don't apparently use or report use of sheep.

Therefore, with essentially no harvest of sheep, there is no conservation reason to keep this area closed. Sheep hunting opportunity on these federal public lands should be available to the public under State of Alaska hunting regulations. Opening this area to hunting would not only benefit the local economies of nearby villages, but would also increase hunter opportunities in Alaska and lessen pressure on other Dall sheep hunting areas in the state.

I urge adoption of this proposal in the strongest terms. Very important to get this ridiculous regulation changed ASAP!

John C Davis

48590 KSRM Court

Kenai, AK 99611



Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP-18-56

1 message

AK Subsistence, FW7 <subsistence@fws.gov>

Mon, Jul 31, 2017 at 7:57 AM

To: Theo Matuskowitz <theo_matuskowitz@fws.gov>

Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: J Doll <akjuliedoll@gmail.com>
Date: Sun, Jul 30, 2017 at 2:56 PM
Subject: WP-18-56
To: subsistence@fws.gov

I believe the area around Arctic Village should be reopened to general sheep hunting. There appears to be no issue requiring management or necessary hunting restrictions of the sheep. Allowing resident and non-resident hunting would provide a financial benefit to the local area with aircraft servicing and general store use. Our public lands should be open to use by all whenever possible.

Julie Doll, 30-year resident hunter
5625 Old Valdez Trail
Salcha, AK 99714



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 8:57 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From **David A. Doudna** <david@northernsledworks.com>
Date: Fri, Aug 4, 2017 at 8:51 AM
Subject: WP18-56
To: "subsistence@fws.gov" <subsistence@fws.gov>

Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.

1. The area has a healthy sheep population
2. Federal law (the Alaska National Interest Lands Conservation Act (ANILCA)) mandates hunting be open to "non-locals"
3. The Refuge is federal public land where ANYONE can recreate
4. The Refuge encourages hunting as wildlife-oriented recreation
5. Hunting can only be closed if there is a conservation concern or subsistence uses are not met
6. There is no present conservation concern
7. Subsistence opportunities for sheep and other resources continue to be available

Thank you,

David Doudna
P.O. Box 61171
Fairbanks, AK 99706



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Wp-18-56

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 7 57 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From **Mark Freshwaters** <mfreshwaters@gmail.com>
Date: Sun, Jul 30, 2017 at 2:29 PM
Subject: Wp-18-56
To: subsistence@fws.gov

As a hunter and resident of Alaska since 1971, I support the opening of sheep hunting for non-local hunters. I see no conflict what so ever in the doing of this to make use of the states resource for all hunters and not just a select few
When I lived in Fairbanks I would have never said to a village person looking for a town job, " now you back to your village and live a subsistence life and leave town town jobs to us city residents"
These things need to work both ways and not create a divide in people.
Please take this into consideration.
Sincerely,
Mark Freshwaters
PO box 866
Skagway, Alaska 99840



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP-18-56

AK Subsistence, FW7 <subsistence@fws.gov> Tue, Aug 1, 2017 at 7 52 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From **Jim Gallagher** <jimmy.g@acsalaska.net>
Date: Tue, Aug 1, 2017 at 4:15 AM
Subject: WP-18-56
To: subsistence@fws.gov

Please approve Proposal WP-18-56.

Sheep hunting opportunity on these federal public lands should be available to the public under State of Alaska hunting regulations.

Opening this area to hunting would not only benefit the local economies of nearby villages, but would also increase hunter opportunities in

Alaska and lessen pressure on other Dall sheep hunting areas in the state.

Thank you,

Born and raised Alaskan 1955

Jim E. Gallagher

Cell 907-242-5557

Jimmy.g@acsalaska.net



Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: Proposal (WP-18-56)

1 message

AK Subsistence, FW7 <subsistence@fws.gov>

Tue, Aug 1, 2017 at 12:28 PM

To: Theo Matuskowitz <theo_matuskowitz@fws.gov>

Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **H. E. Budd Goodyear, MSM, MLA** <bg@mtaonline.net>

Date: Tue, Aug 1, 2017 at 12:06 PM

Subject: Proposal (WP-18-56)

To:

Attn: Theo Matuskowitz

I urge the Subsistence Board to approve Proposal WP-18-56 to open sheep hunting to public in Game Management Unit 25 for 4 reasons:

- 1) Approval is recommend by the US Fish and Wildlife Service,
- 2) there is minimal hunting pressure on that area;
- 3) there is a lack of statistics to support keeping the area off limits to public hunting; and
- 4) purely political decisions seem to often go awry and become unfair.

Thank you for the opportunity to comment.

Budd Goodyear
Mat-Su Area

Attachment: WP-18-56

2018-2020_wildlife_proposal_book_final_0629_reduced_0.pdf
154K

WP18-56

Regulations.gov - Comment

Page 1 of 1



Submitted Electronically via eRulemaking Portal

This is a Comment on the **Fish and Wildlife Service (FWS)**
 Proposed Rule: **Subsistence Management: Public Lands in
 Alaska; 2018-19 and 2019-20 Subsistence Taking of Wildlife**

For related information, [Open Docket Folder](#)

[Comment Now!](#)

Due Jun 16 2017, at 11:59 PM ET

ID: FWS-R7-SM-2016-0049-0013
Tracking Number: 1k1-8wyk-zrzz

Document Information

Date Posted:

Jun 14, 2017

RIN:

1018-BB38

[Show More Details](#)

Submitter Information

Submitter Name:

Richard Bishop

City:

Fairbanks

Country:

United States

State or Province:

AK

ZIP/Postal Code:

99709

Comment

Game Management Unit 25, Arctic Village Sheep Management Area: Remove the restriction on public hunting of Dall sheep in this area. The restriction of sheep hunting to residents of a few communities is unnecessary to accommodate local subsistence uses, and the Area is unused for sheep hunting by residents of the communities listed. Sheep hunting opportunity on these federal public lands should be available to the public under State of Alaska hunting regulations. There is no biological or subsistence related reason to preclude sheep hunting opportunities from the public in this Area.

<https://www.regulations.gov/document?D=FWS-R7-SM-2016-0049-0013>

6/14/2017



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Comments on Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 3:58 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **K.M. Gordon** <kgordon@mosquitonet.com>
Date: Fri, Aug 4, 2017 at 3:55 PM
Subject: Comments on Proposal WP18-56
To: subsistence@fws.gov

Chairman Christianson and Members of the Board:

The FSB is out of compliance with ANILCA (and other guiding documents) in a serious way and needs to cease ignoring them. Past actions of the FSB have put the FSB on the wrong side of Congressional intent as well as the very laws that direct its work. That was to be expected from the Obama Administration, but it is unlikely these actions will pass muster under Secretary Zinke. Therefore to right the wrongs of the past and to become "legal," the following will be fixed through support of Proposal WP18-56:

The FSB is failing to comply with Congressional intent both to federally-qualified subsistence users and those not so qualified

The FSB is failing to comply with the stipulations of ANILCA Title 815

The FSB is failing to comply the directives of the ANWR Refuge Comprehensive Conservation Plan

The FSB is failing to comply with the purposes of the Refuge per ANILCA

The FSB is failing to comply with Refuge intent

The above failures are a direct result from willfully deviating from clearly afforded

directives to the FSB which instead makes up their own rules rather than follow correct criteria. Precluding hunting from one class of user is illegal, yet the FSB continues to do so for "emotional" reasons rather than the ones they are given to follow. Lack of overlapping seasons precludes user conflict in the field. A healthy population of sheep that is not being used is being wasted. Hunting should be allowed at the full curl ram designation.

Thank you for fixing the current violations and please bring the FSB back into compliance with federal dictates, and allow hunting at the "safe" full curl ram level. This regime will not hurt the population at all per the current science. It could make more sheep for everyone.

Sincerely,

Karen Gordon

Fairbanks



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 8:20 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Chris Gossen** <cgossen1@gmail.com>
Date: Fri, Aug 4, 2017 at 8:19 AM
Subject: Proposal WP18-56
To: subsistence@fws.gov

Please vote for Proposal WP-18-56 and reopen the area to sheep hunting per ANILCA.

--
Chris Gossen
Energy and Emission Solutions Inc.
907-388-3533



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Wp18-56

AK Subsistence, FW7 <subsistence@fws.gov>

Tue, Aug 1, 2017 at 7:51 AM

To: Theo Matuskowitz <theo_matuskowitz@fws.gov>

Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **Walter Hanni** <walthanni@yahoo.com>

Date: Mon, Jul 31, 2017 at 6:44 PM

Subject: Wp 18-56

To: subsistence@fws.gov

Cc: Alaska Outdoor Council <membership@alaskaoutdoorcouncil.com>

It has been my experience having hunted the brooks range for sheep for many years that it's one of the most wonderful outdoor experiences I have ever had. In all the years of hunting I harvested far less sheep than I could have legally taken. It's a difficult hunt and sheep seem to live far away from convenient access. Opening more hunting land spreads hunters out giving everyone a more quality hunt. The game should be managed under state hunting regulations providing local hunters opportunity and others when the game population is healthy and can handle it. Thank you for this consideration. Sincerely Walt Hanni resident of Alaska since 1971



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 9:42 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Paul HARRELL** <harrellp1@msn.com>
Date: Fri, Aug 4, 2017 at 9:41 AM
Subject: Proposal WP18-56
To: "subsistence@fws.gov" <subsistence@fws.gov>

Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.

Thank you!

***Paul Harrell
North Pole, Alaska***

Encourage one another to good works!





Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Comments on Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:52 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Wayne Heimer** <weheimer@alaskan.net>
Date: Thu, Aug 3, 2017 at 9:16 PM
Subject: Comments on Proposal WP18-56
To: subsistence@fws.gov

Please accept my comments on WP18-56, dealing with the Arctic Village Dall Sheep Management Area.

They are copied here and in the attached file.

Most sincerely,

Wayne E. Heimer
1098 Chena Pump Road
Fairbanks, Alaska 99709

2 attachments

 **ATT00001**
26K

 **Arctic Village Dall Sheep Management Area.docx**
125K

Arctic Village Dall Sheep Management Area:

Comments to Federal Subsistence Board on Proposal WP18-56, a proposal to open general hunting for Dall sheep in the presently existing Arctic Village Dall Sheep Management Area.

*The Arctic Village Dall Sheep Management Area has not always existed.

*It was created because residents of Arctic Village alleged a need for exclusive use to meet traditional Dall sheep subsistence needs. Three other villages were included among federally-recognized users in prior actions of the Federal Subsistence Board.

*These three villages have reported virtually no use of Dall sheep from the Area.

*Based on reporting over the last 25 years, subsistence use of Dall sheep by Arctic Village residents has averaged fewer than three sheep per year.

*There can be no biological concern about Dall sheep population health in the Area as a result of human harvest.

*If there is no biological concern for population health, and documented subsistence use is virtually absent, there is no practical rationale for the continued existence of exclusive use of Dall sheep by communities, which have reported no significant use of the Dall sheep set aside for them.

*Hence, the Arctic Village Dall Sheep Management Area should be eliminated, and regular use of Dall sheep (for full curl ram harvesting) should be reestablished as per the regular State of Alaska Dall sheep open season from August 10 through September 20.

*Given that harvest of full curl rams actually removes the only “surplus” Dall sheep from a population, general full curl hunting is likely to affect subsistence opportunities only by subtracting an insignificant number of mature rams from the population.

*Mature rams taken in winter are not considered the best subsistence fare. Other sheep are preferred as food by most users during winter.

*The subsistence season (seven months long with a bag limit of three sheep) is the highest-risk harvest management scheme, which even vaguely resembles controlled harvest.

*This season opens long after the general ram hunting season has closed, weather has changed (with the falling of snow), encompasses the Dall sheep rut, and allows only federally recognized subsistence users to participate.

*If subsistence harvests remain as low as reported, there is no reason this seven-month season could not be sustained. Nevertheless, it remains a high-risk harvest strategy.

*The Arctic Village Dall Sheep Management Area is obsolete under ANILCA, as well as inconsistent with the USFWS Comprehensive Management Plan for ANWR.

*The Arctic Village Dall Sheep Management Area may be profitably considered an experiment in Dall sheep subsistence use, which proved impractical. Exclusion of non-local hunters is not biologically necessary, and most likely in conflict with ANILCA intent. Restrictions in the AREA proved to be unnecessary, and provided no irreplaceable benefit to the subsistence users for whom they were designed.

*The costs of this experiment to the state can only be estimated. However if the sustainable harvest of five full curl rams from the AREA per year at a mean economic value of \$20,000 per ram over 25 years is tallied, the loss to the State's economy could have been as high as 2.5 million dollars.

*It is time to let the Arctic Village Dall Sheep Management Area lapse into the history of ideas that didn't "pan out" as expected.

Please accept proposal WP18-56 to essentially abolish the Arctic Village Dall Sheep Management Area.

Wayne E. Heimer
ADF&G Dall Sheep Biologist 1971-1997 (ret.)
1098 Chena Pump Road
Fairbanks, AK 99709



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Comments on Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 11:55 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **Wayne Heimer** <weheimer@alaskan.net>
Date: Fri, Aug 4, 2017 at 11:53 AM
Subject: Re: Comments on Proposal WP18-56
To: subsistence@fws.gov
Cc: Kevin J Kehoe <Kevin.Kehoe@kantishnainc.com>, Karen Gordon <kgordon@mosquitonet.com>, "Dale, Bruce W (DFG)" <bruce.dale@alaska.gov>, "Darren L (DFG) Bruning" <darren.bruning@alaska.gov>

Attention Federal Subsistence Board: I seem to have made a bag limit mistake regarding Proposal WP18-56 in my comments (weheimer@alaskan.net) submitted yesterday. Please not Mr. Arno's correction. Sorry about that. The bag limit argument does not materially affect my position on Proposal WP18-56. Thank you.

W. Heimer
1098 Chena Pump Road
Fairbanks, AK 99709

Thanks, Rod. I'll cc the FSB on my mistake see above. KG and I went "round" on this difference Wednesday. Being lazy, I deferred to her greater present effort on the issue, and went with the state bag limit. "Good on" the FSB for being more conservative than the state originally was.

HISTORY: The "three-sheep" bag limit was "transplanted" to Red Sheep Creek from the North Side of the Brooks Range (Kaktovik) as well as to other areas of historic Dall sheep subsistence use as the state formally provided for sheep subsistence uses in places beyond Kaktovik. The three-sheep bag limit originated back during the first official recognition of Dall sheep subsistence hunting (out of Kaktovik on the Hula Hula River) by the state of Alaska in the mid 1980s. The "three sheep" bag limit and

seven month season were originally established as an "uber-liberal" effort to encourage documentation of Dall sheep subsistence uses by Kaktovik residents. The rationale was to make sure the season and bag limit were sufficiently liberal to provide expansively for sheep subsistence use in the hope that reporting would be accurate and voluntary. Conservation was not a consideration at that time. The prime directive was to document subsistence use by local residents.

The reporting experiment didn't work very well in Kaktovik or anywhere else, but the season length and bag limit established the precedent for the seven-month season and three-sheep bag limit. At the time, I argued against that idea because philosophically, I don't think its a good idea for managers to permit harvests that have the possibility of being beyond biological sustainability, particularly where population monitoring is ineffective or neglected. Specific to the Hula Hula River, I buttressed my argument on the casual statement by the Mayor of Kaktovik to Sverre Pederson (Subsistence Division-with whom I shared an office during my ANILCA days) that, "*There used to be a lot of sheep out there[in the rolling country between the Hula Hula River and Okpilik River as seen from Katak Ridge-where there were virtually no sheep at time Sverre reported to me in the early 1990s]...we shoot 'em all, I guess.*"

So much for history. Thank you for the correction in bag limit. I presume the Federal Subsistence Board will be appraised of this error on my part via this additional comment.

It's always good to be corrected. I've always said I'd rather be correct than consistent.

W. Heimer

On Aug 4, 2017, at 10:28 AM, Rod Arno <rodarno@gmail.com> wrote:

It should be noted that the current (July 1, 2016 - June 30, 2018) harvest of Dall sheep in the AVSMA (GMU 25A) under federal regulations is:

2 rams by Federal registration permit (FS2502) only. Aug 10 - April 30

It's only the Alaska Board of Game that allows a 3 sheep (ewes included) harvest in the AVSMA. (AOC recently submitted a proposal to put a stop to that in all of GMU25 but the proposal failed 6-1)

Please correct me if I'm wrong,
rod

Sent from Rod Arno's iPad.

On Aug 3, 2017, at 11:19 PM, Wayne Heimer <weheimer@alaskan.net> wrote:

*The subsistence season (seven months long with a bag limit of three sheep) is the highest-risk harvest management scheme, which even vaguely resembles controlled harvest.



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:48 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **George Houston** <ghouston@hevanet.com>
Date: Fri, Aug 4, 2017 at 7:09 AM
Subject: Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.
To: subsistence@fws.gov

Please pass Proposal WP 18-56 and open the area to sheep hunting per ANILCA.

-
1. Subject area has a healthy dall sheep population
 2. Federal law (the Alaska National Interest Lands Conservation Act (ANILCA)) mandates hunting be open to "non-locals" (see #5 and #6)
 3. The Refuge is federal public land where ANYONE can enjoy recreational opportunities.
 4. There is no present conservation concerns.
 5. The Refuge encourages hunting as wildlife-oriented recreation.
 6. Hunting can only be closed if there is a conservation concern or subsistence uses are not met.
 7. Subsistence opportunities for sheep and other resources continue to be available.
 8. The Federal Subsistence Board has apparently illegally kept this area closed from outsiders for emotional reasons rather than legal ones.



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 10:53 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>

----- Forwarded message -----
From: <ljacobs4@aol.com>
Date: Fri, Aug 4, 2017 at 10:31 AM
Subject: Proposal WP18-56
To: subsistence@fws.gov

Chair Christianson and members of the Board

I am writing to show support for the proposal before the Board that would reopen the area in the Eastern Brooks Range within the Arctic National Wildlife Refuge for hunting of full curl rams to the public. Please pass Proposal WR18-56 and open the area to sheep hunting per ANILCA.

Thank You for your consideration
Larry Jacobs
President - OR-FNAWS
Board member - WSF



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov>

Fri, Aug 4, 2017 at 7:54 AM

To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **James P. Jacobson** <huntfish@ak.net>

Date: Fri, Aug 4, 2017 at 7:52 AM

Subject: Proposal WP18-56

To: subsistence@fws.gov

8-4-17 Dear Board Members:

Please follow the actual guidelines of federal law & PASS WP18-56.

Thank you,

J.P. Jacobson, U.S. Citizen & Alaska resident



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Approve Proposal WP-18-56.

AK Subsistence, FW7 <subsistence@fws.gov> Wed, Aug 2, 2017 at 11:32 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Kaiser, John J.** <John.Kaiser@awwu.biz>
Date: Wed, Aug 2, 2017 at 11:09 AM
Subject: Approve Proposal WP-18-56.
To: "subsistence@fws.gov" <subsistence@fws.gov>

I thought Federal is supposed to look out for every one of the United States of America! Please Open this area so my children who were born in Alaska, thus are Residents and Alaskan Natives, have the opportunity to harvest a Dall sheep in this area.

It is wrong to only allow a small group exclusive rights to something that belongs to all Alaskans.

John Kaiser



Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: Proposal 18-56

1 message

AK Subsistence, FW7 <subsistence@fws.gov>

Mon, Jul 31, 2017 at 8:01 AM

To: Theo Matuskowitz <theo_matuskowitz@fws.gov>

Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **kkennedy2175** <kkennedy2175@gmail.com>

Date: Sun, Jul 30, 2017 at 11:04 PM

Subject: Proposal 18-56

To: subsistence@fws.gov

I encourage you to approve the proposal to open the arctic refuge to sheep hunting for all Alaskans. This is a discriminatory. If the tables were turned it would be called racist. Opening will help the local economy with non government resources, and create non government jobs. All Alaska will benefit.

Kal Kennedy, Alaska citizen since 1990.

Sent via the Samsung GALAXY S6@5, an AT&T 4G LTE smartphone



Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: Wp18-56

1 message

AK Subsistence, FW7 <subsistence@fws.gov>
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

Mon, Jul 31, 2017 at 8:05 AM

----- Forwarded message -----

From: **AK Subsistence, FW7** <subsistence@fws.gov>
Date: Mon, Jul 31, 2017 at 8:05 AM
Subject: Re: Wp18-56
To: Mike Kramer <mike@mikekramerlaw.com>

The Office of Subsistence Management is in receipt of your comments. Thank you.

On Sun, Jul 30, 2017 at 5:10 PM, Mike Kramer <mike@mikekramerlaw.com> wrote:

Please open the red sheep creek area for general hunting. No one from Arctic Village hunts sheep in this large area and there is no biological or social reason to keep it closed. Sheep hunting statewide is becoming increasingly more difficult and many federal lands are closed to general hunting, forcing Brooks Range sheep hunters onto small parcels of state land or crowded into other accessible areas of anwr. Red Sheep creek is a long ways from Arctic village and the few non local hunters that will utilize this area will have no negative impact on Arctic Village residents.

Sent from my iPhone, please forgive typos



Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP-18-56

1 message

AK Subsistence, FW7 <subsistence@fws.gov>

Mon, Jul 31, 2017 at 8:01 AM

To: Theo Matuskowitz <theo_matuskowitz@fws.gov>

Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **Doug Vincent-Lang** <dvincentlang@yahoo.com>

Date: Sun, Jul 30, 2017 at 10:28 PM

Subject: WP-18-56

To: subsistence@fws.gov

Please accept these comments regarding Proposal WP-18-56.

Nearly a million acres (900,000 acres) of previously open-to-hunting Arctic Village Dall Sheep Management Area (AVDSMA) within the Arctic National Wildlife Refuge in the Eastern Brooks Range has been closed by the federal government to non-local hunters since 1991 due to "social" concerns. There are no biological concerns about hunting of full curl rams and little reported use of sheep by local users. As such there is no conservation or social reason to keep this area closed.

Sheep hunting opportunity on these federal public lands should be available to the public under State of Alaska hunting regulations. Opening this area to hunting would not only benefit the local economies of nearby villages, but would also increase hunter opportunities in Alaska and lessen pressure on other Dall sheep hunting areas in the state.

Thank you for the opportunity to comment.

Doug Vincent-Lang

Anchorage, AK

dvincentlang@yahoo.com



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 2:49 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Jeff Lappe** <jalappe@hotmail.com>
Date: Fri, Aug 4, 2017 at 2:44 PM
Subject: WP18-56
To: "subsistence@fws.gov" <subsistence@fws.gov>

Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.

Jeff Lappe

Sent from [Outlook](#)



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd:

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 10:22 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Gordon Lyons** <mspaindoc@msn.com>
Date: Fri, Aug 4, 2017 at 10:20 AM
Subject:
To: "subsistence@fws.gov" <subsistence@fws.gov>

Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.
Thank you for your consideration. Any and all response/information/feedback would be greatly appreciated.
Sincerely,
Gordon Lyons

A. Gordon Lyons M.D.
Fellowship Trained/ABMS Board-Certified
Interventional Pain Medicine and
Anesthesiology

St. Dominic's Pain Management Center
Dominican Plaza
970 Lakeland Drive Suite 45
Jackson, MS 39216
Office 601.200.4690
Office Fax 601.200.4698



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd:

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:51 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **CRAIG NAKAMOTO** <nakamoto01@sbcglobal.net>
Date: Fri, Aug 4, 2017 at 2:54 AM
Subject:
To: "subsistence@fws.gov" <subsistence@fws.gov>

Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.

Sincerely,

***Craig Nakamoto,
President, Iowa FNAWS***



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP-18-56 Arctic National Wildlife Refuge, Arctic Village Dall Sheep Management Area - Alaska

AK Subsistence, FW7 <subsistence@fws.gov> Tue, Aug 1, 2017 at 7:52 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **Phil & Linda Nuechterlein** <knik07@gmail.com>
Date: Mon, Jul 31, 2017 at 10:27 PM
Subject: Proposal WP-18-56 Arctic National Wildlife Refuge, Arctic Village Dall Sheep Management Area - Alaska
To: subsistence@fws.gov

Greetings,

I would like to take the opportunity to voice my opinion on proposal WP-18-56.

It is my understanding that the Arctic Village Dall Sheep Management Area (AVDSMA) within the Arctic National Wildlife Refuge in the Eastern Brooks Range has been closed by the federal government to non-local hunters since 1991 due to "social" concerns. This should be changed for the following reasons:

- 1) **Local hunters apparently do not use or report the use of sheep.** Therefore, it appears that non-local hunters would not be competing with local hunters for this resource.
- 2) **There are apparently no biological reasons** to prohibit the general public from hunting mature full curl rams on this land.
- 3) **This is public land that should be available to all citizens** (and not restricted based on race, color, gender, creed, age, or zip code)

In conclusion, there is apparently no reason to keep this hunt closed to the general public. I respectfully request that you allow the public to hunt these lands under

State of Alaska hunting regulations.

Phil Nuechterlein

Eagle River, Alaska



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Hunt Area

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:49 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Pat O'Neill** <pat.gcr@outlook.com>
Date: Fri, Aug 4, 2017 at 6:49 AM
Subject: Hunt Area
To: "subsistence@fws.gov" <subsistence@fws.gov>

Dear Board Members,

Please consider passing proposal WP18-56 and open the area to Sheep Hunting per ANILCA.

Thank You for your consideration.

Pat

Pat O'Neill
President
Granite City Roofing, Inc.
PO Box 1482
St. Cloud, MN 56302
320-253-4441



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP-1856

AK Subsistence, FW7 <subsistence@fws.gov> Tue, Aug 1, 2017 at 7:52 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Donald Quarberg** <dmqlaf@yahoo.com>
Date: Mon, Jul 31, 2017 at 8:58 PM
Subject: WP-1856
To: subsistence@fws.gov

Open the 900,000 acres of Dall Sheep habitat within the Arctic Village Dall Sheep Management Area to sheep hunting by the general public. There is no biological reason to have this area closed, especially when the locals report no hunting of Dall Sheep. Eliminate this totally unnecessary closure!

Thank You, Don Quarberg



Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: Proposal WP-18-56

1 message

AK Subsistence, FW7 <subsistence@fws.gov>

Mon, Jul 31, 2017 at 8:02 AM

To: Theo Matuskowitz <theo_matuskowitz@fws.gov>

Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **Chuck** <jrsmom@ptialaska.net>

Date: Sun, Jul 30, 2017 at 7:48 PM

Subject: Proposal WP-18-56

To: subsistence@fws.gov

I strongly encourage you to approve proposal WP-18-56. There's no reason to prevent non local Alaska residents from hunting dall sheep in accordance with Alaska hunting regulations in the area described.

Thank you for your consideration.

Charles Rodgers

43725 Ross Drive

Soldotna, AK 99669

This email has been checked for viruses by Avast antivirus software.
<https://www.avast.com/antivirus>



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 10:55 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Paul Mckee <paul_mckee@fws.gov>

----- Forwarded message -----
From: **Mike Schlegel** <mws1941@gmail.com>
Date: Fri, Aug 4, 2017 at 10:32 AM
Subject: Proposal WP18-56
To: subsistence@fws.gov

August 4, 2017

To Whom It May Concern:

It is my understanding the Alaska Federal Subsistence Board has prohibited recreational hunting in the Eastern Brooks Range within the Arctic National Wildlife Refuge. It is also my understanding there are no biological issues/concerns regarding the Dall's sheep population in this portion of the Brooks range that suggest recreational hunting of full curl rams should not be allowed. The Alaska National Interest Lands Conservation Act mandates hunting opportunity for "non-locals" are provided where there are no conservation and/or subsistence issues. The Eastern Brooks Range fully meets these criteria. In addition, hunting is an approved and accepted recreational activity on federal refuges.

I encourage the Alaska Federal Subsistence Board to approve proposal WP18-56; subsistence hunting and recreational hunting can coexist when properly planned; hunting is conservation!

Thank you for the opportunity to comment;

Mike Schlegel

Retired Wildlife Biologist, Idaho Dept Fish and Game

506 S State Street

Grangeville, ID 83530

208-630-3001

mws1941@gmail.com



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Passing WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 2:54 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Schruf, Robert C (DOT)** <bob.schruf@alaska.gov>
Date: Fri, Aug 4, 2017 at 2:53 PM
Subject: Passing WP18-56
To: "subsistence@fws.gov" <subsistence@fws.gov>

Greetings,

If the locals do not harvest the Dall sheep in the eastern Brooks Range, then allow the non-local residents to maintain a healthy Dall sheep population, by harvesting the sheep.

"ACCESS FOR ALL"

Bob Schruf 907-378-3803



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Please re open Arctic Village Sheep Management Area

AK Subsistence, FW7 <subsistence@fws.gov> Thu, Aug 3, 2017 at 3:57 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **Rebecca Schwanke** <becky99588@yahoo.com>
Date: Thu, Aug 3, 2017 at 3:31 PM
Subject: Please re open Arctic Village Sheep Management Area
To: "subsistence@fws.gov" <subsistence@fws.gov>
Cc: Skip Bourgeois <gbourgeoisiii@hotmail.com>, "Kevin J. Kehoe" <kevinkehoe@alaskan.com>

I am writing to support the approval of Proposal WP-18-56.

Closed for some time now, the Arctic Village Dall Sheep Management Area should be re-opened to sheep hunting under a general season full-curl regulation. Even low density sheep populations can sustain the limited harvest pressure than a full-curl regulation brings.

Not allowing general sheep hunting in this area equates to a significant lost opportunity for a number of sheep hunters. Fly in hunting would offer a much needed financial boost to nearby communities.

There would be no conflict that I am aware of with local subsistence hunting in this area, and there is no biological reason to keep this area closed.

Please re-open the area to general state sheep hunting.

As a federal subsistence sheep hunter and a lifelong Alaskan, I thank-you for your consideration,

Rebecca Schwanke
PO Box 612
Glennallen, AK 99588



AK Subsistence, FW7 <subsistence@fws.gov>

Sheep hunting

1 message

Randy Smith <racsmith2157@gmail.com>
To: subsistence@fws.gov

Fri, Aug 4, 2017 at 4:46 PM

Please pass proposal WP18-56 and open the area to sheep hunting per ANILCA.

Thank You!



AK Subsistence, FW7 <subsistence@fws.gov>

Comments on proposal number WP-18-56

1 message

Steven Speer <stevenespeer@gmail.com>
To: subsistence@fws.gov

Fri, Aug 4, 2017 at 7:03 PM

I would like to voice my support for re-opening Dall sheep hunting per proposal number WP-18-56 in the Arctic Village Dall Sheep Management Area within ANWR. It does not appear from any available data to be a closure that is based on biological sustainability of the resident sheep populations. As these sheep are not typically utilized by local villagers, the benefit to the villages will be through the money sportsmen will spend in the area. Increasing opportunity to hunters by restoring public hunting access can only help balance pressure on herds across the state and help maximize the benefit of this resource for the entire public without undue negative impact on local residents.

I also think it is important that any argument against restoring public hunting that roughly corresponds to "I don't have any interest in hunting these animals but I don't want you to either because I just don't want you here" is not an argument that the stewards of these resources should be willing to entertain. It is bad public policy that will only inflame and perpetuate racist attitudes in our society rather than create a common agenda of long term conservation for the benefit of all user groups.

Thank you,

Steven Speer
Aloha, Oregon



Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: Proposal WP-18-56

1 message

AK Subsistence, FW7 <subsistence@fws.gov>

Mon, Jul 31, 2017 at 8:07 AM

To: Theo Matuskowitz <theo_matuskowitz@fws.gov>

Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **Henry Springer** <oksun@gci.net>

Date: Mon, Jul 31, 2017 at 8:05 AM

Subject: Proposal WP-18-56

To: subsistence@fws.gov

To: Federal Subsistence Board, Anchorage, Alaska.

Ref. Proposal WP-18-56 hunting dall sheep within the Arctic National Wildlife Refuge in the Eastern Brooks Range.

I have lived in Alaska for 57 years and have hunted big game all over Alaska, both as a sport hunter and subsistence user. I have hunted Dall sheep in the Eastern Brooks range and am familiar with the conditions.

Hunting Dall sheep in the effected area should be allowed for non-local hunters. There is no dall-sheep conservation concern to the taking of mature rams. Subsistence users mostly prefer younger animals, The use of this resource by locals for subsistence purposes is not excessive and would allow for the taking of mature rams by others.

This is not a cheap area to hunt in, but hunting for mature dall rams is a unique thing for most non-local hunters and often a hunt of a life-time. It would also lessen the hunting pressure on some over-hunted dall sheep areas in the State and would aid the Alaska economy. These reasons seem sufficient to override some political concerns. I appreciate your serious consideration. Sincerely, Heinrich Springer



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP-18-56

AK Subsistence, FW7 <subsistence@fws.gov>

Thu, Aug 3, 2017 at 3:56 PM

To: Theo Matuskowitz <theo_matuskowitz@fws.gov>

Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **Gary Stevens** <garyatsls@cs.com>

Date: Thu, Aug 3, 2017 at 3:48 PM

Subject: WP-18-56

To: subsistence@fws.gov

Cc: Representative.Cathy.Tilton@akleg.gov, Senator.Shelley.Hughes@akleg.gov

Dear Members of the Federal Subsistence Board,

I urge you to adopt Proposal WP-18-56 to reopen sheep hunting in the Arctic Village Dall Sheep Management Area to "non-local hunters". With basically no harvest of sheep, it appears to me that the local hunters are under utilizing this resource. Allowing non-local participation will help to spread out the existing pool of sheep hunters across the state as well as support the local economies within ANWR. Please consider allowing more opportunities for "non-local" participation in all areas currently restricted to "locals" only. Continuing to create these large areas limiting participation to "locals" is only creating larger and more divisive "social" issues. If there is no scientific/biological reason for the restriction, please don't impose restrictions.

Thank you for your consideration,
Gary Stevens
garyatsls@cs.com.
907-229-4710



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:49 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Todd Stowater** <Todd@thoringtonlaw.com>
Date: Fri, Aug 4, 2017 at 6:51 AM
Subject: Proposal WP18-56
To: "subsistence@fws.gov" <subsistence@fws.gov>

To Whom it may concern:

lease pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.

It is my understanding that there is approximately 900,000 acres in ANWR that has been restricted to subsistence hunting only in violation of ANILCA for hunting of Dall's sheep by hunters other than subsistence hunters. There is an adequate population of full curl Dall's sheep that is currently not being hunted by anyone and should be open to hunters per Federal law. The primary restriction on hunting these Dall's sheep has been emotionally driven rather conservation or legal reasons. Subsistence opportunity will be still be available for those who wish to exercise that desire.

I have personally hunted Dall's sheep in Alaska and I would hope that opening this area to non-subsistence hunting would encourage others to do the same and have an opportunity to experience the wonderful State of Alaska.

Please give Proposal WP18-56 your prompt attention and pass the same.

Thank you,

Todd Stowater

McMahon, Stowater, Lynch & Laddusaw

120 N. Thorington St.

Algona, IA 50511

P (515)295-3532

F (515)295-3302

Todd@ThoringtonLaw.com



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: DO pass Proposal WP 18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 8:29 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Rich Thompson** <rich@kathykellydesign.com>
Date: Fri, Aug 4, 2017 at 8:28 AM
Subject: DO pass Proposal WP 18-56
To: subsistence@fws.gov

As there are no biological implications and subsistence opportunities are not a concern, please pass this proposal so that the ARTIC NATIONAL WILDLIFE REFUGE can be open to all citizens, particularly for sheep hunting opportunities.

Sincerely

R.S. Thompson

Newberg, OR



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Wild Sheep Foundation Comments to WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 3:45 PM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **K.M. Gordon** <kgordon@mosquitonet.com>
Date: Fri, Aug 4, 2017 at 3:28 PM
Subject: Wild Sheep Foundation Comments to WP18-56
To: subsistence@fws.gov

Attached are the comments from the Wild Sheep Foundation in support of Proposal WP18-56. Thank you for the opportunity to comment.

Gray Thornton

President and CEO

Wild Sheep Foundation

WSF Comments Final 2017 AK WP18-56.pdf
145K



August 4, 2017

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

Chairman Christianson and Members of the Board:

The Wild Sheep Foundation appreciates the opportunity to comment on Proposal WP18-56, and we ask the Federal Subsistence Board to approve this proposal to allow sheep hunting by non-federally-qualified subsistence users in the Arctic Village Dall Sheep Management Area within the Arctic National Wildlife Refuge (ANWR).

Above all, the Wild Sheep Foundation's focus is on conservation. As the premier international sheep-focused conservation organization representing nearly 7,000 members, and an affiliated membership of another 5,000 worldwide, the Wild Sheep Foundation strives to enhance wild sheep populations, promote scientific wildlife management, educate the public and youth on sustainable use and the conservation benefits of hunting while promoting the interests of the hunter. Conservation and hunting go hand-in-hand because it is hunters who actually pay for wildlife management through agreements between states and the US Fish and Wildlife Service.

According to ANWR's official website, the Refuge is characterized as "amazing public land owned by all US citizens," and that people commonly come to the Refuge to "camp, hike, float rivers, hunt, or fish." These activities are all officially allowable uses on Refuge land. Hunting on refuges is a customary and traditional activity for Americans, and should be reopened in the area proposed in Proposal WP18-56. It is the right of all Americans to recreate, including hunting, on federal public land.

According to ANILCA's Appendix, Section 303, one of the purposes for the ANWR was the conservation of Dall sheep. The Wild Sheep Foundation, in harmony with this objective, is also supremely focused on wild sheep conservation, and indeed raises and directs more than \$4 Million annually to support professional scientific management and advancement of knowledge on biology, behavior, environmental resistance, health, and other needs of wild sheep and their habitats.

412 Pronghorn Trail, Bozeman, MT 59718 • 406.404.8750 • info@WildSheepFoundation.org • www.WildSheepFoundation.org

Hunting on the Refuge by non-federally-qualified subsistence users is supposed to be the rule and not the exception per ANILCA Title 815(4) which states that there can be no “authorizing a restriction on the taking of fish and wildlife for non-subsistence uses on the public lands ...unless necessary for the conservation of healthy populations of fish and wildlife.”

Conservation concern and meeting subsistence uses are the only criteria for closing hunting to non-federally-qualified subsistence users per ANILCA, and indeed, because there is no conservation concern in the area in question, and there is no substantial evidence showing need to keep the area closed to non-subsistence users to provide a meaningful preference for actual subsistence uses, ANILCA says there should be no restriction. Because ANILCA gives no other social or cultural reason for closure of hunting, continuing the closure remains a violation of ANILCA.

Reported harvests of Dall sheep over the last 25 years suggest inconsequential use of Dall sheep and inconsequential subsistence harvest. Also, exclusion of other hunters has had no biological benefit to populations – either sheep or human.

The current regulations for non-locals is from August 10 to September 20 (41 days) while the locals’ harvest season is October 1 to April 30 (182 days), a factor of almost 4.5 times as many days in the field. Because there is no overlap in seasons, there can be no conflict in the field between these two hunter groups. Additionally, while non-locals can only take one full curl ram, locals can harvest any three sheep, so not only are the locals’ seasons much longer, their bag limits provide much more opportunity than that of non-locals.

The Refuge and its resources belong to all Americans. Closures due to perceived cultural or social reasons are not supported by either ANILCA or the Refuge’s Comprehensive Conservation Plan. In fact, paraphrased, the latter document says:

- The Refuge has local, state, and national constituent users who must be considered in developing and implementing visitor use programs and policies. These visitor constituencies’ use is best addressed through a fair and open public planning process. (Objective 5.4)
- Uses will not be prohibited unless a public process determines the use is detrimental to the area’s resource values. (Objective 5.1) (Emphasis mine. Note that “cultural” or “social” uses are not legitimate criteria on which to order any closure to hunting.)
- Public access to Refuge lands for recreation is allowed to “provide the public with opportunities for wildlife-dependent recreation.” (Objective 5.4)

Because hunting is an allowed use on the Refuge, it appears Refuge intent is that hunting is clearly considered "wildlife-dependent recreation," and thus should not be precluded in the face of no conservation concern or jeopardy to the area's resource values, and ANILCA Article 815 supports this.

In conclusion, the Wild Sheep Foundation believes there is no legal reason, and there are no supporting data, to keep the Arctic Village Dall Sheep Management Area closed to non-subsistence hunting any longer. In truth, ANILCA and the Refuge both EXPECT uses to not be limited EXCEPT when a documented conservation concern clearly requires it. These conditions have not been shown to exist, and to be in harmony with the Refuge's purposes, Comprehensive Conservation Plan, and ANILCA, open hunting should be allowed by the passage of Proposal WP18-56.

Sincerely,

A handwritten signature in black ink, appearing to read "GN Thornton", with a long horizontal flourish extending to the right.

Gray N. Thornton,
President & CEO

C: Karen Gordon, WSF Director, Fairbanks
Kevin Kehoe, AK WSF President, Anchorage



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:47 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Mike Tinker** <miketinkerak@gmail.com>
Date: Fri, Aug 4, 2017 at 7:38 AM
Subject: WP18-56
To: subsistence@fws.gov

Please pass this proposal to reopen the eastern Brooks Range to Dall sheep hunting.

Sent from my iPad



Mckinney, Kayla <kayla_mckinney@fws.gov>

**Fwd: Support for re-establishing sheep hunting in ANWR Brooks Range
900,000 acres**

AK Subsistence, FW7 <subsistence@fws.gov> Mon, Jul 31, 2017 at 8:00 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **Mead Treadwell** <mead@ventureadastra.com>
Date: Sun, Jul 30, 2017 at 11:37 PM
Subject: Support for re-establishing sheep hunting in ANWR Brooks Range 900,000 acres
To: subsistence@fws.gov
Cc: Bill Iverson <president@alaskaoutdoorcouncil.org>

As a member of the Alaska Outdoor Council and an Alaskan who supports hunting I write in support of opening the Arctic Village area of ANWR that has been closed to sheep hunting since the first Bush Administration.

I support this in the belief it will help the economies of the communities in the area and not negatively impact subsistence. I believe state management will protect the resource and the needs of the people.

A proposal (WP-18-56) before the Federal Subsistence Board (which regulates hunting in the Refuge) states that:

- a) there is no biological concern about hunting of full curl rams in general and,
- b) that the local hunters don't apparently use or report use of sheep.

Therefore, with essentially no harvest of sheep, there is no conservation reason to keep this area closed. Sheep hunting opportunity on these federal public lands should be available to the public under State of Alaska hunting regulations. Opening this area to hunting would not only benefit the local economies of nearby villages, but would also increase hunter opportunities in Alaska and lessen pressure on other Dall sheep hunting areas in the state.

Thank you.

Mead Treadwell
Mobile: (907) 223-8128
meadwell@alaska.net
mead@ventureadastra.com
Sent from my iPhone



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP-18-56

AK Subsistence, FW7 <subsistence@fws.gov>

Fri, Aug 4, 2017 at 7:50 AM

To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **Gerald Walters** <gridwalters2@aol.com>

Date: Fri, Aug 4, 2017 at 6:24 AM

Subject: Proposal WP-18-56

To: subsistence@fws.gov

Subsistence Board,

I am asking that you open up, to the general public, the 900,000 acre area, in the Eastern Brooks Range within the Arctic National Wildlife Refuge, that has been previously closed to public hunting. This area is currently closed to hunting, except for local village residents. There is a healthy Dall sheep population there, and the locals, prefer caribou to Dall sheep, so rarely hunt sheep. I am encouraging the Federal Subsistence Board to reopen this area, to hunting of full curl rams, so that the general public, that supports these lands with their tax dollars, will have an opportunity to visit and invest in your state.

Additional supporting facts that I ask you to consider:

1. The area has a healthy sheep population.
2. Federal law (the Alaska National Interest Lands Conservation Act (ANILCA)) mandates hunting be open to "non-locals" (see #5 and #6).
3. The Refuge is federal public land where ANYONE can recreate.
4. The Refuge encourages hunting as wildlife-oriented recreation.
5. Hunting can only be closed if there is a conservation concern or subsistence uses are not met.
6. There is no present conservation concern.
7. Subsistence opportunities for sheep and other resources continue to be available.
8. The Federal Subsistence Board has illegally kept this area closed from outsiders for emotional reasons rather than legal ones.

Sincerely,

Jerry Walters



Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP-18-56.

1 message

AK Subsistence, FW7 <subsistence@fws.gov>

Mon, Jul 31, 2017 at 8:01 AM

To: Theo Matuskowitz <theo_matuskowitz@fws.gov>

Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **mark wayson** <markonwayson@yahoo.com>

Date: Mon, Jul 31, 2017 at 5:55 AM

Subject: WP-18-56

To: subsistence@fws.gov

Sheep hunting as well as hunting other game animals should be open to all in the area in question.

Mark Wayson



Matuskowitz, Theo <theo_matuskowitz@fws.gov>

Fwd: WP-18-56

1 message

AK Subsistence, FW7 <subsistence@fws.gov>
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

Mon, Jul 31, 2017 at 2:08 PM

----- Forwarded message -----

From: **Gary Wilken** <garywilken@me.com>
Date: Mon, Jul 31, 2017 at 1:58 PM
Subject: WP-18-56
To: subsistence@fws.gov
Cc: Alaska Outdoor Council <membership@alaskaoutdoorcouncil.com>

Greetings US Fish & Game,

Please use this communication in support of reopening hunting of Dall sheep on federal public lands to all sheep hunters once again in the Arctic Village Dall Sheep Management Area.

Opening this area to hunting would not only benefit the local economies of nearby villages, but would also increase hunter opportunities in Alaska and lessen pressure on other Dall sheep hunting areas in the state.

Thank you for the opportunity to express my opinion.

Gary Wilken
2829 Chief William Drive #6
Fairbanks AK 99709

378-0707 m



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: AVDSMA

AK Subsistence, FW7 <subsistence@fws.gov> Wed, Aug 2, 2017 at 10:24 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Birch Yuknis** <byuknis@aol.com>
Date: Wed, Aug 2, 2017 at 10:23 AM
Subject: AVDSMA
To: subsistence@fws.gov

Hello and thank you for reading my email,

I am a lifelong Alaska resident. I was able to hunt in this area while in high school but it was closed shortly to nonlocals after I graduated college. I have made several trips to the Brooks Range sheep hunting and have long waited for this area to be "reopened" to everyone. I agree with the proposal WP 18-56 that is before the Federal Subsistence Board.

All of the data points to no biological reason to have this area closed to non-local hunters. This is a Federal Wildlife Refuge that should be open to all residents of the United States, not just a select group of locals. Based on this alone this area should be "opened" up to everyone.

Thank you for your time,

Birch Yuknis
5035 N Flying Circus Circle
Wasilla, Alaska 99654



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: WP-18-56

6 messages

AK Subsistence, FW7 <subsistence@fws.gov>

Tue, Aug 1, 2017 at 7:52 AM

To: Theo Matuskowitz <theo_matuskowitz@fws.gov>

Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----

From: **Jim Gallagher** <jimmy.g@acsalaska.net>

Date: Tue, Aug 1, 2017 at 4:15 AM

Subject: WP-18-56

To: subsistence@fws.gov

Please approve Proposal WP-18-56.

Sheep hunting opportunity on these federal public lands should be available to the public under State of Alaska hunting regulations.

Opening this area to hunting would not only benefit the local economies of nearby villages, but would also increase hunter opportunities in

Alaska and lessen pressure on other Dall sheep hunting areas in the state.

Thank you,

Born and raised Alaskan 1955

Jim E. Gallagher

Cell 907-242-5557

Jimmy.g@acsalaska.net

AK Subsistence, FW7 <subsistence@fws.gov> Tue, Aug 1, 2017 at 3:46 PM
To: Gene Peltola <gene_peltola@fws.gov>, Thomas Doolittle <thomas_doolittle@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Theo Matuskowitz <theo_matuskowitz@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Jeff Alling** <jeffa@alcanbuilders.com>
Date: Tue, Aug 1, 2017 at 3:29 PM
Subject: WP-18-56
To: "Subsistence@fws.gov" <Subsistence@fws.gov>

My name is Jeff Alling and I am a founding member of RHAK (Resident Hunters of Alaska) and I oppose the continued closure of Dall Sheep hunting in the AVDSMA area on the grounds that it is apparent that the local hunters do not use or do not report the use of this resource. Also I oppose the closure because there is no biological concern about hunting of Full Curl Rams.

This area has been closed to the taking of Dall Sheep by non-local hunters since

1991 for supposed "Social" concerns. This reason is nonsense as any contact I have had with locals from that area has been very positive.

Please reopen this area in an effort to revive this cherished freedom that has been taken from us by our Federal Government since 91.

Thank you.

Jeff Alling

Alcan Builders Inc.

3009 International Rd. Fairbanks, AK 99701

PH: 907-456-1383

FX: 907-452-4378

<mailto:jeffa@alcanbuilders.com>

Check us out at www.Alcanbuilders.com

AK Subsistence, FW7 <subsistence@fws.gov> Thu, Aug 3, 2017 at 9:31 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **andrew r. zajac** <zajac@mtaonline.net>
Date: Thu, Aug 3, 2017 at 9:29 AM
Subject: WP-18-56
To: subsistence@fws.gov

Dear Board Members,

I urge you to lift the ban on the hunting of Dall sheep in the Arctic Village Dall Sheep Management Area. If there is no biological concern nor hunting pressure on full curl rams, then the opportunity to hunt should be available to the general public, thus relieving hunting pressure in other areas around the state. Thank you.

Sincerely,
Andy Zajac
Eagle River, AK



Mckinney, Kayla
<kayla_mckinney@fws.gov>

Fwd: WP-18-56

AK Subsistence, FW7 <subsistence@fws.gov> Thu, Aug 3, 2017 at 9:31 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>
Cc: Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **andrew r. zajac** <zajac@mtaonline.net>
Date: Thu, Aug 3, 2017 at 9:29 AM
Subject: WP-18-56
To: subsistence@fws.gov

Dear Board Members,

I urge you to lift the ban on the hunting of Dall sheep in the Arctic Village Dall Sheep Management Area. If there is no biological concern nor hunting pressure on full curl rams, then the opportunity to hunt should be available to the general public, thus relieving hunting pressure in other areas around the state. Thank you.

Sincerely,
Andy Zajac
Eagle River, AK



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 8:24 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Jennifer Hardin <jennifer_hardin@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Randy Zarnke** <itrap2@gci.net>
Date: Fri, Aug 4, 2017 at 8:23 AM
Subject: Proposal WP18-56
To: subsistence@fws.gov

Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA.



Mckinney, Kayla <kayla_mckinney@fws.gov>

Fwd: Proposal WP18-56

AK Subsistence, FW7 <subsistence@fws.gov> Fri, Aug 4, 2017 at 7:48 AM
To: Theo Matuskowitz <theo_matuskowitz@fws.gov>, Paul Mckee <paul_mckee@fws.gov>, Kayla Mckinney <kayla_mckinney@fws.gov>

----- Forwarded message -----
From: **Joe Zupancic** <yetisquad@hotmail.com>
Date: Fri, Aug 4, 2017 at 7:35 AM
Subject: Proposal WP18-56
To: "subsistence@fws.gov" <subsistence@fws.gov>

Please pass Proposal WP18-56 and open the area to sheep hunting per ANILCA. I may never get to set foot in it but knowing it is there and open to hunting is exciting to think about.

*Joe Zupancic
970-471-0053*

APPENDIX A REGULATORY HISTORY

At the beginning of the Federal Subsistence Management Program in Alaska in 1990, existing State regulations were adopted into Temporary Subsistence Management Regulations (55 Fed. Reg. 126. 27117 [June 29, 1990]). The customary and traditional use determination for sheep in Unit 25A was for residents of Arctic Village, Chalkyitsik, Fort Yukon, Kaktovik, and Venetie (ADF&G 1987). The Board has not received a proposal to modify the determination.

In 1991, Proposals 09, 10, and 11 were submitted by the Arctic Village Council; Proposal 21 by Brooks Range Arctic Hunts; Proposal 75 by the Yukon Flats Fish and Game Advisory Committee; and Proposal 100A by the Arctic National Wildlife Refuge. At its meeting in March 1991, the Board acted on Proposals 100A and 75.

The Chair stated,

As far as the Board's concerned, our first compliance is—or obligation—is compliance with the Federal [regulations], that will be its guiding principle that will be used by the Board. It considers this responsibility for various recommendations and proposals. The policy is that the State will reassume full responsibility to manage fish and game subsistence use on Federal lands, and that will be a principle that will guide the coming decisions of the Board. In keeping with that, we will want to minimize actions that will duplicate or complicate the State's resumption of the program. However, there are certain things that are happening that will cause us to make some decisions that may do that to some extent, but those will be well-discussed, well-considered, and well-calculated before we have to do that. So those are some of the general guidance policies that the Board will function under (FSB 1991a:5–6).

Proposal 100A requested that the Board modify the harvest limit from one mature ram to 2 rams and extend the hunting season in a portion of Unit 25A. The northern boundary of the area was the mainstem of Cane Creek. The area did not include areas north of Cane Creek, including Red Sheep Creek. Regional Advisory Councils did not meet until fall 1993, and there was no Council recommendation for the Board to consider. The Board adopted the Interagency Staff Committee recommendation and adopted the proposal with modification. The modification was to close the area to the harvest of sheep except by Federally qualified subsistence users. The justification was that portions of the area did not appear to be able to support more sheep than were currently present, the population of sheep in the Red Sheep Creek drainage was of much higher densities and could continue to support the then existing seasons and harvest limits, the Red Sheep Creek drainage received quite a bit more effort than other areas of Unit 25A, and the remainder of Unit 25A supported a substantial opportunity for all hunters (FSB 1991b:150–164; 56 Fed. Reg. 123. 29344 [June 26, 1991]).

Proposal 75 requested that the Board close to the harvest of sheep except by Federally qualified subsistence users the drainages of Junjik River, East Fork Chandalar River, Red Sheep Creek, Cane Creek,

Water Creek, Spring Creek, Ottortail Creek, and Crow Next Creek. The Board adopted the Interagency Staff Committee recommendation and rejected the proposal because of its earlier action taken on Proposal 100A, described above (FSB 1991b:164–168).

It was not until its meeting three months later in June 1991 that the Board acted on Proposals 09, 10, and 11. In Proposal 09, Arctic Village Council had anticipated the Board's action on Proposal 100A and requested the Board to include Cane Creek and Red Sheep Creek drainages in the area (AVSMA) closed to the harvest of sheep except by Federally qualified subsistence users. The proponent said that the area set aside did not include all of the areas that must be included to accommodate customary and traditional uses of sheep by residents of Arctic Village (OSM 1991). The Board adopted the Interagency Staff Committee recommendation and rejected the proposal. The Board said Arctic Village residents used Cane Creek and Red Sheep Creek only for a short time when air taxi service was available. These two areas could support both subsistence and sport harvest (FSB 1991c:78–80).

Proposals 10 and 11 requested that the Board eliminate harvest limits in the AVSMA (Proposal 10) or increase the harvest limit to 3 sheep (Proposal 11). The Board adopted the Interagency Staff Committee recommendations and rejected both proposals. The Board said the sheep population in the AVSMA was extremely low and the proposed regulations would jeopardize the continuation of healthy populations of sheep (FSB 1991c:80–82). The Board adopted the Interagency Staff Committee recommendation and also rejected Proposal 21, which requested the Board to open the AVSMA to the harvest of sheep by non-Federally qualified users. The Interagency Staff Committee said that the sheep population was extremely low, and subsistence users must be afforded a priority (OSM 1991).

In 1992, Wildlife Request for Reconsideration (WRFR) 92-23 was submitted by the Arctic Village Council requesting that the Board reconsider its decision on Proposal 9, which if adopted would have added Cane Creek and Red Sheep Creek drainages to the AVSMA. The Board did not act on the request until 1993 when it received Proposal 58 from the Arctic Village Council requesting that the Board add Cane Creek and Red Sheep Creek drainages to the AVSMA and implement a community harvest limit. At its meeting in April 1993, the Board adopted the Interagency Staff Committee recommendation and rejected the proposal. The Board said that Cane Creek and Red Sheep Creek drainages supported adequate sheep to support harvest by non-Federally qualified users and that not enough data was available on harvest levels to support community harvest or reporting systems (FSB 1993:140–512).

In 1995, Proposal 54 was submitted by the Arctic Village Council requesting that the Board add Cane Creek and Red Sheep Creek drainages to the AVSMA. The Eastern Interior Council took no action on the proposal (EIASRAC 1995:88–97, OSM 1995a:359). The North Slope Subsistence Advisory Council (North Slope Council) recommended that the Board adopt the proposal (NSSRAC 1995:206, OSM 1995a:359). The Board adopted the proposal with modification. The modification was that the Board would revisit the proposal in another year. The Board said that although there was no biological reason for closing Cane Creek and Red Sheep Creek drainages to the harvest of sheep except by Federally qualified subsistence users, it had heard substantial testimony regarding the fact that due to the customary and traditional hunting practices of the residents of Arctic Village, not adopting the proposal would deny a

subsistence opportunity to the residents of Arctic Village (FSB 1995:611–634, 686–693; 60 Fed. Reg. 115. 31545 [June 15, 2005]).

In 1995, WRFR 95-06 was submitted by ADF&G requesting that the Board reconsider its decision on Proposal 54. The Board rejected the request in July 1995 (OSM 1995b).). The Board determined that the request was not based on information not previously considered by the Board, demonstrated that the existing information used by the Board was incorrect, or demonstrated that the Board’s interpretation of information, applicable law, or regulation was in error or contrary to existing law. One of these factors would need to be present for the Board to reconsider its decision, as described in regulation (50 CFR 100.20).

In 1996, Proposal 55 was submitted by ADF&G. It requested that the Board open Cane Creek and Red Sheep Creek drainages to the harvest of sheep by non-Federally qualified subsistence users. The Eastern Interior Council recommended opposing the proposal. The Eastern Interior Council said it had heard no compelling evidence to overturn recent Board action to include these drainages. Opposition to the proposal came before the Council from an Arctic Village resident’s testimony, a letter from the Arctic Village Council, and from the Council’s representative from Arctic Village. The Council affirmed its support for the existing AVSMA. The North Slope Council recommended deferring action for one year until more information concerning Kaktovik residents’ use of the AVSMA was available, however, the Council expressed desire to “defer to wishes of their neighbors to the south” (OSM 1996:12). The Board rejected the proposal referring to its action on Proposal 54 the previous year in 1995, described above, and that there had still been no dialogue between the State and Arctic Village (FSB 1996:20).

This Regulatory History contains more information on each regulatory proposal below than above. This is because official records of Council and Board justifications were kept after 1995. Justification for Board actions that were provided in letters to the Councils, as mandated in ANILCA Section 805(c), were reviewed and compared to transcripts and provide an accurate description of the Board’s justifications.

In 2006, Proposal WP06-57 was submitted by ADF&G. It requested that the Board open the AVSMA to the harvest of sheep by non-Federally qualified subsistence users. The Eastern Interior Council recommended opposing the proposal and said that it needed sheep population surveys before considering reopening the closure to non-Federally qualified hunters. The Eastern Interior Council said that people of Arctic Village were totally dependent on the land for food for their nutritional and cultural needs. The Council said managers cannot only depend on harvest tickets for harvest information. It continued that there was a problem with transporters throughout the region. Transporters brought people up to this area, and they did not clean up after themselves. The Eastern Interior Council heard testimony from Arctic Village residents during the meeting that sheep have been harvested but not reported by subsistence users in this area. The Council indicated there was a need for a meeting with the people of Arctic Village and a need for more work on this issue before the area was opened to non-Federally qualified users. The Council said there was no biological reason given to support this proposal, and here was an opportunity for the people in the area to work with nonsubsistence users before submitting a proposal (OSM 2006b:452–453). The North Slope Council recommended deferring the proposal to get more information on sheep population and more harvest information. The Council said it would feel very uncomfortable making a

decision that might be detrimental when there was a lack of information (OSM 2006a:452–453). The Board rejected the proposal. The Board said it had listened to public testimony on this proposal and was unable to pass a motion to allow non-Federally qualified users to hunt sheep in the drainages of Red Sheep Creek and Cane Creek or to defer action on the proposal with respect to the remainder of the AVSMA. The Board did not see a need for action at this time because of the commitment of the Arctic National Wildlife Refuge to conduct sheep surveys in the area the following summer (FSB 2006:261–283, OSM 2006a:6).

In 2006, Wildlife Special Action Request (WSA) 06-03 was submitted by the USFWS. It requested that the Board open the Cane Creek and Red Sheep Creek drainages to the harvest of sheep by non-Federally qualified subsistence users from Aug. 10 through Sept. 20, 2006. The Board approved the request. It said it reviewed new information on sheep abundance in the AVSMA from a survey conducted by USFWS in June 2006 and presented in an assessment report. During the course of its consideration, the Board said it received an excerpt from the transcript of the May 2006 meeting of the the Board relative to consideration of this issue concerning Proposal WP06-57, a draft staff analysis prepared by OSM, ADF&G, and written and telephonic public testimony (OSM 2017b).

In 2007, Proposal WP07-56 was submitted by ADF&G. It requested that the Board open Cane Creek and Red Sheep Creek drainages to the harvest of sheep by non-Federally qualified users from Aug. 10 through Sept. 20. The Eastern Interior Council recommended the Board defer action on the proposal for one year to allow formation of a working group of representatives from affected villages, hunting interests, and agencies to decide what an acceptable sheep harvest or number of sheep hunters would be in this area, and then draft a proposal to the Board of Game for its March 2008 meeting. The Council said the proposal would have contained the number of non-Federally qualified hunters to be allowed to hunt in the Cane Creek and Red Sheep Creek area. The Council said the working group timeline would have given the Federal Subsistence Board time to monitor the progress of the working group, the Board of Game proposal(s), and the actions of the Board of Game before the Federal Subsistence Board met later in the spring of 2008. The Council said it had received testimony from Arctic Village sheep hunters, local elders, and Arctic Village Tribal Council leaders who all had requested the closure of the Red Sheep and Cane Creek area remain in effect. Testimony included the cultural importance of the area because of burial sites, allotments, and being a traditional area where they hunt sheep, and that they would not be able to compete with other hunters if the area was opened to other hunters. The Council said testimony also included the high cost of accessing the area and the difficulty reaching the area other than by aircraft. Council members discussed the relationship of caribou migrations and the need to hunt for sheep as well as the desired time to harvest sheep. When the caribou and moose are plentiful, local hunters do not hunt for sheep but when caribou and moose are not plentiful, they depend on sheep. The Council shared that the last time a similar proposal to open the area to other hunters was submitted, the Council had unanimously opposed it and were overridden by the Board. The Council sympathized with Arctic Village concerns and believed that closure of Cane Creek and Red Sheep Creek area would be lifted by the Board based on its action with the recent special action to open the area (WSA06-03, which the Board approved). Several Council members worked with village leaders to see what options were available to limit the number of other hunters allowed to hunt in the area, hence the recommendation to defer to a working group (OSM 2007a). The North Slope Council recommended the Board oppose the proposal. The Council said that there was no evidence that passage of this proposal would not impact villages. The Council said that for each village,

the resource needs should be assessed to ensure subsistence users' needs were being met. The sheep population was so small, it would not support harvest by commercial and sport hunters (OSM 2007a).

The Board adopted the proposal. The Board said that Section 815(3) of ANILCA only allows restrictions on the taking of fish and wildlife for nonsubsistence uses on Federal public lands if necessary for the conservation of healthy populations of fish and wildlife, to continue subsistence uses of such populations, or pursuant to other applicable law. Maintaining the Federal closure to nonsubsistence hunting of sheep in the Red Sheep Creek and Cane Creek drainages within the AVSMA was no longer necessary for the conservation of a healthy sheep population. Allowing sheep hunting by non-Federally qualified users in these drainages would not adversely affect the sheep population because these hunters would be limited to taking one full-curl ram in the fall season. Removal of some full-curl rams from the population was not expected to reduce the reproductive success of the sheep population. Maintaining the closure to nonsubsistence hunting of sheep in these drainages was also not necessary to provide for continued subsistence use of sheep. The sheep population could support harvest by both subsistence and nonsubsistence hunters. The existing closure was also not justified for reasons of public safety, administration, or pursuant to other applicable law (OSM 2007b).

In 2012, Proposal WP12-76 was submitted by the Eastern Interior Council. It requested that the Board close Cane Creek and Red Sheep Creek drainages to the harvest of sheep by non-Federally qualified users from Aug. 10 through Sept. 20. The Eastern Interior Council recommended the Board support the proposal. The Council said the proposal enhanced the ability of the residents of Arctic Village to pursue subsistence opportunities and might reduce incidents of trespass and resource damage. The Council said it appreciated the information provided during public testimony and recognized the powerful connection between residents of Arctic Village and the subject area as one that is deeply culturally rooted. The Council said it was compelled by extensive and detailed public testimony and that subsistence users were concerned that non-Federally qualified users were interfering with subsistence users, particularly the people of Arctic Village. The North Slope Council recommended the Board support the proposal. The Council said that the amount of travel time by rural residents was a concern due to distance required to travel and the cost of fuel. The Board adopted the proposal (OSM 2012a:355). The Board said there was no conservation concern and the closure was needed to ensure the continuation of traditional subsistence uses of sheep by Arctic Village hunters (OSM 2012b:7).

In 2014, Proposal WP14-51 was submitted by the State of Alaska. It requested the Board to open Cane Creek and Red Sheep Creek drainages to the harvest of sheep by non-Federally qualified users from Aug. 10 through Sept. 20. It also requested that hunters be required to complete a course on hunter ethics and an orientation course, including land status and trespass information. The Eastern Interior Council recommended the Board oppose the proposal. The Council said it had heard extensive testimony from tribal and community members from Arctic Village and Venetie expressing the importance of sheep in this area to their culture and community. The Council said that the public testimony also noted that air traffic disturbance and hunter activity was pushing sheep further away and higher. The Council said that the cultural importance of the sheep and the area to Arctic Village and other residents for this hunt area was their overriding concern. The North Slope Council recommended the Board oppose the proposal. The Council said deflection or disturbance of sheep by sport hunters and aircraft flights made it difficult for

Arctic Village residents to reach sheep for subsistence hunting. The Council said these sheep were a very important subsistence food that was shared in the community, and even if local harvest numbers were not high, effort to reach the animals was considerable and the sharing of the meat and organs was widespread and important. The Council said these sheep and this location had special cultural and medicinal value due to the history and relationship of the community as well the mineral licks that the sheep frequented in this area which made their meat contain unique qualities (OSM 2014a:350).

The Board rejected Proposal WP14-51. The Board rejected this proposal based on the OSM analysis and conclusion, the recommendations of the North Slope and Eastern Interior Councils, and overwhelming public comment over the years and the testimony presented to the Board in the 2012 review of a similar proposal. The Board referenced extensive public testimony of local community concerns and cultural importance of this area and the long established administrative record on this issue. The Board recognized the cultural importance of the Cane Creek and Red Sheep Creek areas for subsistence harvest of sheep for the residents of Arctic Village and Venetie. The Board said the importance of this area was also known by the number and location of Native allotments, cultural sites and ethnographic studies documenting the long history of use in this area (OSM 2014b:3).

Furthermore, the Board said it had heard testimony and reports that subsistence users attempts to harvest sheep in this area may have been interfered with by aircraft and non-Federally qualified hunters' activity. The Board concurred with this testimony that the activities in this area by non-Federally qualified users had resulted in the displacement of sheep, pushing them out of range and preventing Federally qualified subsistence hunters from being able to harvest sheep. The Board supported keeping the closure in place to help insure the continued subsistence use of sheep for residents of Arctic Village, Venetie, and the several other villages with customary and traditional use determinations for sheep in this area: Chalkyitsik, Fort Yukon, and Kaktovik. The Board said that this closure was based on ANILCA Section 815(3), which allows for a restriction on the taking of fish and wildlife for non-subsistence uses on public lands when necessary to continue Federal subsistence uses (OSM 2014b:3).

In 2014, WRFR14-01 was submitted by the State of Alaska requesting that the Board reconsider its actions on Proposal WP14-51, described above. In September 2015, the Board denied the request (OSM 2017b). The Board determined that none of the claims in the request met the criteria to warrant further reconsideration as set forth in 50 CFR Part 100.20.

WP18–17 Executive Summary

<p>General Description</p>	<p>Proposal WP18–17 requests that the moose season on Federal public lands in Unit 11, that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage, and Unit 11 remainder be changed from Aug. 20-Sept. 20 to Aug. 20-Mar. 31. <i>Submitted by: Ahtna Intertribal Resource Commission.</i></p>
<p>Proposed Regulation</p>	<p>Unit 11—Moose</p> <p><i>Unit 11—that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage—1 antlered bull by joint State/Federal registration permit. Aug. 20–Sept. 20 Mar. 31</i></p> <p><i>Unit 11— that portion south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain – 1 bull by Federal registration permit. However, during the period Aug. 20-Sept. 20, only an antlered bull may be taken. Aug. 20–Sept. 20 Nov. 20–Dec 20</i></p> <p><i>Unit 11 remainder—1 antlered bull by Federal registration permit Aug. 20–Sept. 20 Mar. 31 only</i></p>
<p>OSM Preliminary Conclusion</p>	<p>Oppose</p>
<p>Southcentral Alaska Subsistence Regional Advisory Council Recommendation</p>	
<p>Southcentral Alaska Subsistence Regional Advisory Council Recommendation</p>	
<p>Kodiak/Aleutians Subsistence Regional Advisory Council</p>	

WP18–17 Executive Summary	
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	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	

WP18–17 Executive Summary

Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	1 Support

**DRAFT STAFF ANALYSIS
WP18-17**

ISSUES

Proposal WP18–17, submitted by the Ahtna Intertribal Resource Commission (AITRC), requests that the moose season on Federal public lands in Unit 11, that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage, and Unit 11 remainder be changed from Aug. 20–Sept. 20 to Aug. 20–Mar. 31. In addition AITRC requests authorization to distribute (FM1301) permits to Federally qualified tribal members only. Bureau of Land Management (BLM) and Denali National Park and Preserve (DNP) will distribute (FM1301) permits to other Federally qualified subsistence hunters.

DISCUSSION

The proponent requests the extension of the moose season to provide more opportunity for Ahtna Tribal members to harvest a moose during the fall and winter months according to customary and traditional practices. In explaining why the regulatory change should be made, the proponent states that per the Memorandum of Agreement between the United States Department of Interior and the AITRC, Federal wildlife proposals are to be written to accommodate Ahtna customary and traditional ways of harvesting large wild game.

The Office of Subsistence Management (OSM) is only evaluating the season extension aspects of this proposal. Discussion/evaluation of permit issuance is deferred until further review and guidance is received from the Solicitors Office and Department of Interior.

Existing Federal Regulation

Unit 11—Moose

Unit 11—that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage—1 antlered bull by joint State/Federal registration permit. Aug. 20–Sept. 20

Unit 11— that portion south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain – 1 bull by Federal registration permit. However, during the period Aug. 20–Sept. 20, only an antlered bull may be taken. Aug. 20–Sept. 20
Nov. 20–Dec. 20

Unit 11 remainder—1 antlered bull by Federal registration permit only Aug. 20–Sept. 20

Proposed Federal Regulation

Unit 11—Moose

Unit 11—that portion draining into the east bank of the Copper River upstream from and including the Slana River drainage—1 antlered bull by joint State/Federal registration permit. ~~Aug. 20–Sept. 20~~
Mar. 31

Unit 11— that portion south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain – 1 bull by Federal registration permit. However, during the period Aug. 20-Sept. 20, only an antlered bull may be taken. Aug. 20–Sept. 20
Nov. 20–Dec 20

Unit 11 remainder—1 antlered bull by Federal registration permit only ~~Aug. 20–Sept. 20~~
Mar. 31

Existing State Regulation (Effective on or after July 1, 2018)

Unit 11 – Moose

Unit 11– that portion east of the east bank of the Copper River upstream from and including the Slana River drainage Residents: 1 bull per harvest report by community harvest permit only; however, no more than 100 bulls that do not meet antler restrictions for other resident hunts in the same area may be taken by Tier II permit in the entire community harvest area during the Aug. 20 – Sept. 20 season, up to 350 Tier II permits may be issued;

OR

	<i>Residents: 1 bull with spike-fork antlers or 50-inch antlers or antlers with 3 or more brow tines on at least one side by registration permit only</i>	RM291	Aug. 20–Sept. 17
	<i>Nonresidents: 1 bull with 50-inch antlers or antlers with 3 or more brow tines on at least one side by registration permit only</i>	RM291	Aug. 20–Sept. 17
<i>Remainder of Unit 11</i>	<i>Residents: 1 bull per harvest report by community harvest permit only; however, no more than 100 bulls that do not meet antler restrictions for other resident hunts in the same area may be taken by Tier II permit in the entire community harvest area during the Aug. 20–Sept. 20 season, up to 350 Tier II permits may be issued;</i>	CM300	Aug. 20–Sept. 20
	<i>OR</i>		
	<i>Residents and nonresidents: 1 bull with spike-fork antlers or 50-inch antlers or antlers with 3 or more brow tines on at least one side</i>	HT	Aug. 20–Sept. 20

Extent of Federal Public Lands

Federal public lands comprise approximately 87% of Unit 11 and consist of approximately 84% National Park Service (NPS) managed lands, 3% U.S. Forest Service (USFS) managed lands, and 0.1% Bureau of Land Management (BLM) managed lands (See **Unit Map**).

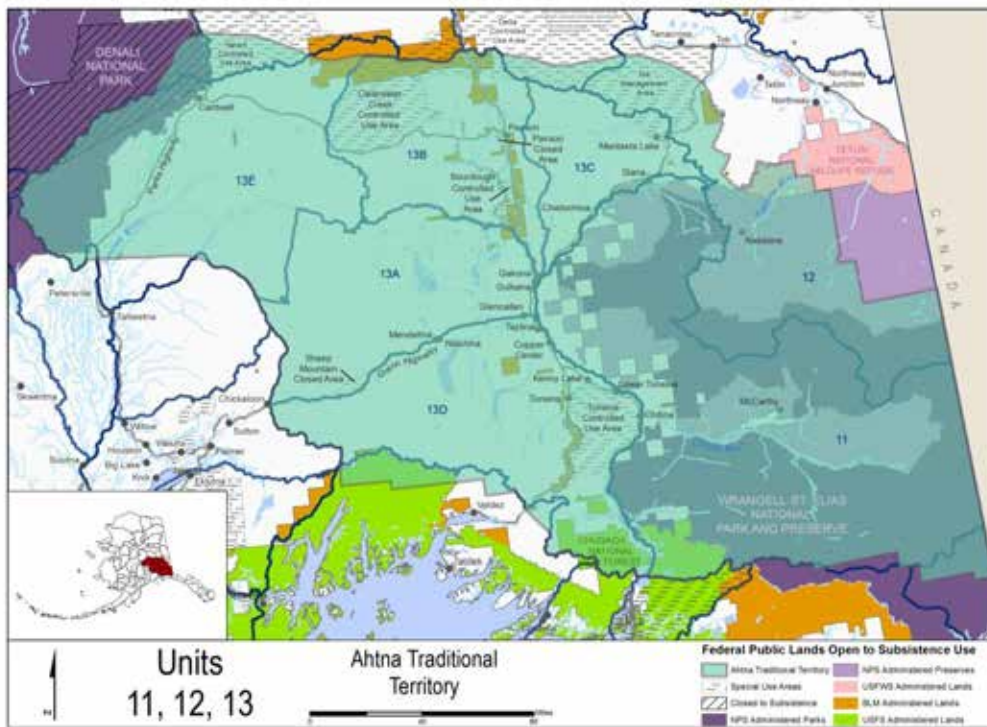
Lands customarily and traditionally used by the Ahtna people extend from the Canadian border in the east to Denali National Park in the west and encompass most of Units 11, 12, and 13 (**Map 1**).

Customary and Traditional Use Determinations

Residents of Units 11, 12, 13A-D, Chickaloon, Healy Lake, and Dot Lake have a customary and traditional use determination for moose in Unit 11 north of the Sanford River.

Residents of Units 11, 13A-D, and Chickaloon have a customary and traditional use determination for moose in Unit 11 remainder.

Under the guidelines of ANILCA, National Park Service regulations identify qualified local rural subsistence users in National Parks and Monuments by: 1) identifying resident zone communities, which include a significant concentration of people who have customarily and traditionally used subsistence resources on park lands; and 2) identifying and issuing subsistence use (13.440) permits to individuals residing outside of the resident zone communities who have a personal or family history of subsistence use. In order to engage in subsistence in Wrangell St. Elias National Park, the National Park Service requires that subsistence users either live within the park's resident zone (36 CFR 13.430, 36 CFR 13.1902) or have a subsistence permit (36 CFR 13.440) issued by the park superintendent.



Map 1. Location of areas customarily and traditionally used for subsistence by the Ahtna people.

Regulatory History

In 1992, the Federal Subsistence Board (Board) added 10 days to the moose season in Unit 11, aligning it with seasons in adjoining subunits in Units 6, 12, and 13 (OSM 1992). In 1999, Healy Lake was added to communities having a customary and traditional use determination for moose in the portion of Unit 11 north

of the Sanford River (OSM 1999a). In 1999, the Board adopted Proposal P99-16 with modification to allow a five day extension to the starting date in Unit 11 moose season to provide additional opportunity for subsistence harvest while protecting the moose population from disruption during the breeding season, and to align Federal and State seasons (OSM 1999b).

In 2000, the Board rejected Proposal P00-19/21 to include the residents in Unit 6C into those with customary and traditional use for moose (P00-19) and sheep (P00-21) in the portion of Unit 11 remainder because Cordova previously failed to qualify as a resident zone community for Wrangell-St Elias National Park (WRST), based on percentage of qualifying individuals (OSM 2000a).

In 2000, the Board adopted Proposal P00-20 modifying general regulations requiring evidence of sex. The regulation was modified to allow hunters in Units 11 and 13 to possess either sufficient portions of the external sex organs, still attached to a portion of the carcass, or the head (with or without the antlers attached) to indicate the sex of the harvested moose; however this does not apply to the carcass of an ungulate that has been butchered and placed in storage or otherwise prepared for consumption upon arrival at the location where it is to be consumed (OSM 2000b).

In 2002, the Board adopted Proposal WP02-19 to allow for the harvest of a moose without a calf in either Unit 11 or Unit 12 for the annual Batzulnetas Culture Camp by two hunters designated by the Mt. Sanford Tribal Consortium (OSM 2002). The Board adopted this proposal because it was an established, well known culture camp and the change streamlined the process for issuing permits.

In 2007, the Board rejected Proposal WP07-20 to change the season dates from Aug. 20-Sept. 20 to Sept. 1–Sept. 30 to reduce spoilage due to warm weather, because the moose population was low and shifting the season had the potential to increase moose harvest, which would have detrimental effects for the conservation of the population (OSM 2007).

In 2012, the Board adopted Proposal WP12-70 with modification, dividing Unit 11 into two hunt areas and creating a single, joint Federal/State registration permit to administer the hunt area in Units 11 and 12 along the Nabesna Road, and a Federal registration permit for Unit 11 remainder. The season dates for Unit 12 remainder were also modified. These changes aligned the Federal seasons within the area of the joint State/Federal registration permit and helped to improve harvest reporting. In addition, the moose population was healthy enough to allow for the potential increase in bull harvest (OSM 2012).

In 2014, the Board adopted Proposal WP14-16 with modification to establish a winter moose season from Nov. 20 to Dec. 20 in Unit 11, south and east of a line running along the north bank of the Chitina River, the north and west banks of the Nizina River, and the west bank of West Fork of the Nizina River, continuing along the western edge of the West Fork Glacier to the summit of Regal Mountain. The Board also delegated authority to the WRST Superintendent to open and close any portion of the winter season and to establish a harvest quota (OSM 2014). Moose in the area south of the Chitina River (**Map 2**) typically stay at higher elevations during the fall where they are largely inaccessible to subsistence users. In addition, there is limited access during the fall moose season due, in part, to having to cross the Chitina River. The winter hunt provides subsistence hunters with more opportunity to hunt moose when they are more accessible by snowmachine and allows them to store meat without freezers.

Current Events

Two identical proposals WP18-16 and WP18-50, submitted for the 2018-2020 regulatory cycle, requested a one month extension of the winter moose season in the southern portion of Unit 11 (FM1107) from Nov. 20 – Dec. 20 to Nov. 20 - Jan. 20.

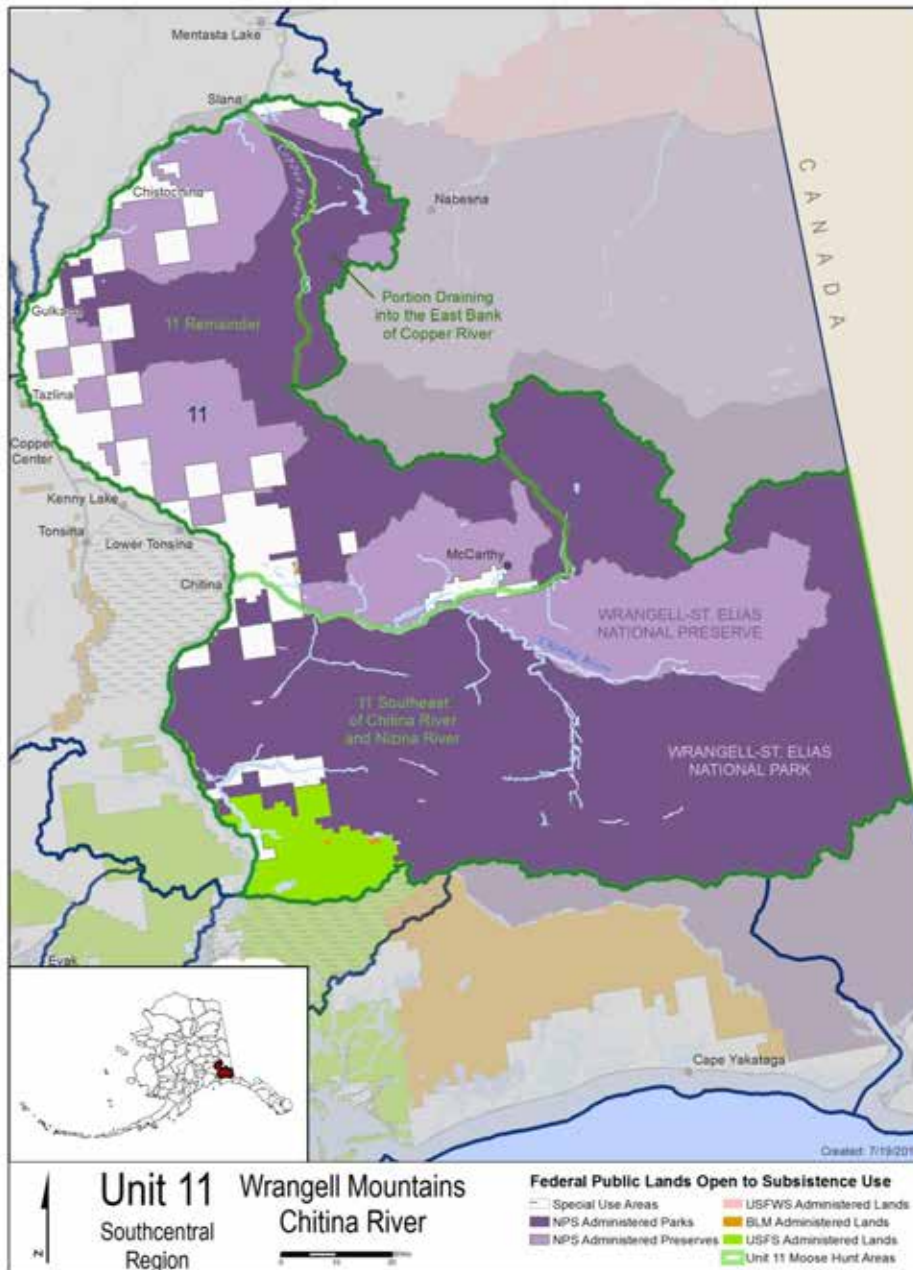
Biological Background

The moose population in Unit 11, which initially increased in the 1950s, has experienced two peaks, one in the early 1960s and the other in 1987, and two lows in 1979 and 2001 (Tobey 2010). Predation on moose calves by bears and wolves has been shown to be an important limiting factor in some moose populations (Tobey 2010). High brown bear and wolf numbers in Unit 11 may be contributing to the low calf:cow ratios observed in this unit, as well as the overall low, but stable density moose population (Tobey 2008).

State management goals for moose in Unit 11 are (Tobey 2010):

- To allow the populations to fluctuate based on the available habitat and predation rates.
- Maintain a population with a post hunt age/sex composition of 30 bulls (of which 10-15 are adult bulls) per 100 cows

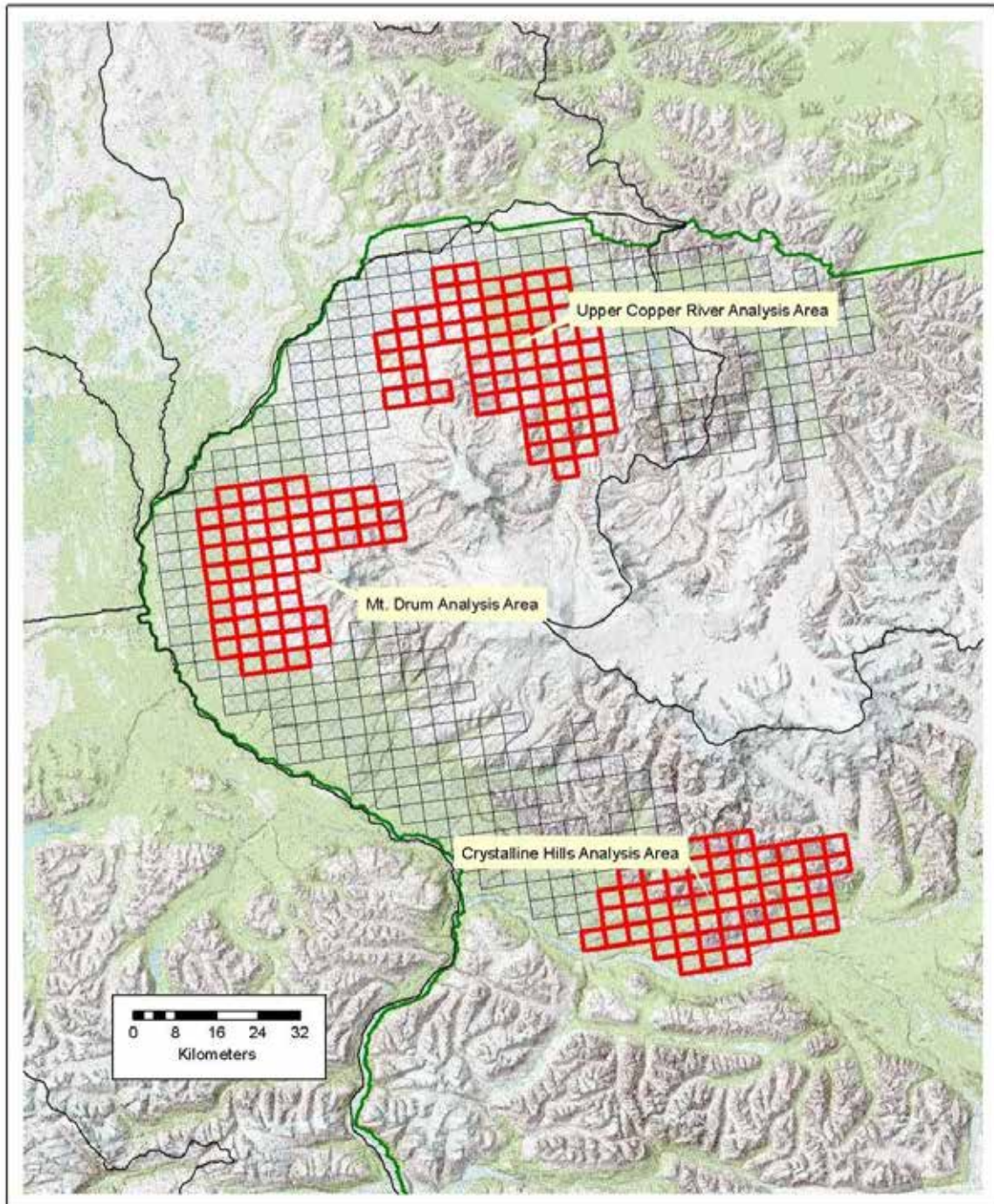
Three main moose survey efforts have been conducted in Unit 11. The first are ongoing surveys conducted by the Alaska Department of Fish and Game (ADF&G) in the Mount Drum area, the second were surveys conducted by WRST in the north end of Unit 11 from 2003 – 2008, and the third were Geospatial Population Estimator (GSPE) surveys conducted in 2007, 2010, 2011, and 2013 by WRST staff throughout Unit 11 (**Map 3**). The scheduled moose survey for 2016 was not conducted due to inadequate snow conditions (Putera et al. 2017). No moose surveys have been conducted in the winter hunt area in Unit 11. Aerial population and composition trend surveys are usually conducted by the Alaska Department of the Fish and Game (ADF&G) every other year during late fall along the western slopes of Mount Drum (Count Area CA11). The survey indicator area on Mt. Drum includes 212 mi² which is approximately 1.7% of Unit 11 (12470 mi²). The total number of moose counted in CA11 averaged 170 moose per regulatory year between 1998 and 2015 (**Table 1**). Density estimates from 1999 to 2015 ranged from 0.3 to 1.0 moose/mi² in CA11 (**Table 1**) (Tobey 2004, 2010). The bull:cow ratio averaged 95 bulls:100 cows from 1998 through 2015 (Tobey 2010, Schwanke 2013, pers. comm., Hatcher 2014, Robbins 2017, pers. comm.), which exceeds current State management goals. The average number of calves: 100 cows in Unit 11 between 1998 and 2015 was 21 (range 9-48) (Tobey 2010, Schwanke 2013, pers. comm., Hatcher 2014, Robbins 2017, pers. comm.).



Map 2. Federal hunt areas in Unit 11.

Moose population information was also collected by WRST staff near the north end of Unit 11 in the Upper Copper River (UCR) moose survey area, which covers the Boulder Creek drainage east to Copper Lake (Table 2). Although a portion of this survey area is accessible using all-terrain vehicles from the Nabesna Road, the western portion of the survey area is accessible only by aircraft. Between 2003 and 2008 (excluding 2007), an average of 297 moose were counted annually in the Upper Copper River moose survey area (Table 2) (Reid 2007, pers comm.). Results from sex and age composition counts found that

the calf:cow ratio was fairly stable, averaging 12 calves:100 cows with calves accounting for about 7% of the population. Bull:cow ratios remained fairly stable as well, averaging 46 bulls:100 cows; well above the management objective.



Map 3. Analysis areas within the count area. These areas were selected to allow comparisons with historical survey areas (Putera 2010).

Although a moose population census for all of Unit 11 has never been conducted, population estimates from the GSPE surveys conducted in 2007, 2010, 2011, and 2013 by WRST staff represent the most comprehensive moose population data for Unit 11 (Putera 2013, pers. comm). GSPE developed by ADF&G is an accepted method for estimating moose populations in large areas such as Unit 11 (Ver Hoef 2001). Population estimates for the total survey area, bull:cow ratios, and calf:cow ratios increased slightly from 2007 to 2013 (**Table 3**) (Reid 2008, Putera 2010, 2013). Separate population estimates were also determined for three analysis areas that cover previous trend count survey areas. For the Mt. Drum area, bull:cow ratios continued to remain high at 118:100 in 2007, 55:100 in 2010, and 79:100 in 2013 (**Table 3**). Moose density increased slightly in 2013 from the 2010 survey. Results of the 2007 and 2010 GSPE surveys for the UCR area are consistent with previous trend surveys, with 2-3 times more moose observed than in the Mt. Drum and Crystalline Hills survey areas. Calf:cow ratios were slightly higher in 2013 (**Table 3**) than surveys conducted in 2012 (**Table 1**). The Crystalline Hills and Mt. Drum count areas had the greatest increase from 2010 and 2013 (**Table 3**). In cooperation with ADF&G, WRST staff conducted a GSPE survey in 2011 along the Nabesna Road corridor, an area that receives relatively high hunting pressure. The population estimate was 1,272 moose with an estimated density of 0.79 moose/mi², a bull:cow ratio of 34:100 and a calf:cow ratio of 27:100. The bull:cow ratio along the Nabesna Road corridor was substantially lower than bull:cow ratios from the 2007 and 2010 GSPE surveys (**Table 3**).

Habitat

In 2009, the Chakina fire near McCarthy burned 52,000 acres and should produce forage for the next 20 years (Hatcher 2014). Typically within 10 –15 years following fires or disturbance (Loranger et al. 1991), early seral forest habitat becomes the most productive area for moose because it supports high density of forage species such as paper birch (*Betula papyrifera*), aspen (*Populus tremuloides*), and willow (*Salix sp.*). The severity and frequency of fires will determine how productive an area becomes for moose (Loranger et al. 1991; Johnstone and Kasischke 2005; Brown and Johnstone 2012). For instance, peak moose density during winter occurred approximately 15 years after the 1947 fire on the Kenai Peninsula (Loranger et al. 1991).

Table 1. Unit 11 moose population demographics on the western slopes of Mount Drum, Wrangell-St Elias National Park and Preserve, AK, 1998-2009 – a lightly hunted population (Tobey 2004, 2008; Schwanke 2013, Hatcher 2014, Robbins 2017, pers.comm.).

Year	Number of Bulls	Number of Cows	Number of Calves	Total Moose	Bulls:100 Cows	Calves/100 Cows	% Calves	Moose /hour	Density Moose/ mi ²
1998-99	51	46	7	104	111	15	7	24	0.4
1999-00	58	53	11	122	109	21	9	28	0.4
2000-01	58	37	9	104	157	24	9	23	0.4
2001-02	43	46	4	93	94	9	4	19	0.3
2002-03	----	----	----	----	----	---	--	---	----
2003-04	69	60	9	138	115	15	7	30	0.5
2004-05	----	----	----	----	----	----	----	----	----
2005-06	----	----	----	----	----	----	----	----	----
2006-07	57	62	30	149	92	48	20	32	0.5
2007-08	----	----	----	----	----	----	----	----	----
2008-09	63	86	15	164	73	17	9	38	0.6
2009-10	----	----	----	----	----	----	----	----	----
2011-12	98	138	29	265	71	21	11	46	0.9
2012-13	120	143	19	282	84	13	7	46	1.0
2013-14	91	103	27	221	88	26	12	45	0.8
2014-15	67	133	30	230	50	23	13	45	0.8
Mean	70	82	17	170	95	21	10	32	0.56

Table 2. Unit 11 moose population demographics in the Upper Copper River survey area, Boulder Creek to Copper Lake, Wrangell – St. Elias National Park and Preserve, AK, 2003-2008 – a relatively heavily hunted population accessible by aircraft and all-terrain vehicles (Reid 2007, 2008; Putera 2010).

Year	Number of Bulls	Number of Cows	Number of Calves	Total Moose	Bulls:100 Cows	Calves/100 Cows	% Calves
2003	97	215	21	333	45	10	6
2004	78	142	25	245	55	18	10
2005	92	183	11	286	50	6	4
2006	86	218	31	335	39	14	9
2008	77	186	22	285	41	12	8
Total	430	944	110	1,484			
Mean	86	189	22	297	46	12	7

Table 3. Moose Population Estimates for selected areas of Unit 11, from GSPE surveys conducted in 2007, 2010, and 2011 (Reid 2008, Putera 2010, 2013).

Area	Year	Population Estimate	Moose Observed	Calf:100 Cows	Bull:100 Cows	No. Units Surveyed	Density (mi ²)
Total Survey 3170 mi ²	2007	1576 ± 244	500	19	52	87	0.49
	2010	1584 ± 214	623	17	50	94	0.50
	2013	2107 ± 307	725	18	64	83	0.70
Upper Cop- per 524 mi ²	2007	403 ± 70	170	16	38	25	0.76
	2010	539 ± 106	220	14	49	19	1.02
	2013	515 ± 121	155	16	61	16	1.0
Mt. Drum 349 mi ²	2007	232 ± 65	82	11	118	8	0.66
	2010	186 ± 51	66	35	55	11	0.53
	2013	225 ± 56	94	25	79	9	0.70
Crystalline Hills 349 mi ²	2007	260 ± 93	63	29	42	9	0.74
	2010	259 ± 55	134	17	50	16	0.74
	2013	380 ± 78	179	19	70	13	1.10
Nabesna 1602 mi ²	2011	1272 ± 134	551	27	34	107	0.79

Cultural Knowledge and Traditional Practices

Reference to the harvest and use of moose by the people of the Eastern Interior and the Copper River Basin begin as early as the 1800s and continue to the present day (Simeone 2006). Archeological evidence and historical accounts suggest that large land mammals were an important subsistence resource for the Ahtna Athabascans of the upper Copper River watershed (Simeone 2006). Russian explorer, Rufus Sereberinikoff, noted that Ahtna families along the Tazlina River had fresh moose meat when he visited the Copper Basin in May of 1848. De Laguna (1981) reported that, "caribou and moose were caught either in drag-pole snares or in snares set 200-300 feet apart in long brush fences." Winter moose hunting took place on foot with the use of snowshoes and the aid of bow and arrows (Reckord 1983; Simeone 2006; Haynes & Simeone 2007). The traditional practices of drying and freezing meat, as well as the proper and respectful treatment of harvested resources such as moose, are described in several ethnographic accounts of the Ahtna and people of the upper Tanana (de Laguna & McClellan 1981; Haynes & Simeone 2007; Reckord 1983; Simeone 2006).

In recent comprehensive subsistence surveys conducted by the Alaska Department of Fish and Game (ADF&G), it was noted that while salmon composed a majority of the harvest in most communities along the upper Copper River drainage, large land mammal harvest is high and ranged between 21% and 88% (Holen, et al. 2012; Kukkonen & Zimbleman 2012; La Vine, et al. 2013; La Vine & Zimbleman 2014). In the communities with the closest proximity to the southern portion of Unit 11 moose was harvested at 13 lb

per capita in McCarthy and 8 lb per capita in Chitina. Additionally, use was high with 67% of households reporting use in Chitina and 62% households reporting use in McCarthy (La Vine 2014).

During each study year, communities within the Copper River Basin harvested or hunted for moose in Units 11, 12, and 13. While many communities documented harvest and search areas for moose in Unit 11 in general, Chitina, Copper Center, Glennallen, Kenny Lake/Willow Creek, and McCarthy reported harvest and search areas in the southern portion specifically (La Vine et al. 2013). Harvest and search areas described include the Richardson Highway south of the Glenn-Richardson Highway to the Edgerton Highway and areas around the community of Chitina, the 60 mile stretch of McCarthy Road, and Dan Creek across the Nizina River from McCarthy (Holen, et al. 2015; La Vine, et al. 2013; La Vine & Zimpleman 2014).

Harvest History

Moose harvest from 1963 to 1974 averaged 164 moose per year in Unit 11. During this time there was both a fall and winter season and cows made up as much as 50% of the harvest (Tobey 2010). In response to declining moose numbers, seasons were shortened, the winter season was eliminated, and harvest was restricted to bulls only from 1975 to 1989. The average annual bull harvest was 45 (range 21-58) between 1975 and 1989.

In 1990 the State season was shortened to Sept. 5 - Sept. 9 to align the season with the adjacent Unit 13 and because of population decline due to increased mortality during the severe 1989/1990 winter (Tobey 1993 2010). During the 1990s, the average harvest was 34 bulls (range 22-42). Since 2000, the mean harvest has been 58 bulls, which includes an estimated 10 unreported moose being harvested each year (**Table 4**) (Tobey 2010, FWS 2017). One moose was harvested in Unit 11 under the Copper Basin Community Permit Hunt (CM300) in 2009 (FWS 2017). The mean annual moose harvest under Federal and State regulations in Unit 11 from 2000 to 2016 was 21 and 28, respectively (**Table 4**). Under the joint State/Federal permit from 2012 to 2016 the annual Federal and State moose harvest was 49 (**Table 4**). (Timmerman and Buss 2007). Hunting pressure has typically been low in Unit 11, in part because moose densities are greater and access is easier in the adjacent Unit 13. Increasing the harvest season by approximately six months in two areas within Unit 11 has the potential to significantly increase harvest on Federal public lands. The majority of the moose harvest in Unit 11 occurs on Federal public lands. The impact of such an increase of harvest is likely to be much greater in Unit 11 than in adjacent Unit 13, where moose populations are larger, and the majority of lands are non-Federal.

Other Alternative Considered

One alternative considered was to extend the moose harvest season on Federal public lands in Unit 11 by a month from Nov. 1 – Dec. 1. Although the increase in the moose harvest would be less than the 6 month extension requested by the proponent, this alternative was not chosen because moose populations have remained stable to slightly increasing and due the low density of moose populations in Unit 11 (< 1.0 mi²). Proposal WP18-16/50 was also submitted for the 2018-2020 regulatory cycle to extend the winter moose season by one month to Jan. 20 (Nov. 10- Jan. 20) in the southern portion of Unit 11.

Table 4. State and Federal Moose harvest in Unit 11 from 2000-2015^a (Tobey 2010, Hatcher 2014, FWS 2017, ADF&G 2017).

Year	M	F	U	Estimate of Unreported Kill	Federal Total	State Total	Total
2000/2001	52	0	1	10	23	30	63
2001/2002	43	1	1	10	14	31	55
2002/2003	40	0	1	10	8	33	51
2003/2004	45	0	0	10	15	30	55
2004/2005	56	0	1	10	27	30	67
2005/2006	47	1	0	10	24	24	58
2006/2007	41	0	1	10	20	22	52
2007/2008	47	2	0	10	25	24	59
2008/2009	53	0	0	10	28	25	63
2009/2010	64	0	2	10	20	36	66
2010/2011	38	0	0	10	20	18	48
2011/2012	74	0	0	10	27	37	74
2012/2013	48	0	0	10	9 ^a	39	58
2013/2014	61	0	0	10	12 ^a	39	61
2014/2015	39	0	0	10	10 ^a	29	49
2015/2016	47	0	0	10	13 ^a	34	57
2016/2017	62	0	0	10	17 ^a	45	72

^a Harvests by Federally qualified subsistence users under the joint State/Federal permit established in 2012 are included in the "Total State" column

Effects of the Proposal

If this proposal is adopted, it would lengthen the moose season on Federal public lands in a portion of Unit 11 by approximately 6 months. A seven month hunting season would give Federally qualified subsistence users more opportunity to harvest moose according to their customary and traditional practices, as requested by the proponent.

Moose populations in Unit 11, which occur at relatively low densities, are subject to population fluctuations due to severe winters and predation from bears and wolves. Hunting mortality combined with increased predation during severe winters can severely reduce moose populations (Walters et al. 1981). Prime breeding bulls and cows are particularly vulnerable during the rut and early winter aggregations

OSM PRELIMINARY CONCLUSION

Oppose Proposal WP18-17

Justification

Extending the moose season in two primary hunting areas in Unit 11 to March 31 would provide more opportunity for Federally qualified subsistence users to harvest moose according to their traditional and cultural practices, but could also present some potentially serious conservation concerns.

Although moose populations in surveyed areas of Unit 11 have remained relatively stable to slightly increasing through 2012/2013, they still occur at relatively low densities. Increasing the harvest could reverse the current population trend. Under the current harvest regime moose populations in Unit 11 have been able to grow slowly. Extending the moose season in Unit 11 by approximately six months is not recommended at this time.

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Written Public Comments



Ahtna Intertribal Resource Commission

dba/Copper River-Ahtna Inter-Tribal
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July 26, 2017

Chairperson of Federal Subsistence
Board or his Designated Field Officer
Office of Subsistence Management
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199

Dear Mr. Christensen or Designated Field Officer:

Enclosed are Ahtna Inter-Tribal Resource Commission's (AITRC) comments on 2018-2020 Federal Wildlife proposals. Please consider our viewpoint on wildlife proposals, when decisions are made on federal wildlife regulations.

Sincerely,

A handwritten signature in black ink that reads "Shirley Smelcer". The signature is written in a cursive, flowing style.

Shirley Smelcer, Chairperson of CRITR

Comments on 2018-2020 Federal Wildlife Proposals

Southcentral Subsistence Regional Advisory Council

WP18-14 Change season dates for wolverine hunting and trapping

We support Proposal WP18-14 to extending Unit 11 Wolverine hunting season to February 28th, and extending Unit 13 Wolverine hunting and trapping seasons to February 28th.

Wolverine population in Unit 11 and Unit 13 is considered to be healthy and abundant. There isn't a conservation concern for wolverine in these two game management units.

Other Federally qualified subsistence users and Ahtna People will be able to hunt and trap longer in these two GMUs, allowing more opportunity to harvest a wolverine for personal use or to sell for extra income.

Wolverine is commonly used for clothing, ruff, or for moccasins, coats or jackets. Wolverine fur is also sold to acquire extra income, which supplements cash, food cost and bills.

WP18-16 Extend winter season [Unit 11 moose]

We do not support WP18-16. See comments under WP18-17.

WP18-17 Extend season [Unit 11 moose] (CRITR)

We support Proposal WP18-17 to extend moose hunting season and to allow Ahtna Intertribal Resource Commission to distribute moose permits on federal public lands in Unit 11.

Moose population in Unit 11 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 11 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communities before moose permits are distributed to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AITRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capability to distribute Unit 11 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-18 Extend season [Unit 13 moose] (CRITR)

We support WP18-18 to extend moose season and to allow AITRC to distribute moose permits. Moose population in Unit 13 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. Bureau of Land Management Biologist reported in 2016 1,384 moose permits were distributed, 681 moose permits were used and 99 moose were harvested by federally qualified subsistence hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 13 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communities before moose permits are distributed to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AITRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capability to distribute Unit 13 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-19 Caribou – Revise permitting system [Unit 13 caribou] (CRITR)

We support WP18-19 to allow AITRC to distribute Unit 13 Nelchina Caribou hunting permits to Ahtna tribal members, who are federally qualified customary and traditional use hunters.

AITRC has management capability to distribute Unit 13 Nelchina Caribou permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since the year 2009. AITRC has experienced staff to distribute Nelchina Caribou permits and ensure tribal hunters return caribou permits.

Eastern Interior Subsistence Regional Advisory Council

WP18-50 Extend season [Unit 11 moose]

We do not support WP18-50, we support WP18-17. See comments under WP18-17.

WP18-51 Statewide – Modify baiting restrictions to align State regulations

We support WP18-51 to modify bait regulations to align with State regulations. Federal regulations are more restrictive than State regulations. Adding skinned carcasses of furbearers and fur animals, small game, with the exception of the meat of birds, to bait bear regulations will align State and Federal regulations, provide more opportunities for federal subsistence hunters who use bait stations to harvest bears.

Traditional use of grease, parts of wild game, and other methods of harvesting bears at bait stations would occur, hunters who use bait stations would have an improved chance of harvesting a bear with more options to choose from to use as bait.

WP18-54 – Increase harvest limit and Delegate Authority to set harvest limit for [Unit 12 caribou] to be announced winter season

We do not support WP18-54 to change Unit 12 Caribou regulations to “up to 3 caribou” may be taken with a federal registration permit. This will increase the take of caribou beyond sustainable limits and will stress the herd in its winter range. We have seen overharvest of caribou in the past with liberal bag limit that has taken decades to recover. This is not a wise proposal and we oppose it..

WP18-55 Extend Winter and fall season [Unit 12 moose]

Unit 12 Moose

That portion within Tetlin National Wildlife Refuge Aug. ~~24~~ 20 - Sept. ~~29~~ 30

and those lands within the Wrangell-St. Elias National

Preserve north and east of a line formed by the

Pickeral Lake Winter Trail from the Canadian border

to Pickerel Lake – 1 antlered bull by Federal registration Nov. 1 - ~~Feb-28~~ Apr. 30

permit (FM1203)

We are neutral on WP18-55 to extend Unit 12 Moose season to allow longer hunting opportunity.

WP18–18 Executive Summary	
General Description	Proposal WP18–18 requests that the moose season on Federal public lands in Unit 13 and Unit 13-remainder be changed from Aug. 1-Sept. 20 to Aug. 1-Mar. 31. In addition AITRC requests authorization to distribute (FM1301) permits to Federally qualified tribal members only. Bureau of Land Management (BLM) and Denali National Park and Preserve (DENA) will distribute (FM1301) permits to other Federally qualified subsistence hunters. <i>Submitted by: Ahtna Intertribal Resource Commission.</i>
Proposed Regulation	<p>Unit 13—Moose</p> <p><i>Unit 13E—1 antlered bull moose by Federal registration Aug. 1–Sept. permit only; only 1 permit per household. 20Mar. 31</i></p> <p><i>Unit 13, remainder —1 antlered bull moose by Federal Aug. 1–Sept. registration permit only. 20Mar. 31</i></p>
OSM Preliminary Conclusion	<p>Support Proposal WP18–18 with modification to create a split season.</p> <p>The modified proposal should read:</p> <p>Unit 13—Moose</p> <p><i>Unit 13E—1 antlered bull moose by Federal Aug. 1–Sept. 20 registration permit only; only one permit per household. Nov. 1–Mar. 31</i></p> <p><i>Unit 13, remainder —1 antlered bull moose by Federal Aug. 1–Sept. 20 registration permit only. Nov. 1–Mar. 31</i></p>
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory	

WP18–18 Executive Summary	
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	

WP18–18 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	1 Support

**DRAFT STAFF ANALYSIS
WP18-18**

ISSUES

Proposal WP18-18, submitted by the Ahtna Intertribal Resource Commission (AITRC), requests that the moose season on Federal public lands in Unit 13 and Unit 13-remainder be changed from Aug. 1-Sept. 20 to Aug. 1-Mar. 31. In addition AITRC requests authorization to distribute (FM1301) permits to Federally qualified tribal members only. Bureau of Land Management (BLM) and Denali National Park and Preserve (DENA) will distribute (FM1301) permits to other Federally qualified subsistence hunters.

DISCUSSION

The proponent requests the extension of the moose season to provide more opportunity for Ahtna tribal members to harvest a moose during the fall and winter months according to customary and traditional practices. In explaining why the regulatory change should be made, the proponent states that per the Memorandum of Agreement between the United States Department of Interior and the AITRC, Federal wildlife proposals are to be written to accommodate Ahtna customary and traditional ways of harvesting large wild game.

The Office of Subsistence Management (OSM) is only evaluating the season extension aspects of this proposal. Discussion/evaluation of permit issuance is deferred until further review and guidance is received from the Solicitors Office and Department of Interior.

Existing Federal Regulation

Unit 13—Moose

Unit 13E—1 antlered bull moose by Federal registration permit only; only 1 permit will be issued per household. Aug. 1–Sept. 20

Unit 13, remainder —1 antlered bull moose by Federal registration permit only. Aug. 1–Sept. 20

Proposed Federal Regulation

Unit 13—Moose

Unit 13E—1 antlered bull moose by Federal registration permit only; only 1 permit per household. Aug. 1–~~Sept.~~
~~20~~**Mar. 31**

Unit 13, remainder —1 antlered bull moose by Federal registration permit only.

Aug. 1–Sept.
~~20~~Mar. 31

Existing State Regulation

Unit 13-Moose

<p>Unit 13</p> <p><i>1 moose per regulatory year as follows:</i></p>	<p>Residents: 1 bull per harvest report by community harvest permit only; however, no more than 100 bulls that do not meet antler restrictions for other resident hunts in the same area may be taken by Tier II permit in the entire community harvest area during the Aug. 20-Sept. 20 season, up to 350 Tier II permits may be issued;</p> <p>OR</p> <p>Residents: 1 bull, with spike-fork antlers or 50-inch antlers or antlers with 4 or more brow tines on at least one side;</p> <p>OR</p> <p>1 bull, by registration permit only;</p> <p>OR</p> <p>Residents: 1 antlerless moose by drawing permit only; up to 200 permits may be issued; a person may not take a calf or cow accompanied by a calf.</p> <p>OR</p> <p>Residents: 1 bull moose by drawing permit only; up to 5 permits may be issued;.</p>	<p>CM300</p> <p>HT</p> <p>HT</p> <p>DM325</p> <p>DM324</p>	<p>Aug. 20–Sept. 20</p> <p>Dec.1-Dec. 31 (Subsistence hunt only)</p> <p>Sept.1–Sept. 20 (Subsistence hunt only)</p> <p>Dec. 1-Dec. 31 (General hunt only)</p> <p>Oct.1–Oct.31 Mar. 1-Mar. 31 (General hunt only)</p> <p>Sept. 1-Sept. 20 (General hunt only)</p>
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Unit 13 *Nonresidents: 1 bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side by drawing permit only; up to 150 permits may be issued.* *DM335- Sept. 1-Sept. 20*
DM339

Extent of Federal Public Lands

Federal public lands comprise approximately 12% of Unit 13 and consist of approximately 6% National Park Service (NPS) managed lands, 4% Bureau of Land Management (BLM) managed lands and 2% U.S. Forest Service (USFS) managed lands (See **Unit Map**). Federal public lands within DENA as it existed prior to the Alaska National Interest Lands Conservation Act (ANILCA) (December 1980) are closed to all hunting and trapping.

Lands customarily and traditionally used by the Ahtna people extend from the Canadian border in the east to Denali National Park in the west and encompass most of Units 11, 12, and 13 (**Map 1**).

Customary and Traditional Use Determinations

Residents of Unit 13, Chickaloon and Slana have a customary and traditional use determination for moose in Units 13A and 13D.

Residents of Units 13 and 20D (excluding residents of Fort Greely) and Chickaloon, and Slana have a customary and traditional use determination for moose in Unit 13B.

Residents of Units 12 and 13, Chickaloon, Healy Lake, Dot Lake, and Slana have a customary and traditional use determination for moose in Unit 13C.

Residents of Unit 13, Chickaloon, McKinley Village, Slana, and the area along the Parks Highway between mileposts 216 and 239 (excluding residents of Denali National Park headquarters) have a customary and traditional use determination for moose in Unit 13E.

Under the guidelines of ANILCA, National Park Service regulations identify qualified local rural subsistence users in National Parks and Monuments by: 1) identifying resident zone communities which include a significant concentration of people who have customarily and traditionally used subsistence resources on park lands; and 2) identifying and issuing subsistence use (13.440) permits to individuals residing outside of the resident zone communities who have a personal or family history of subsistence use. In order to engage in subsistence in the Denali National Park (DENA) ANILCA additions, the National Park Service requires that subsistence users either live within the park's resident zone (36 CFR 13.430, 36 CFR 13.902) or have a subsistence permit (36 CFR 13.440) issued by the park superintendent.



Map 1. Location of areas customarily and traditionally used for subsistence by the Ahtna people.

Regulatory History

The existing Federal subsistence regulations, one antlered bull moose by Federal registration permit only, from Aug. 1 to Sept. 20 (OSM 1995), have been in place since 1995 when the season starting date was changed from Aug. 25 to Aug. 1 thus providing an additional 14 days for Federally qualified subsistence users to harvest moose without interference from State Tier II permit hunters.

In 2004, the Federal Subsistence Board (Board) considered Proposal WP04-27, which requested that the harvest season for moose be shortened by 14 days, and to require reporting of the permit number and exact location of the harvest, and require a 3-day vs 5-day harvest reporting period to BLM (OSM 2004). The Board rejected this proposal because it would have reduced the harvest opportunity by two weeks, and the permit requirements would have done little to curtail illegal harvest.

The State general harvest regulations for moose in Unit 13 were changed in 2000 when the designation of a legal bull went from 3 or more brow tines or 50-inch antler spread to a 4 or more brow tines or 50-inch antler spread and have been in effect ever since. The same year, non-resident general moose hunting was eliminated from Unit 13 in the State regulations due to low moose population numbers. In addition, the Alaska Department of Fish and Game (ADF&G) also managed a State Tier II hunt (TM300) for one bull moose by permit Aug. 15 – Aug. 31 between 1995 and 2008.

In 2008, the State Tier II hunt was changed by the Alaska State Board of Game (BOG) to add a community harvest (CM300) and the season was modified to Aug 10 – Sept 20 with an upper harvest limit of 10 any-bull moose for Unit 13 and an unlimited number of spike/fork, 50 inch, and 4 or more brow tine moose. For residents, drawing permit hunts (DM330-334) for one bull moose with a season of Sept. 1-Sept. 20 were added as a new harvest option in select areas where moose numbers had increased. For non-residents, drawing permit hunts (DM 335-339) were established to harvest one bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side from Sept. 1-Sept. 20. These three hunts were in addition to the State general harvest of one bull moose with spike-fork or 50-inch antlers or antlers with 4 or more brow tines on at least one side from Sept.1 to Sept. 20 for residents.

In March 2009, the BOG revised the amount reasonably necessary for subsistence (ANS) findings for moose and caribou in Unit 13 eliminated the Tier II hunts for both populations and created the Community Subsistence Hunts (CSH) (Robbins 2017). The CSH included an allocation of 100 bulls that did not meet the antler restrictions. The BOG also created antlerless moose drawing hunts of residents and antlered bull moose hunts for nonresidents.

In 2011, the BOG adopted a new regulation for the Community Subsistence Hunt in 2011/12 which allowed any community or group of Alaska residents numbering 25 or more to apply for the hunt between Aug.10 and Sept. 20. Following this change, the number of participants in the CSH hunts increased substantially. The BOG decreased the number of bulls that do not meet the antler restrictions from 100 to 70.

In 2013, the BOG increased the number of bulls not required to meet the antler restrictions from 70 back to 100 in response to increased participation in the hunt. A winter registration hunt from Dec.1-Dec.31, which was effective in 2014, was also added to provide additional opportunity for bulls that do not meet the antler restrictions. The hunt was closed after one day to very high levels of participation and not resumed.

In 2015, the BOG required participants in the CSH to commit to participation for two consecutive years and provide an annual group report with the stipulation that if a report is not submitted the entire group would be ineligible for a permit hunt the next regulatory year. The Board also created an any bull moose drawing for residents which was effective in 2016 and shortened the CSH season by 10 days from Aug. 10-Sept. 20 to Aug. 20-Sept. 20 for the 2016/17 regulatory year.

The Paxson Closed Area in Unit 13B (**Map 1**) was established by the State in 1958 to provide a viewing area adjacent to the junction of the Richardson and Denali Highways (ADF&G 2015). During 1991/1992 and 1992/1993 regulatory years, Federal public lands within the Paxson Closed Area were closed to the hunting of big game under the Special Provisions section for Unit 13 in the Federal Subsistence Management Regulations for Federal public lands in Alaska. However, the hunting for small game was still allowed in the Paxson Closed Area. In 1992, the Federal Subsistence Board (Board) closed the Paxson Closed Area in Unit 13B to the taking of big game. In June 2014, the Glennallen Field Office of BLM became aware of the unencumbered Federal public lands within the Paxson Closed Area and they were subsequently removed from State selection. As a result, Federal public lands in the Paxson Closed Area were determined to be opened (i.e. no longer State selected) to the taking of big game, which includes moose, by Federally qualified subsistence users under Federal subsistence regulations. In 2016, the Board

rejected Wildlife Proposal WP16-16 which requested that the Federal public lands within the Paxson Closed Area in Unit 13 be closed to Federally qualified subsistence users (OSM 2016).

To address concerns that the communal pattern of use was not providing reasonable opportunity in Unit 13, the BOG adopted amended Proposal 20 (RC25) at the special meeting in Glennallen in February 2017 to retain the CSH moose hunt for resident hunters for the fall (Aug. 20 – Sept. 20) and winter (Dec. 1 - Dec. 31; subsistence hunt only) hunts with the following restrictions: *One bull per by community harvest permit only; however, no more than 100 bulls that do not meet antler restrictions may be taken by Tier II permit during the August 20 – September 20 season, up to 350 Tier II permits may be issued, one Tier II permit per household.*

Biological Background

In the early 1900s, moose densities in Unit 13 were low but increased gradually until peaking in the mid-1960s. The population then declined due to a combination of factors including overhunting, severe winters, and predation, primarily by brown bears and wolves (Ballard et al. 1987, Schwanke 2012, Robbins 2014). The population reached a low in 1975 and then started to increase by 1978, reaching a second peak in 1987. Between 1988 and 1994, the moose population declined due to a combination of factors including hunting pressure, deep snow and increasing wolf predation (Robbins 2014). From 1987 to 2001 the moose population declined by an estimated 47% (Tobey and Schwanke 2008, 2010). The moose populations in Unit 13 have grown since 2000 due to a combination of mild winters, predator control, and more conservative hunting regulations (Schwanke 2012, Robbins 2014).

State management objectives for moose populations and human use in Unit 13 are as follows (Robbins 2014):

Population Objectives

- Maintain a combined population of 17,600 to 21,900 moose in Unit 13:
 - 3,500-4,200 moose in Subunit 13A
 - 5,300-6,300 moose in Subunit 13B
 - 2,000-3,000 moose in Subunit 13C
 - 1,200-1,900 moose in Subunit 13D
 - 5,000-6,000 moose in Subunit 13E
- Maintain minimum fall composition ratios:
 - 25–30 calves:100 cows in Subunit 13A
 - 30 calves:100 cows in Subunits 13B, 13C, 13D, and 13E
 - 25 bulls:100 cows in all subunits
 - 10 yearling bulls:100 cows in all subunits

Human Use Objectives

- Maintain a combined annual harvest of 1,050–2,180 moose in Unit 13:
 - 210-420 moose in Subunit 13A
 - 310-620 moose in Subunit 13B

- 155-350 moose in Subunit 13C
- 75-190 moose in Subunit 13D
- 300-600 moose in Subunit 13E

ADF&G conducts fall counts to determine the sex and age composition and population trends in large count areas distributed throughout Unit 13. From 2001–2009 the number of moose observed in Unit 13 during the fall increased from 3,466 in 2001 to 5,604 in 2011 and then dropped slightly to 5,404 in 2012 (**Table 1**). Although the bull:cow and yearling bull:cow ratios increased in Unit 13, with the population increases between 2001–2012, calf:cow ratios remained below the minimum management objective of 25:100 cows (**Table 1**). In 2012, bull:cow ratios were below State management objectives for Units 13A but above management objectives for Units 13B, 13C, 13D, and 13E. In 2015 they were within the State management objectives for all subunits. Except for the yearling bull:cow ratio in Unit 13D, the yearling bull:cow and calf:cow ratios were below the State management objectives of 10 yearling bulls:100 cows and 25 calves:100 cows in Unit 13A and 30 calves:100 cows in the remaining units (**Table 2**) (Robbins 2014).

Moose are most abundant along the southern slopes of the Alaska Range in Units 13B (Alphabet Hills) and 13C and in the eastern Talkeetna Mountains in western Unit 13B. The lowest densities are found in the section of Denali National Park located in the western portion of Unit 13E, Lake Louise Flats in eastern portion of Unit 13A, and Unit 13D. Historically, moose numbers in the western portion of Unit 13A, Unit 13B, and Unit 13C tend to fluctuate more than in lower density areas (Tobey and Schwanke 2008, 2010, Robbins 2014).

Moose typically congregate in subalpine habitats during fall rutting and move down to lower elevations as the snow increases. Winter distribution depends mainly on snow depth and to a lesser extent wolf distribution (Tobey and Schwanke 2010). Known wintering areas include the southern Alphabet Hills, the upper Susitna River, Tolsona Creek burn, the eastern foothills of the Talkeetna Mountains, and the Copper River floodplain (Robbins 2014). Severe winters with deep snow are known to cause winter mortality by increasing nutritional stress through restriction of movements. Severe winters prevent access to adequate and/or quality food (Coady 1974, Testa 2004, Bubenik 2007, Innes 2010), and increases the risk of predation, primarily by wolves (Bishop and Rausch 1974, Peterson et al. 1984). Snow depths greater than 35 inches represent a critical depth for adults with calves (Coady 1974), older adults (≥ 8 yrs. old), and adult males which are more susceptible to nutritional stress and death (Coady 1982). In 2004–2005, despite the severe snowpack conditions compared to the previous 11 years (Testa 2004), moose numbers remained fairly stable in Unit 13B (Tobey and Schwanke 2008).

Fluctuations in moose populations in Denali National Park were shown to be linked to occasional severe winters. Hunting mortality combined with increased predation during severe winters can severely reduce moose populations (Walters et al. 1981). Prime breeding bulls and cows are particularly vulnerable during the rut which occurs primarily during the month of September in Denali National Park and Preserve (Miquelle 1991). Consequently, hunting seasons are often scheduled after the peak rut when bulls are extremely wary and much less vulnerable, in order to leave more prime bulls in the population and ensure the successful breeding of cows. During early winter aggregations of bulls and cows, excessive harvests

can also occur from hunters using snowmobiles and all-terrain vehicles (Timmerman and Buss 2007). Many subsistence users will avoid taking bull moose in the rut because of the quality of the meat.

Table 1. Unit 13 fall aerial moose composition counts in trend count areas 3, 5, 6, 10, 13, 14, 15, and 16 (Tobey and Schwanke 2008, 2010, Robbins 2014, Robbins 2015, 2017 pers.comm.).

Year	Bulls:100 cows	Yearling bulls: 100 cows	Calves: 100 cows	% Calves	Adults observed	Total moose observed	Moose/hour	Density moose/mi ² (observed range)
2001	23	3	15	11	3,086	3,466	37	1.0 (0.6 – 1.4)
2002 ^a	24	6	22	15	2,918	3,428	36	1.0 (0.5 – 1.2)
2003	24	8	18	12	3,707	4,230	47	1.2 (0.5 – 1.7)
2004	28	6	22	15	3,215	3,768	40	1.1 (0.5 – 1.7)
2005	27	7	18	13	3,500	4,009	45	1.1 (0.4 – 1.4)
2006	30	8	23	15	3,416	4,028	49	1.1 (0.5 – 1.5)
2007 ^b	32	10	22	14	3,875	4,517	40	1.3 (0.5 – 1.8)
2008	35	12	19	13	3,918	4,481	54	1.3 (0.5 - 1.9)
2009 ^b	34	9	23	15	4,315	5,046	50	1.7 (0.5-2.0)
2010	30	10	21	14	4,558	5,313	53	1.5 (0.6-2.2 0)
2011	33	10	23	15	4,777	5,604	53	1.6 (0.5-2.2)
2012	32	7	16	11	4,821	5,404	50	1.5 (0.5-2.2)
2013	34	5	27	17	4,453	5,350	49	1.5 (0.4-2.4)
2014 ^c	35	11	16	11	1,975	2,213	53	1.5 (0.4-2.4)
2015	32	7	25	16	4,694	5,596	50	1.6 (0.3-2.4)
^a Two of eight count areas were not flown in 2002, therefore data were estimated for those areas								
^b One of eight count areas was not flown in 2007, therefore data was estimated for those areas								
^c Three of eight count areas were not flown in 2014, therefore data was estimated for those areas								

Table 2. Unit 13A, 13B, 13C, 13D, and 13E fall aerial moose composition counts for calendar year 2012 (Robbins 2014).

Unit	Bulls:100 cows	Yearling bulls: 100 cows	Calves: 100 cows	% Calves	Total moose observed	Density moose/mi ²
13A	22	3	16	11	1,833	1.2
13B	22	6	17	12	1,943	1.3
13C	27	7	23	15	1,891	1.3
13D	35	12	20	13	2,265	1.5
13E	36	7	29	18	2,230	1.5

Cultural Knowledge and Traditional Practices

Most of game management Unit 13 was traditional territory of the Ahtna Athabascans with the northwestern portion of the unit historically being Dena'ina land (ADF&G 2017b). Moose, caribou, and Dall sheep were the primary large game mammals important for subsistence within the region (ADF&G 2017b). Russian explorer, Rufus Sereberinikoff, noted that Ahtna families along the Tazlina River had fresh moose meat when he visited the Copper Basin in May of 1848 (de Laguna and McClellan 1981). Moose were traditionally hunted in late summer through late winter (ADF&G 2017b). De Laguna and McClellan(1981) reported that within Ahtna territory, "caribou and moose were caught either in drag-pole snares or in snares set 200-300 feet apart in long brush fences." Winter moose hunting took place on foot with the use of snowshoes and the aid of bow and arrows (Reckord 1983; Simeone 2006; Haynes & Simeone 2007; ADF&G 2017b). The traditional practices of drying and freezing meat, as well as the proper and respectful treatment of harvested resources such as moose, are described in several ethnographic accounts of the Ahtna and people of the upper Tanana (de Laguna & McClellan 1981; Haynes & Simeone 2007; Reckord 1983; Simeone 2006).

The Dena'ina traditionally hunted moose on an annual basis in areas close to their winter villages and moose rawhides were used to create snowshoes (Townsend 1981). Before contact, weapons utilized to hunt large game included sinew-backed bow and arrows with antler, spears, and chipper/ground stone points. After contact, iron was used for arrows and spear points and guns were available by the 1840s (Townsend 1981).

The arrival of the Russians, and later other non-Native explorers, into both Ahtna and Dena'ina territories brought about many changes in the nineteenth and twentieth centuries. Trading posts, roads, mining camps, roadhouses, schools, missions, and the Trans-Alaska pipeline were of few of many such changes. Population increases rose in the Copper River Basin, most especially in the 1940s with the influx of military personnel coming into Alaska to serve in the Pacific Theater during World War II. Those living in the Copper River Basin today are of diverse backgrounds (Sandberg and Hunsinger 2014).

In recent comprehensive subsistence surveys conducted by the Alaska Department of Fish and Game (ADF&G), it was noted that while salmon composed a majority of the harvest in most communities along the upper Copper River drainage, large land mammal harvest is high and ranged between 21% and 88% of total harvest by weight (Holen, et al. 2015; Kukkonen & Zimpleman 2012; La Vine, et al. 2013; La Vine & Zimpleman 2014). Surveys reported the per capita moose harvest from communities in the Copper River Basin ranged from 0 lbs/person in Mendeltna to approximately 113 lbs/person in Tolsona, a community that shares extensively with households in neighboring communities like Mendeltna (Holen et al. 2015). Even in those communities that reported no harvest for their study year, moose was widely used, shared, and received. For example, while Mendeltna reported no harvest for the study year, 100% of the households reported using moose (Holen et al. 2015).

During each study year, communities within the Copper River Basin harvested or hunted for moose in Units 11, 12, and 13. Harvest and search areas specific to Unit 13 described locations along the Middle Fork Chulitna River, Tyone River, Klutina and Mentasta Lakes, and the Denali, Parks, Glenn, and Richardson Highways (Holen et al. 2015; La Vine et al. 2013).

Harvest History

Historically, Unit 13 has been an important area for moose hunting in Alaska due to its proximity to major human populations within the state. Throughout the 1960s and early 1970s, annual harvests averaged more than 1,200 bulls and 200 cows (Tobey 2004). During this time, harvests occurred in both fall and winter seasons. By the late 1970s harvests declined to approximately 775 bulls annually, while cow harvests and the winter season were eliminated, and the bull:cow ratios were low. In response, ADF&G changed the harvest of any bull to a harvest of a bull with an antler spread of at least 36 inches or 3 brow tines on at least one antler in 1980. This harvest regime helps to promote growth of the moose population. Subsequently the harvests increased, peaking in 1998 when 1259 moose were reported harvested (Tobey 2004). However, since 1990 State harvest regulations have been revised several times in response to low bull:cow ratios, severe winter mortality, and increased predation. Since 2001, moose harvest and population levels have continued to increase throughout Unit 13, although calf:cow ratios have remained below State management objectives (**Table 1, Table 2**) (Robbins 2014).

Currently, the Federal season in Unit 13 allows for a longer subsistence opportunity for Federally qualified subsistence users than the season for non-Federally qualified users. A majority of the moose harvest in Unit 13 occurs during the State general hunt from Sept. 1 – Sept. 20 (Del Frate 2017). Moose harvest on Federal public lands, which comprise only a small portion of Unit 13, has been approximately 6-8% of the total harvest for the last 10 years. From 2006 to 2015 the total annual moose harvest in Unit 13 has ranged from a low 776 to a high of 1,095 (**Table 3**). Under the current Federal and State regulations the harvest in each subunit is currently within State management objectives (**Table 4**). During the last two years, the combined annual harvest has exceeded 1,000 bulls, which is close to the minimum State harvest objective of 1,050 moose. Annually a majority of the moose harvest (75% in 2016) on Federal public lands occurs in Unit 13B.

Ahtna Athabascans, which are the indigenous people of the Copper River Basin, have expressed concerns that increased competition and abuse of the Community Harvest System has decreased their ability to harvest moose according to customary and traditional practices (Fall 2017). As a result of the numerous proposals submitted to the BOG on issues surrounding the community caribou and moose hunts, a special meeting on Copper Basin moose and caribou hunting was held on March 18-21, 2017 at Glennallen, Alaska. A summary of information presented at this meeting can be found at:

<http://www.adfg.alaska.gov/index.cfm?adfg=gameboard.meetinginfo&date=03-18-2017&meeting=glennallen>

A brief history of the Community Subsistence Hunt (CSH) in the Copper River Basin area as it relates to the harvest history is as follows (ADF&G 2017b). The BOG noted that residents of communities in the hunt area (Unit 13) typically travelled shorter distances than non-local hunters and have traditionally hunted moose throughout the year. Harvest by local users was traditionally conducted without regard to antler size restrictions as this was the most efficient way to obtain their food. Hunting regulations that specify specific antler configuration, which are usually done to protect the most important segment of the breeding population, also allow for more hunters in the field as not all animals are available. In addition, restrictions on the season and antler configuration may also reduce the success of local users. In 2009, the BOG established the CSH, with an earlier Aug. 10 starting date versus Aug. 15, to provide a community-based hunt that had been established and used by the Ahtna people.

Beginning in 2011, any community or group of Alaskan hunters numbering 25 or more could apply for the hunt from Aug. 10-Sept. 20. Up to 70 bulls not meeting the general season antler restrictions could be taken.

In 2013, up to 100 bulls not meeting the general season antler restrictions could be taken in CSH hunt area which included Unit 11, a portion of Unit 12, and Unit 13. In addition, the BOG provided other regulatory options to provide reasonable opportunities for those individuals and families that chose not to organize as a community. These options included a general hunt with a harvest ticket (with antler restrictions), a winter “any bull” moose hunt, and drawing hunts.

Between 2009 and 2016 the number of groups and participants in the CSH has increased from 1 to 73 and 378 to 3,023, respectively (**Table 5**) (ADF&G 2017b). Although the number of groups, households, and participants increased, the CSH total moose harvest (approximately 19%) did not increase at the same rate (**Table 5**) (Del Frate 2017). Currently the moose population in Unit 13 is stable based on the 2015 population estimates and composition surveys (Del Frate 2017). A majority of the hunters currently participating in the CSH are non-local residents.

Table 3. State and Federal moose harvest in Unit 13 from 2006-2016 (Toby and Schwanke 2008, 2010, Robbins 2014, WinfoNet 2017, FWS 2017).

Year	M	F	U	Estimate Unreported	Estimate Illegal	Accidental Road/Train	Federal Harvest	State Harvest	Total
2006/07	665	4	0	25	25	55	47	669	821
2007/08	628	4	0	25	25	75	53	632	810
2008/09	710	1	4	25	25	75	57	715	897
2009/10	857	1	2	25	25	26	61	860	997
2010/11	855	1	0	25	25	113	77	854	1,094
2011/12	867	1	0	25	25	68	80	868	1,066
2012/13	651	5	2	25	25	54	59	658	821
2013/14	674	2	0	25	25	-	50	676	776 ^a
2014/15	842	4	0	25	25	-	86	846	982 ^a
2015/16	952	8	0	25	25	-	85	960	1,095 ^a
2016/17	953	4	0	25	25	-	99	957	1,106 ^a

^a Total does not include road/train mortality data

Table 4. Comparison of current population and harvest estimates for Units 13A, 13B, 13C, 13D, and 13E in 2015 with State management population and harvest objectives (Del Frate 2017).

Unit	Population	Harvest	Bulls:100 cows
13A	3,500 – 4,200	210 -420	25:100
2015	3,568	335	25:100
13B	5,300 – 6,300	310 - 620	25:100
2015	4,762 (± 530)	243	28:100
13C	2,000 – 3,000	155 – 350	25:100
2015	2,184	115	30:100
13D	1,200 – 1,900	75 – 190	25:100
2015	948	78	58:100
13E	5,000 – 6,000	300 – 600	25:100
2015	5,085	192	30:100

Table 5. Characteristics of the Community Subsistence Hunt for moose and total harvest in Units 11, 13 and portion of Unit 12 from 2009-2016 (ADF&G 2017a, DeFrate, 2017).

Regulatory Year	Number of Groups	Number of Communities	Number of Households	Number of Individuals	CSH Harvest	Total Harvest (Unit 13)
2009/2010	1	19	246	378	98	997
2010/2011 ^a	-	-	-	-	-	1,094
2011/2012	9	31	416	814	83	1,066
2012/2013	19	29	460	969	92	821
2013/2014	45	41	955	2,066	152	776 ^c
2014/2015	43	41	893	1,771	149	982 ^c
2015/2016	43	43	1,039	1,984	170	1,095 ^c
2016/2017 ^b	73	48	1,527	3,400	201	1,106 ^c

^a A community hunt was not offered in 2010/2011

^b Harvest is not finalized

^c Total does not include road/train mortality data

Other Alternatives Considered

One alternative considered was to delegated authority to BLM and Denali National Park and Preserve, to determine the number of permits, set quotas, and establish closures to manage the moose harvest on Federal public lands in Unit 13. Further discussion is warranted with the applicable land managers and the Southcentral Alaska and Eastern Interior Alaska Subsistence Regional Advisory Councils before this option is pursued.

Effects of the Proposal

If this proposal is adopted, it would extend the moose season on Federal public lands in Unit 13 to March 31. An additional six months would give Federally qualified users more opportunity to harvest antlered bulls when needed. However, there will be fewer antlered bulls from February to March as many bulls will have shed their antlers in December and January. This would allow local residents to more efficiently meet their subsistence needs for moose according to their customary and traditional practices.

As of 2015, moose populations in Unit 13 are stable to slightly increasing. Under current Federal and State regulations, the harvest in each subunit is currently within management objectives set by the State (**Table 4**). Current moose harvest on Federal lands ranges from 6-8% of the total harvest and averaged 69 animals from 2006-2016 (**Table 3**). Increase of the harvest season by approximately six months, with the assumption that the harvest rate would be the same as it is currently during the two months in the fall, has a potential to triple the current harvest. This would potentially increase the annual moose harvest on a relatively small portion of Federal public lands in Unit 13 to approximately 200 bull moose. Harvesting bulls during the rut or early winter, when they are most vulnerable, could disrupt breeding and lead to excessive harvest.

OSM PRELIMINARY CONCLUSION

Support Proposal WP18–18 **with modification** to create a split season.

The modified proposal should read:

Unit 13—Moose

Unit 13E—1 antlered bull moose by Federal registration permit only; only one permit per household. *Aug. 1–Sept. 20
Nov. 1–Mar. 31*

Unit 13, remainder —1 antlered bull moose by Federal registration permit only. *Aug. 1–Sept. 20
Nov. 1–Mar. 31*

Justification

The moose populations within Unit 13 overall are stable or increasing. However, there is concern that the most recent Unit 13 moose population estimate and calf:cow ratios are below State population objectives in Unit 13B and 13D and that the calf:cow ratios are below the 25 calves:100 cows, the State management objective. The current moose harvest by subunit is below or within the sustainable harvest levels as determined by the State. Extending the moose season by six months to March 31 has the potential to triple the moose harvest on Federal public lands by Federally qualified subsistence users. Based on the low and high harvest levels documented on Federal public lands from 2006-2015 (**Table 3**), the anticipated increase in bull harvest by Federally qualified subsistence users could range from 141 to 258 animals. Providing a break in the moose season during the rut and early winter is recommended to protect bulls, avoid disruption to breeding, and avoid harvesting bulls and cows when they're aggregated during the early winter. At current population levels the potential increase in the moose harvest would likely be sustainable if it is distributed between the five subunits. However, this increase could be excessive if taken entirely from one subunit.

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Written Public Comments



Ahtna Intertribal Resource Commission

dba/Copper River-Ahtna Inter-Tribal
Resource Conservation District
PO Box 613
Glennallen, Alaska 99588
907-822-8154
contact@ahtnatribal.org

July 26, 2017

Chairperson of Federal Subsistence
Board or his Designated Field Officer
Office of Subsistence Management
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199

Dear Mr. Christensen or Designated Field Officer:

Enclosed are Ahtna Inter-Tribal Resource Commission's (AITRC) comments on 2018-2020 Federal Wildlife proposals. Please consider our viewpoint on wildlife proposals, when decisions are made on federal wildlife regulations.

Sincerely,

A handwritten signature in black ink that reads "Shirley Smelcer". The signature is written in a cursive, flowing style.

Shirley Smelcer, Chairperson of CRITR

Comments on 2018-2020 Federal Wildlife Proposals

Southcentral Subsistence Regional Advisory Council

WP18-14 Change season dates for wolverine hunting and trapping

We support Proposal WP18-14 to extending Unit 11 Wolverine hunting season to February 28th, and extending Unit 13 Wolverine hunting and trapping seasons to February 28th.

Wolverine population in Unit 11 and Unit 13 is considered to be healthy and abundant. There isn't a conservation concern for wolverine in these two game management units.

Other Federally qualified subsistence users and Ahtna People will be able to hunt and trap longer in these two GMUs, allowing more opportunity to harvest a wolverine for personal use or to sell for extra income.

Wolverine is commonly used for clothing, ruff, or for moccasins, coats or jackets. Wolverine fur is also sold to acquire extra income, which supplements cash, food cost and bills.

WP18-16 Extend winter season [Unit 11 moose]

We do not support WP18-16. See comments under WP18-17.

WP18-17 Extend season [Unit 11 moose] (CRITR)

We support Proposal WP18-17 to extend moose hunting season and to allow Ahtna Intertribal Resource Commission to distribute moose permits on federal public lands in Unit 11.

Moose population in Unit 11 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 11 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communities before moose permits are distributed to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AITRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capability to distribute Unit 11 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-18 Extend season [Unit 13 moose] (CRITR)

We support WP18-18 to extend moose season and to allow AITRC to distribute moose permits. Moose population in Unit 13 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. Bureau of Land Management Biologist reported in 2016 1,384 moose permits were distributed, 681 moose permits were used and 99 moose were harvested by federally qualified subsistence hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 13 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communities before moose permits are distributed to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AITRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capability to distribute Unit 13 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-19 Caribou – Revise permitting system [Unit 13 caribou] (CRITR)

We support WP18-19 to allow AITRC to distribute Unit 13 Nelchina Caribou hunting permits to Ahtna tribal members, who are federally qualified customary and traditional use hunters.

AITRC has management capability to distribute Unit 13 Nelchina Caribou permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since the year 2009. AITRC has experienced staff to distribute Nelchina Caribou permits and ensure tribal hunters return caribou permits.

Eastern Interior Subsistence Regional Advisory Council

WP18-50 Extend season [Unit 11 moose]

We do not support WP18-50, we support WP18-17. See comments under WP18-17.

WP18-51 Statewide – Modify baiting restrictions to align State regulations

We support WP18-51 to modify bait regulations to align with State regulations. Federal regulations are more restrictive than State regulations. Adding skinned carcasses of furbearers and fur animals, small game, with the exception of the meat of birds, to bait bear regulations will align State and Federal regulations, provide more opportunities for federal subsistence hunters who use bait stations to harvest bears.

Traditional use of grease, parts of wild game, and other methods of harvesting bears at bait stations would occur, hunters who use bait stations would have an improved chance of harvesting a bear with more options to choose from to use as bait.

WP18-54 – Increase harvest limit and Delegate Authority to set harvest limit for [Unit 12 caribou] to be announced winter season

We do not support WP18-54 to change Unit 12 Caribou regulations to “up to 3 caribou” may be taken with a federal registration permit. This will increase the take of caribou beyond sustainable limits and will stress the herd in its winter range. We have seen overharvest of caribou in the past with liberal bag limit that has taken decades to recover. This is not a wise proposal and we oppose it..

WP18-55 Extend Winter and fall season [Unit 12 moose]

Unit 12 Moose

That portion within Tetlin National Wildlife Refuge Aug. ~~24~~ 20 - Sept. ~~29~~ 30

and those lands within the Wrangell-St. Elias National

Preserve north and east of a line formed by the

Pickeral Lake Winter Trail from the Canadian border

to Pickerel Lake – 1 antlered bull by Federal registration Nov. 1 - ~~Feb-28~~ Apr. 30

permit (FM1203)

We are neutral on WP18-55 to extend Unit 12 Moose season to allow longer hunting opportunity.

WP18–19 Executive Summary					
General Description	<p>Proposal WP18–19 requests that requests that the Ahtna Inter-Tribal Resource Commission be allowed to distribute Federal registration permits to Ahtna tribal members for the Federal caribou season in Units 13A, 13B, and 13 remainder. The proposal also requests that the Ahtna Advisory Committee be added to the list of agencies and organizations consulted by the Bureau of Land Management Glennallen Field Office Manager when announcing the sex of the caribou to be taken in Units 13A and 13B. <i>Submitted by: Ahtna Inter-Tribal Resource Commission.</i></p>				
Proposed Regulation	<p style="text-align: center;">Unit— Caribou</p> <p><i>Unit 13A and 13B – 2 caribou by Federal registration permit only. The sex of animals that may be taken will be announced by the Glennallen Field Office Manager of the Bureau of Land Management in consultation with the Alaska Department of Fish and Game area biologist and Chairs of the Eastern Interior Regional Advisory Council and the Southcentral Regional Advisory Council and the Ahtna Advisory Committee</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;"><i>Unit 13A and 13B – 2 caribou by Federal registration permit only.</i></td> <td style="width: 30%; text-align: right;"><i>Aug. 1 – Sept. 30 Oct. 21 – Mar. 31</i></td> </tr> </table> <p><i>Unit 13, remainder – 2 bulls by Federal registration permit only</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;"><i>Unit 13, remainder – 2 bulls by Federal registration permit only</i></td> <td style="width: 30%; text-align: right;"><i>Aug. 1 – Sept. 30 Oct. 21 – Mar. 31</i></td> </tr> </table> <p><i>Ahtna Inter-Tribal Resource Commission will distribute (FC1302) caribou permits for tribal members only. Bureau of Land Management and Denali National Park & Preserve will distribute (FC1302) caribou permits for other Federally qualified subsistence users.</i></p>	<i>Unit 13A and 13B – 2 caribou by Federal registration permit only.</i>	<i>Aug. 1 – Sept. 30 Oct. 21 – Mar. 31</i>	<i>Unit 13, remainder – 2 bulls by Federal registration permit only</i>	<i>Aug. 1 – Sept. 30 Oct. 21 – Mar. 31</i>
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WP18–19 Executive Summary	
OSM Preliminary Conclusion	Defer
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	

WP18–19 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	1 - Support

**DRAFT STAFF ANALYSIS
WP18-19**

ISSUES

Proposal WP18-19, submitted by the Ahtna Inter-Tribal Resource Commission (AITRC), requests that AITRC be allowed to distribute Federal registration permits to Ahtna tribal members for the Federal caribou season in Units 13A, 13B, and 13 remainder. The proposal also requests that the Ahtna Advisory Committee be added to the list of agencies and organizations consulted by the Bureau of Land Management Glennallen Field Office Manager when announcing the sex of the caribou to be taken in Units 13A and 13B.

DISCUSSION

The proponent states that per the Memorandum of Agreement between the United States Department of Interior and the AITRC, Federal wildlife proposals are to be written to accommodate Ahtna customary and traditional ways of harvesting large wild game. The proponent also states that AITRC will distribute Federal permits in a customary and traditional manner to Ahtna tribal members, advising them where and when to hunt. The proponent wants to ensure that customary and traditional ways and practices of harvesting caribou are carried on from one generation to the next.

Existing Federal Regulation

Unit— Caribou

<i>Unit 13A and 13B – 2 caribou by Federal registration permit only.</i>	<i>Aug. 1 – Sept. 30</i>
<i>The sex of animals that may be taken will be announced by the Glennallen Field Office Manager of the Bureau of Land Management in consultation with the Alaska Department of Fish and Game area biologist and Chairs of the Eastern Interior Regional Advisory Council and the Southcentral Regional Advisory Council</i>	<i>Oct. 21 – Mar. 31</i>
<i>Unit 13, remainder – 2 bulls by Federal registration permit only</i>	<i>Aug. 1 – Sept. 30</i>
	<i>Oct. 21 – Mar. 31</i>

Proposed Federal Regulation

Unit— Caribou

<i>Unit 13A and 13B – 2 caribou by Federal registration permit only.</i>	<i>Aug. 1 – Sept. 30</i>
<i>The sex of animals that may be taken will be announced by the</i>	<i>Oct. 21 – Mar. 31</i>

Glennallen Field Office Manager of the Bureau of Land Management in consultation with the Alaska Department of Fish and Game area biologist and Chairs of the Eastern Interior Regional Advisory Council and the Southcentral Regional Advisory Council and the Ahtna Advisory Committee

Unit 13, remainder – 2 bulls by Federal registration permit only Aug. 1 – Sept. 30

Oct. 21 – Mar. 31

Ahtna Inter-Tribal Resource Commission will distribute (FC1302) caribou permits for tribal members only. Bureau of Land Management and Denali National Park & Preserve will distribute (FC1302) caribou permits for other Federally qualified subsistence users.

Existing State Regulation

Unit 13- Caribou

<i>Residents – One caribou by permit per household, available only by application. See Subsistence Permit Hunt Supplement for details</i>	<i>RC566</i>	<i>Aug. 10 – Sept. 20 Oct. 21 – Mar. 31</i>
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Or

<i>Residents – One caribou by permit per household, available only by application. See the Subsistence Permit Hunt Supplement for details</i>	<i>CC001</i>	<i>Aug. 10 – Sept. 20 Oct. 21 – Mar. 31</i>
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Or

<i>Residents – One caribou by permit</i>	<i>DC485</i>	<i>Aug. 20 – Sept. 20 Oct. 21 – Mar. 31</i>
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<i>Nonresidents</i>		<i>No open season</i>
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Extent of Federal Public Lands

Federal public lands comprise approximately 12% of Unit 13 and consist of 6% National Park Service (NPS) managed lands, 4% Bureau of Land Management (BLM) managed lands, and 2% U.S. Forest

Service (USFS) managed lands (see **Unit 13 Map**). Federal public lands within Denali National Park as it existed prior to the Alaska National Interest Lands Conservation Act (ANILCA) (December 1980) are closed to all hunting and trapping.

Customary and Traditional Use Determinations

Residents of Units 11, 12 (along the Nabesna Road and Tok Cutoff Road, mileposts 79-110), 13, 20D (excluding residents of Fort Greely), and Chickaloon have a customary and traditional use determination for caribou in Unit 13B

Residents of Units 11, 12 (along the Nabesna Road and Tok Cutoff Road, mileposts 79-110), 13, Chickaloon, Dot Lake, and Healy Lake have a customary and traditional use determination to harvest caribou in Unit 13C.

Residents of Units 11, 12 (along the Nabesna Road), 13, and Chickaloon have a customary and traditional use determination to harvest caribou in Unit 13A and 13D.

Residents of Units 11, 12 (along the Nabesna Road), 13, Chickaloon, McKinley Village, and the area along the Parks Highway between mileposts 216-239 (excluding the residents of Denali National Park Headquarters) have a customary and traditional use determination to harvest caribou in Unit 13E. . Under the guidelines of ANILCA, National Park Service regulations identify qualified local rural subsistence users in National Parks and Monuments by: 1) identifying resident zone communities which include a significant concentration of people who have customarily and traditionally used subsistence resources on park lands; and 2) identifying and issuing subsistence use (13.440) permits to individuals residing outside of the resident zone communities who have a personal or family history of subsistence use. In order to engage in subsistence in the Denali National Park (DENA) ANILCA additions, the National Park Service requires that subsistence users either live within the park's resident zone (36 CFR 13.430, 36 CFR 13.902) or have a subsistence permit (36 CFR 13.440) issued by the park superintendent.

Other Alternatives Considered

Delegation of authority cannot be granted to non-Federal agencies as requested in this proposal. Therefore, a November 29, 2016 Memorandum of Agreement (MOA) between the Department of Interior and the Ahtna Intertribal Resource Commission (AITRC) describes initiating rulemaking to allow the Federal Subsistence Board (Board) to issue one or more community harvest permits to AITRC for a community harvest system authorizing the harvest of moose, caribou, and possibly other wildlife species. The MOA further describes that AITRC would then manage harvests by participating Federally qualified subsistence users who reside in the participating villages within a framework established by the Board. Instead of individual permits, AITRC would “provide the Department and Board with a list of all participants who will be hunting under the permit(s). The AITRC will also provide Federally qualified subsistence users participating in the community harvest system with a harvest tag or some other form of identification showing their eligibility to participate in the permit hunt and will ensure that all hunters understand all permit stipulations and applicable regulatory requirements.” See **Appendix 1** for the full text of the MOA as it relates to this community harvest permit (Article III(A)). This alternative avoids the

legal uncertainty associated with the proposal for AITRC to issue permits and thus could be implemented within the existing legal framework of the Federal Subsistence Management Program.

OSM PRELIMINARY CONCLUSION

Defer Proposal WP18-19.

Justification

The Board has established a framework of issuing Federal permits through the Subsistence Permitting System. Based on statutes and regulations covering system security and information collection, only Federal employees are granted access to this system and specific field managers are delegated authority to issue permits. 50 CFR 100.10(d)(6) states: 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.

Until further guidance is received from the Solicitors Office and DOI, the recommended course of action is to defer action on this proposal.

WRITTEN PUBLIC COMMENTS

Comments on 2018-2020 Federal Wildlife Proposals

Southcentral Subsistence Regional Advisory Council

WP18-14 Change season dates for wolverine hunting and trapping

We support Proposal WP18-14 to extending Unit 11 Wolverine hunting season to February 28th, and extending Unit 13 Wolverine hunting and trapping seasons to February 28th.

Wolverine population in Unit 11 and Unit 13 is considered to be healthy and abundant. There isn't a conservation concern for wolverine in these two game management units.

Other Federally qualified subsistence users and Ahtna People will be able to hunt and trap longer in these two GMUs, allowing more opportunity to harvest a wolverine for personal use or to sell for extra income.

Wolverine is commonly used for clothing, ruff, or for moccasins, coats or jackets. Wolverine fur is also sold to acquire extra income, which supplements cash, food cost and bills.

WP18-16 Extend winter season [Unit 11 moose]

We do not support WP18-16. See comments under WP18-17.

WP18-17 Extend season [Unit 11 moose] (CRITR)

We support Proposal WP18-17 to extend moose hunting season and to allow Ahtna Intertribal Resource Commission to distribute moose permits on federal public lands in Unit 11.

Moose population in Unit 11 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 11 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communities before moose permits are distributed to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AITRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capability to distribute Unit 11 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

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We support WP18-18 to extend moose season and to allow AITRC to distribute moose permits. Moose population in Unit 13 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. Bureau of Land Management Biologist reported in 2016 1,384 moose permits were distributed, 681 moose permits were used and 99 moose were harvested by federally qualified subsistence hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

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WP18-19 Caribou – Revise permitting system [Unit 13 caribou] (CRITR)

We support WP18-19 to allow AITRC to distribute Unit 13 Nelchina Caribou hunting permits to Ahtna tribal members, who are federally qualified customary and traditional use hunters.

AITRC has management capability to distribute Unit 13 Nelchina Caribou permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since the year 2009. AITRC has experienced staff to distribute Nelchina Caribou permits and ensure tribal hunters return caribou permits.

Eastern Interior Subsistence Regional Advisory Council

WP18-50 Extend season [Unit 11 moose]

We do not support WP18-50, we support WP18-17. See comments under WP18-17.

WP18-51 Statewide – Modify baiting restrictions to align State regulations

We support WP18-51 to modify bait regulations to align with State regulations. Federal regulations are more restrictive than State regulations. Adding skinned carcasses of furbearers and fur animals, small game, with the exception of the meat of birds, to bait bear regulations will align State and Federal regulations, provide more opportunities for federal subsistence hunters who use bait stations to harvest bears.

Traditional use of grease, parts of wild game, and other methods of harvesting bears at bait stations would occur, hunters who use bait stations would have an improved chance of harvesting a bear with more options to choose from to use as bait.

WP18-54 – Increase harvest limit and Delegate Authority to set harvest limit for [Unit 12 caribou] to be announced winter season

We do not support WP18-54 to change Unit 12 Caribou regulations to “up to 3 caribou” may be taken with a federal registration permit. This will increase the take of caribou beyond sustainable limits and will stress the herd in its winter range. We have seen overharvest of caribou in the past with liberal bag limit that has taken decades to recover. This is not a wise proposal and we oppose it..

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That portion within Tetlin National Wildlife Refuge Aug. ~~24~~ 20 - Sept. ~~29~~ 30

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Preserve north and east of a line formed by the

Pickeral Lake Winter Trail from the Canadian border

to Pickerel Lake – 1 antlered bull by Federal registration Nov. 1 - ~~Feb-28~~ Apr. 30

permit (FM1203)

We are neutral on WP18-55 to extend Unit 12 Moose season to allow longer hunting opportunity.

Appendix 1



Ahtna

**MEMORANDUM OF AGREEMENT
BETWEEN
UNITED STATES DEPARTMENT OF THE INTERIOR
AND
AHTNA INTER-TRIBAL RESOURCE COMMISSION
FOR
A DEMONSTRATION PROJECT FOR COOPERATIVE MANAGEMENT OF
CUSTOMARY AND TRADITIONAL SUBSISTENCE USES IN THE AHTNA REGION**

This Memorandum of Agreement (MOA) is entered into for the purpose of formalizing the subsistence wildlife management partnership between the United States Department of the Interior (Department) and the Ahtna Inter-Tribal Resource Commission (hereinafter referred to as AITRC) for the allocation and harvest of moose and caribou by rural residents of the Native villages in the Ahtna region (as shown on the attached map) on Federal public lands. It also establishes a process for the formation of a local advisory committee and memorializes the parties' mutual goal of developing a regional management plan for moose, caribou, and other wildlife populations traditionally taken by the Ahtna villages to allow for better informed management and decisionmaking in the future.

ARTICLE I – BACKGROUND AND OBJECTIVES

The Department is committed to developing a subsistence wildlife management partnership project with the AITRC that will result in empowering the rural Native villages of the Ahtna region with greater self-determination and, when possible and in accordance with applicable law, providing improved hunting opportunities that will allow them to continue practicing their customary and traditional way of life. The Department recognizes that special circumstances within the Ahtna region have not permitted these local residents to meet their subsistence needs. Moreover, the Department recognizes the right of the rural resident members of the Native villages in the Ahtna region to maintain their cultural identity through opportunities to practice their subsistence lifestyle on the Federal public lands in a manner that enables them to pass down traditional knowledge and customary practices from generation to generation. The Department further recognizes that it has an obligation to uphold the Federal trust responsibility to tribes, a well-established legal obligation that originates from the unique historical relationship between the United States and the tribes. Central to the Department's mission is honoring and supporting the government-to-government relationship with tribes.

The Department and AITRC share a mutual interest in the conservation of healthy wildlife populations and their habitats as well as the opportunity for customary and traditional subsistence uses. The Department and AITRC are committed to developing and maintaining a mutually beneficial relationship that will serve the best interests of the residents of the Ahtna region, the wildlife management agencies within the Department, and the wildlife resources and the environment necessary to sustain healthy populations. To that end, the Department is committed to incorporating Ahtna traditional ecological knowledge and customary and traditional management practices, based on Ahtna's special geographical, historical, and cultural connections to the lands, waters and wildlife in the Ahtna traditional territory, into the Department's subsistence wildlife management structure and policies. The AITRC values the scientific and monitoring tools that the Department brings to subsistence wildlife management, and is committed to building capacity in this area and partnering with the Department on such projects. The Department and AITRC are committed to working together to arrive at mutually beneficial solutions and programs when, through law or policy, wildlife management objectives differ between the parties.

The Department and AITRC also share a mutual concern for the already very evident impact of climate change on the habitat and resources within the Ahtna region, including wildlife populations. The parties agree that in order to begin to address this changing environment, it will be necessary to incorporate traditional ecological knowledge broadly into wildlife management decision making, including, when appropriate, comprehensive wildlife and habitat management plans for the public lands within the Ahtna region.

ARTICLE II - AUTHORITY

The following authorities support the MOA:

- Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA), 16 U.S.C. § 3111 et seq.
- Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments"
- Secretarial Order 3317, "Department of Interior Policy on Consultation with Indian Tribes"
- Secretarial Order 3335, "Reaffirmation of the Federal Trust Responsibility to Recognized Indian Tribes and Individual Indian Beneficiaries"
- Secretarial Order 3342, "Identifying Opportunities for Cooperative and Collaborative Partnerships with Federally Recognized Indian Tribes in the Management of Federal Lands and Resources"
- Federal Subsistence Board Regulations at 36 C.F.R. § 242 and 50 C.F.R. § 100

Congress has vested authority in the Secretaries of the Interior and Agriculture (Secretaries) through Title VIII of ANILCA to manage subsistence uses and resources on the Federal public lands in Alaska. The Secretaries have delegated significant aspects of subsistence management on Federal public lands to the Federal Subsistence Board (Board). The Secretary of Interior, (Secretary) however, retains broad management authority over the National Park Service, U.S. Fish and Wildlife Service, and Bureau of Land Management public lands in Ahtna's

traditional territory. Section 809 of ANILCA authorizes the Secretaries to enter into cooperative agreements or otherwise cooperate with other Federal agencies, the State of Alaska (State), Native Corporations, other appropriate persons and organizations to effectuate the purposes and policies of Title VIII. Additional Federal laws, including the Indian Self-Determination and Education Assistance Act as amended, authorize contracts, compacts and other forms of funding agreements with tribes for Federal programs.

The AITRC is composed of a representative of each of the eight federally recognized tribes in the Ahtna region, (Native Villages of Cantwell, Mentasta, Cheesh'na, Chitina, Gulkana, Gakona, Tazlina, and Kluti Kaah) Ahtna Inc., the ANCSA regional corporation, and Chitina Native Corporation, the ANCSA village corporation for the Native Village of Chitina. The other seven ANCSA village corporations for the Ahtna region merged with Ahtna, Inc. The eight federally recognized Ahtna tribes through resolutions of their governing bodies established the AITRC for the purpose of management of customary and traditional resources, lands and waters, including engaging in cooperative management agreements, and for related Federal tribal contracting opportunities.

The Southcentral Subsistence Regional Advisory Council (SCRAC) and Eastern Interior Subsistence Regional Advisory Council (EIRAC) (collectively, RAC), which were established pursuant to section 805 of ANILCA, have authority to make recommendations to the Board and Secretary on issues related to the taking of subsistence wildlife on the public lands within Ahtna's traditional territory. The Subsistence Resource Commissions (SRC) for the Denali and Wrangell-St. Elias National Parks are responsible for developing annual recommendations for subsistence hunting programs on park and preserve lands in Ahtna's traditional territory. The SRC recommendations go directly to the Secretary.

Both the Regional Advisory Council and SRC recommendations concerning the taking of fish and wildlife are entitled to deference pursuant to sections 805 and 808 of ANILCA and Federal regulations.

ARTICLE III - STATEMENT OF AGREEMENT

This MOA formalizes an agreement for the purpose of establishing a process and structure as a demonstration project within the Federal Subsistence Management Program that provides the AITRC with authority to cooperatively manage, within parameters established by the Board, certain aspects of subsistence hunting on Federal public lands by rural residents who are members of the eight federally recognized tribes in the Ahtna region, which is delineated on the attached map.

- A. The Department will immediately commence rulemaking to allow the issuance of AITRC-managed community harvest permit(s) through the Federal Subsistence Management Program.**
 - 1) The Department agrees that during the next subsistence regulatory cycle following the signing of this MOA, the Department will commence rulemaking with the goal of authorizing the Board to issue a permit, or series of permits, to the AITRC for subsistence taking of wildlife species, including moose, caribou, and other species culturally and

traditionally harvested, on Federal public lands within the Ahtna region pursuant to the following goals and caveats:

- a) Such permit or permits will allow AITRC to establish harvest limits, quotas, season dates, and methods and means within the framework, if any, established by the Board through its regulatory process and included as a condition or conditions of the permit(s) for the purposes of conservation of healthy populations, public safety, or administration. The objective is to provide maximum opportunity for the continuation of the Ahtna tribes' hunting way of life and right to self-determination through providing AITRC with authority to manage the taking of wildlife according to the customary and traditional knowledge and practices of the Ahtna people through a process that is consistent with the Board's legal mandates.
 - b) Such permit(s) may be for the benefit of the AITRC's member tribal communities only; however, the parties understand and agree that the taking of fish and wildlife on all Federal public lands must be implemented in a manner consistent with the statutory rural priority set forth in Title VIII.
 - c) The Secretaries will direct the Board to strive to authorize the subsistence taking on the Federal public lands within the Ahtna region of allocations of moose, caribou, and other wildlife species that are sufficient to meet the needs of the participating Ahtna villages to the fullest extent possible in light of the Board's legal obligations.
 - d) At its discretion, the Board may delegate to the agency field officers for the Wrangell-St. Elias and Denali National Parks, Tetlin National Wildlife Refuge, and for the Bureau of Land Management lands within the Ahtna region, the authority to issue the permit(s) and establish the AITRC quotas.
- 2) The AITRC agrees that when implementing the permit or permits, it will:
- a) Provide notice of all openings, closings, limits, and changes to methods and means to the appropriate agency field officers and the Office of Subsistence Management in a timely manner so as to allow adequate advanced notice to the public;
 - b) Comply with all permit conditions;
 - c) Provide the Department and Board with a list of all participants who will be hunting under the permit(s). The AITRC will also provide all hunters participating in the permit with a harvest tag or some other form of identification showing their eligibility to participate in the permit hunt and will ensure that all hunters understand all permit stipulations and applicable regulatory requirements.

- B. The Department will seek to establish an Ahtna region specific local advisory committee pursuant to ANILCA section 805 to allow greater reliance on local ecological knowledge and input by regional residents into subsistence hunting management plans and decisionmaking.**
- 1) The Department agrees that within 30 days following the signing of this MOA, the Office of Subsistence Management will, in consultation with AITRC, draft a charter for a subsistence local advisory committee pursuant to 36 C.F.R. § 242.12, 50 C.F.R. § 100.12, and section 805(a) of ANILCA and initiate the regulatory process for implementing the charter. It is anticipated that membership shall consist of six residents of the Ahtna region nominated by AITRC and appointed by the Secretary, one representative each from the SCRAC, EIRAC, the Wrangell-St. Elias SRC, the Denali SRC, and the State of Alaska, for a total of eleven members.
 - a) The purpose of the local advisory committee will be to make recommendations concerning policies, standards guidelines, and regulations to the Secretary, Board (or its delegate), RAC's, and SRC for implementing a recommended strategy for the management and taking of wildlife species customarily and traditionally used within the Ahtna traditional territory.
 - b) The local advisory committee shall be permitted to meet at least twice per year, with planning, administrative assistance, and travel expenses including per diem (except for the State representative) to be borne by the Office of Subsistence Management.
 - c) The Board shall give substantial weight to the recommendations of the local advisory committee except when such recommendations either contradict the recommendations of the appropriate regional advisory council or, as set forth in section 805(c) of ANILCA, are not supported by substantial evidence, are contrary to recognized principles of fish or wildlife management, or are detrimental to the satisfaction of subsistence needs.
 - i. Ahtna traditional knowledge and understanding of the customary and traditional needs, practices and uses of Ahtna tribal communities will be presumed to be substantial evidence.
 - ii. Ahtna traditional knowledge and customary and traditional management practices shall be presumed to be consistent with recognized principles of wildlife management unless it is demonstrated that there is a significant likelihood that the local advisory committee's recommendations for harvest management will result in material detriment to the conservation of a wildlife stock or population.
 - 2) With regard to the establishment of the local advisory committee, AITRC understand as follows:

- a) Such committee will be subject to the Federal Advisory Committee Act (FACA), including, but not limited to the requirements of: advanced notice and open meetings; attendance at meetings by a Designated Federal Officer; a membership that is fairly balanced in terms of those directly affected, interested, and qualified on the issues to be addressed by the committee; and, an approved charter.
- b) Charter approval is a statutory prerequisite to action by any federal advisory committee. Such approval is a lengthy process and cannot be guaranteed, however, the Department will make all good faith efforts to expedite the process and charter approval.

C. The future cooperative development and implementation of policies, programs and projects for the conservation and sustainable subsistence harvest of wildlife customarily and traditionally utilized on lands within the Ahtna region.

- 1) Many wildlife species migrate, and none recognize political or ownership boundaries. The Department and AITRC agree that there are substantial potential benefits for the managers of neighboring land within the Ahtna region to cooperate in reaching subsistence wildlife management objectives. Section 802(3) of ANILCA recognizes the need for cooperation among Native corporations and adjacent land managers such as AITRC "in managing subsistence activities on public lands and in protecting the continued viability of all wild renewable resources in Alaska." The parties therefore agree to a cooperative partnership for the development and implementation of policies, programs, and projects that will serve mutual subsistence management objectives.
- 2) The partnership will address the conservation and sustainable subsistence harvest of wildlife customarily and traditionally utilized within the Federal public lands and Ahtna lands within the Ahtna region. The parties acknowledge that it may not be practicable to include all wildlife populations customarily and traditionally utilized by the Ahtna Native villages in the initial phases of the cooperative partnership. Moose, caribou, and any other large mammal populations identified by either party after consultation with the other party will be included.
- 3) A central purpose of the partnership is the incorporation of Ahtna's traditional ecological knowledge and customary management practices into the Department's subsistence wildlife management structure and policies. The parties agree that one important means for achieving this mutual goal is the meaningful incorporation of AITRC in the implementation of the policies, programs, and projects derived from the partnership.
- 4) Policies, programs, and projects cooperatively developed for purposes related to conservation and sustainable subsistence harvests will include those related to takings quotas and allocations, habitat conservation and enhancement, harvest and population monitoring, research, trespass control and enforcement, and access for subsistence hunting, including access by motorized vehicles to retrieve harvested game. The work of the partnership is intended to inform wildlife-related decisionmaking by the Board, the

Department land managing agencies, the United States Department of Agriculture Forest Service, and the AITRC for the foreseeable future.

- 5) Both parties agree that it would be beneficial to the residents of the Ahtna region to include the State of Alaska in the development and implementation of the policies, programs and projects described in this section of the MOA. The Department and AITRC therefore mutually agree to invite the State's participation in the work described in this section in the hope that the State: 1) will participate in discussions with the parties that are consistent with the goals and purposes of this section into the future; and 2) will agree, to the maximum extent permitted by applicable law, to implement policies, programs, and projects mutually agreed upon by AITRC, the Department and the State on State managed lands. The State's participation shall have no impact on the ability of AITRC and the Department to reach independent agreements on other subsistence related matters, policies, programs, and projects.

D. Funding AITRC capacity building and participation in the development and implementation of the MOA.

Both parties agree to diligently pursue sources for funding that will assist AITRC in developing and sustaining the capacity to meaningfully participate in the permits and programs set forth in this MOA. It is the mutual goal of the parties that AITRC will, within the near future and depending on the availability of appropriations, enter into funding agreement(s) with the Department for the capacity, expertise, research, and administrative costs associated with development and implementation of the parts of this MOA.

ARTICLE IV – GENERAL PROVISIONS

- A. No member of, or delegate to, Congress shall be admitted to any share or part of this document, or to any benefit that may arise therefrom.
- B. The provisions of this MOA are complementary to and are not intended to replace Federal responsibility under Title VIII or any other law for the conservation of fish and wildlife on Federal public lands and the subsistence uses thereof.
- C. Nothing herein is intended to conflict with Federal, State, or local laws or regulations.
- D. Upon signing, the parties shall each designate an individual and an alternate to serve as the principal contact or liaison for implementation of this MOA.
- E. This MOA becomes effective upon signing by all signatories and will remain in force until: (1) terminated by one or both of the parties; or, (2) dissolution of AITRC or cessation of operations thereby.
- F. In the event that the State of Alaska assumes subsistence management on public lands within the Ahtna traditional territory under Title VIII of ANILCA, Article III Section A

of this Agreement will be suspended for the period of State management. In the event that the State of Alaska ceases to manage public lands, this Agreement will resume and Article III Section A will return to full force and effect as if never suspended.

- G. Except as already required by law, nothing in this document shall be construed as obligating the signatories to expend funds or involving the United States or AITRC in any contract or other obligations for the future payment of money, except as may be negotiated in future cooperative funding agreements.
- H. This MOA establishes mutual goals and establishes proposed courses of action for reaching those goals, but it does not create any legally enforceable obligations or rights.
- I. This MOA does not restrict the signatories from participating in any other agreements with other public or private agencies, organizations, or individuals.

ARTICLE V.

SIGNATORIES:

FOR THE AHTNA INTERTRIBAL RESOURCE COMMISSION:



Christopher Gene, Chairman



Karen Linnell, Executive Director

FOR THE DEPARTMENT OF THE INTERIOR:



Michael L. Connor, Deputy Secretary of the Interior

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

Ahtna, Incorporated acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.

A handwritten signature in black ink, appearing to read "Nicholas Jackson", written over a horizontal line.

Nicholas Jackson, Chairman of Ahtna, Incorporated

A handwritten signature in black ink, appearing to read "Michelle Anderson", written over a horizontal line.

Michelle Anderson, President of Ahtna, Incorporated

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Ahtna Customary and Traditional Use Committee acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.



Eleanor Dementi, Chair, Ahtna Customary and Traditional Use Committee



Roy Ewan, Honorary Elder, Ahtna Customary and Traditional Use Committee

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Chitina Native Corporation acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.

A handwritten signature in cursive script, reading "Anne Thomas", is written over a horizontal line.

Anne Thomas, President of Chitina Native Corporation

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Native Village of Cantwell acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.

A handwritten signature in blue ink that reads "Rene Nicklie". The signature is written over a horizontal line.

Rene Nicklie, Native Village of Cantwell

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Native Village of Chistochina acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.

A handwritten signature in blue ink, appearing to read "Larry Sinyon", written over a horizontal line.

Larry Sinyon, Native Village of Chistochina

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Chitina Traditional Indian Village Council acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.



A handwritten signature in cursive script, appearing to read "Rose Tyone", is written over a horizontal line.

Rose Tyone, President Chitina Traditional Indian Village Council

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Native Village of Gakona acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.

A handwritten signature in blue ink that reads "Darrin Gene". The signature is written in a cursive style with a large initial "D".

Darrin Gene, Native Village of Gakona

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Native Village of Gulkana acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.



Eileen Ewan, Native Village of Gulkana

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Native Village of Kluti-Kaah acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.



John Craig, Native Village of Kluti-Kaah

ARTICLE V.

SIGNATORIES:

SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Native Village of Mentasta acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.

A handwritten signature in cursive script, reading "Ted Sanford", is written over a horizontal line.

Ted Sanford, Native Village of Mentasta

ARTICLE V.

SIGNATORIES:

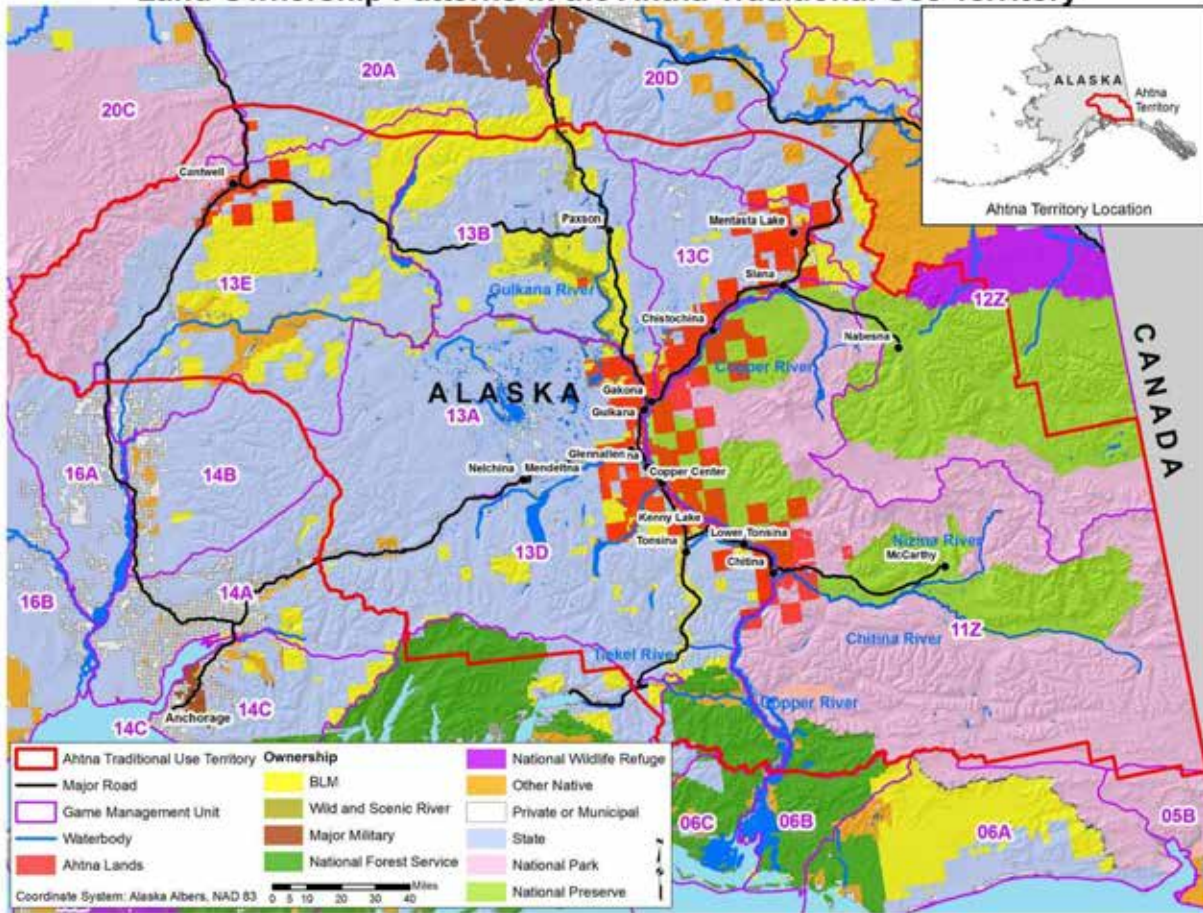
SIGNATURE OF SUPPORTING ORGANIZATIONS:

The Native Village of Tazlina acknowledges and supports this Memorandum of Agreement between the Department of the Interior and the Ahtna Inter-Tribal Resource Commission, and the spirit of cooperation it manifests.

 _____

Gloria Stickwan, Native Village of Tazlina

Land Ownership Patterns in the Ahtna Traditional Use Territory



WP18–32 Executive Summary	
General Description	<p>Proposal WP18-32 requests changes to the caribou season dates on Federal public lands in Units 21D, 22, 23, 24, 25A (West), 26A, and 26B. <i>Submitted by: Western Interior Alaska Subsistence Regional Advisory Council.</i></p>
Proposed Regulation	<p>Unit 21D—Caribou</p> <p><i>Unit 21D—north of the Yukon River and east of the Koyukuk River—caribou may be taken during a winter season to be announced</i> <i>Winter season to be announced</i></p> <p><i>Unit 21D, remainder—5 caribou per day, as follows: Calves may not be taken.</i></p> <p><i>Bulls may be harvested</i> <i>July 1-Oct. 14 10</i> <i>Feb. 1-June 30</i></p> <p><i>Cows may be harvested</i> <i>Sep. 1-Mar. 31</i> <i>Oct. 1 – Feb. 1</i></p> <p>Unit 22—Caribou</p> <p><i>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. Calves may not be taken</i></p> <p><i>Bulls may be harvested</i> <i>Oct. 1-Apr. 30</i> <i>May 1-Sep. 30, a season may be announced</i> <i>July 1 – Oct. 10</i> <i>Feb. 1 – June 30</i></p> <p><i>Cows may be harvested</i> <i>Oct. 1 – Feb. 1</i></p> <p><i>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</i> <i>July 1-June 30</i></p>

WP18–32 Executive Summary

	<i>caribou per day. Calves may not be taken</i>	<i>July 1 – Oct. 10</i> <i>Feb. 1 – June 30</i>
	<i>Bulls may be harvested</i>	
		<i>Oct. 1 – Feb. 1</i>
	<i>Cows may be harvested</i>	
	<i>Unit 22A, remainder—5 caribou per day. Calves may not be taken</i>	<i>July 1–June 30, season may be announced</i>
	<i>Bulls may be harvested</i>	<i>July 1 – Oct. 10</i> <i>Feb. 1 – June 30</i>
	<i>Cows may be harvested</i>	<i>Oct. 1 – Feb. 1</i>
	<i>Unit 22D, that portion in the Pilgrim River drainage—5 caribou per day. Calves may not be taken</i>	<i>Oct. 1–Apr. 30</i> <i>May 1–Sep. 30, season may be announced</i>
	<i>Bulls may be harvested</i>	<i>July 1 – Oct. 10</i> <i>Feb. 1 – June 30</i>
	<i>Cows may be harvested</i>	<i>Oct. 1 – Feb. 1</i>
	<i>Units 22C, 22D remainder, 22E remainder—5 caribou per day. Calves may not be taken</i>	<i>July 1–June 30, season may be announced</i>
	<i>Bulls may be harvested</i>	<i>July 1 – Oct. 10</i> <i>Feb. 1 – June 30</i>
	<i>Cows may be harvested</i>	<i>Oct. 1 – Feb. 1</i>
	Unit 23—Caribou	
	<i>Unit 23—that portion which includes all drainages north and west of, and including, the Singoalik River drainage—5 caribou per day as follows: Calves may not be taken</i>	
	<i>Bulls may be harvested</i>	<i>July 1–Oct. 14 10</i> <i>Feb. 1–June 30</i>
	<i>Cows may be harvested. However, cows accompanied by calves may not be taken July</i>	<i>July 15–Apr. 30</i> <i>Oct. 1 – Feb. 1</i>

WP18–32 Executive Summary	
	<p>15-Oct-14</p> <p>Unit 23, remainder—5 caribou per day, as follows: Calves may not be taken.</p> <p>Bulls may be harvested July 1-Oct. 14 Feb. 1-June 30</p> <p>Cows may be harvested. However, cows accompanied by calves may not be taken July 31-Oct. 14 July 31-Mar. 31 Oct. 1 – Feb. 1</p> <p>Unit 24—Caribou</p> <p>Unit 24A—that portion south of the south bank of the Kanuti River—1 caribou Aug. 10-Mar. 31</p> <p>Unit 24B—that portion south of the south bank of the Kanuti River, upstream from and including that portion of the Kanuti-Kilolitna River drainage, bounded by the southeast bank of the Kodosin-Nolitna Creek, then downstream along the east bank of the Kanuti-Kilolitna River to its confluence with the Kanuti River—1 caribou Aug. 10-Mar. 31</p> <p>Units 24A remainder, 24B remainder—5 caribou per day as follows: Calves may not be taken.</p> <p>Bulls may be harvested July 1-Oct. 14 Feb. 1-June 30</p> <p>Cows may be harvested July 15-Apr. 30 Oct. 1 – Feb. 1</p> <p>Units 24C, 24D—5 caribou per day as follows: Calves may not be taken.</p> <p>Bulls may be harvested. July 1-Oct. 14 Feb. 1-June 30</p>

WP18–32 Executive Summary

	<i>Cows may be harvested</i>	<i>Sep. 1–Mar. 31</i> <i>Oct. 1 – Feb. 1</i>
	Unit 25A—Caribou	
	<i>Unit 25A—in those portions west of the east bank of the East Fork of the Chandalar River extending from its confluence with the Teedrijik (Chandalar) River upstream to Guilbeau Pass and north of the south bank of the mainstem of the Teedrijik (Chandalar) River at its confluence with the East Fork Chandalar River west (and north of the south bank) along the West Fork Ch'idriinjik (Chandalar) River—10 caribou. However, only bulls may be taken May 16–June 30</i>	<i>July 1–June 30</i>
	Bulls may be harvested	<i>July 1 – Oct. 10</i> <i>Feb. 1 – June 30</i>
	Cows may be harvested	<i>Oct. 1 – Feb. 1</i>
	<i>Unit 25A remainder, 25B, and Unit 25D, remainder—10 caribou</i>	<i>July 1–Apr. 30</i>
	Unit 26—Caribou	
	<i>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 as follows: Calves may not be taken.</i>	
	<i>Bulls may be harvested</i>	<i>July 1–Oct. 1410</i> <i>Dec. 6 Feb. 1–June 30</i>
	<i>Cows may be harvested; however, cows accompanied by calves may not be taken July 16–Oct. 15</i>	<i>July 16–Mar. 15</i> <i>Oct. 1 – Feb. 1</i>

WP18–32 Executive Summary	
	<p><i>Unit 26A remainder—5 caribou per day as follows: Calves may not be taken.</i></p> <p><i>Bulls may be harvested</i> July 1-Oct. 15 10 Dec. 6-Feb. 1-June 30</p> <p><i>Up to 3 cows per day may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15</i> July 16-Mar. 15 Oct. 1 – Feb. 1</p> <p><i>Unit 26B, that portion south of 69°30' N. lat. and west of the Dalton Highway—5 caribou per day as follows:</i></p> <p><i>Bulls may be harvested</i> July 1-Oct. 14 10 Dec. 10-Feb. 1-June 30</p> <p><i>Cows may be harvested</i> July 1-Apr. 30 Oct. 1 – Feb. 1</p> <p><i>Unit 26B remainder—5 caribou per day as follows:</i></p> <p><i>Bulls may be harvested.</i> July 1-June 30 July 1 – Oct. 10 Feb. 1 – June 30</p> <p><i>Cows may be harvested.</i> July 1-May 15 Oct. 1 – Feb. 1</p> <p><i>You may not transport more than 5 caribou per regulatory year from Unit 26 except to the community of Anaktuvuk Pass</i></p>
OSM Preliminary Conclusion	Oppose
Southeast Alaska Subsistence Regional Advisory Council Recommendation	

WP18–32 Executive Summary	
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	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	

WP18-32 Executive Summary	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

**DRAFT STAFF ANALYSIS
WP18-32**

ISSUES

Proposal WP18-32, submitted by the Western Interior Alaska Subsistence Regional Advisory Council, requests changes to the caribou season dates on Federal public lands in Units 21D, 22, 23, 24, 25A (West), 26A, and 26B.

DISCUSSION

The proponent requests changes to Federal caribou regulations to protect cows from the Western Arctic Caribou Herd (WACH), Teshekpuk Caribou Herd (TCH), and the Central Arctic Caribou Herd (CACH) during the fall and spring migration. The proponent states that reducing the exposure of cows to hunting during migration will avoid migration deflections because cows lead migration. The proponent also requests changes to the bull seasons to prohibit bull harvest when they are not palatable during the rut. To align seasons between the State and Federal regulations, the proponent intends to submit an agenda change request to the Alaska Board of Game (BOG).

Existing Federal Regulation**Unit 21D—Caribou**

<i>Unit 21D—north of the Yukon River and east of the Koyukuk River—caribou may be taken during a winter season to be announced</i>	<i>Winter season to be announced</i>
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Unit 21D, remainder—5 caribou per day, as follows: Calves may not be taken.

Bulls may be harvested

*July 1-Oct. 14
Feb. 1-June 30*

Cows may be harvested

Sep. 1-Mar. 31

Unit 22—Caribou

<i>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. Calves may not be taken</i>	<i>Oct. 1-Apr. 30 May 1-Sep. 30, a season may be announced</i>
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<i>Units 22A—that portion north of the Golsovia River drainage, 22B</i>	<i>July 1-June 30</i>
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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. Calves may not be taken

Unit 22A, remainder—5 caribou per day. 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. 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. Calves may not be taken July 1-June 30, season may be announced

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 as follows: Calves may not be taken

Bulls may be harvested July 1-Oct. 14
Feb. 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, as follows: Calves may not be taken.

Bulls may be harvested July 1-Oct. 14
Feb. 1-June 30

Cows may be harvested. However, cows accompanied by calves may not be taken July 31-Oct. 14 July 31-Mar. 31

Unit 24—Caribou

Unit 24A—that portion south of the south bank of the Kanuti River—1 caribou Aug. 10-Mar. 31

Unit 24B—that portion south of the south bank of the Kanuti River, upstream from and including that portion of the Kanuti-Kilolitna Aug. 10-Mar. 31

River drainage, bounded by the southeast bank of the Kodosin-Nolitna Creek, then downstream along the east bank of the Kanuti-Kilolitna River to its confluence with the Kanuti River—1 caribou

Units 24A remainder, 24B remainder—5 caribou per day as follows: Calves may not be taken

Bulls may be harvested

*July 1-Oct. 14.
Feb. 1-June 30*

Cows may be harvested

July 15-Apr. 30

Units 24C, 24D—5 caribou per day as follows: Calves may not be taken.

Bulls may be harvested

*July 1-Oct. 14
Feb. 1-June 30*

Cows may be harvested

Sep. 1-Mar. 31

Unit 25A—Caribou

Unit 25A—in those portions west of the east bank of the East Fork of the Chandalar River extending from its confluence with the Chandalar River upstream to Guilbeau Pass and north of the south bank of the mainstem of the Chandalar River at its confluence with the East Fork Chandalar River west (and north of the south bank) along the West Fork Chandalar River—10 caribou. However, only bulls may be taken

July 1-June 30

May 16-June 30

Unit 25A remainder, 25B, and Unit 25D, remainder—10 caribou

July 1-Apr. 30

Unit 26—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 as follows: Calves may not be taken

Bulls may be harvested

*July 1-Oct. 14
Dec. 6-June 30*

<i>Cows may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15</i>	<i>July 16-Mar. 15</i>
<i>Unit 26A remainder—5 caribou per day as follows: Calves may not be taken.</i>	
<i>Bulls may be harvested</i>	<i>July 1-Oct. 15 Dec. 6-June 30</i>
<i>Up to 3 cows per day may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15</i>	<i>July 16-Mar. 15</i>
<i>Unit 26B, that portion south of 69°30' N. lat. and west of the Dalton Highway—5 caribou per day as follows:</i>	
<i>Bulls may be harvested</i>	<i>July 1-Oct. 14 Dec. 10-June 30</i>
<i>Cows may be harvested</i>	<i>July 1-Apr. 30</i>
<i>Unit 26B remainder—5 caribou per day as follows: Bulls may be harvested.</i>	<i>July 1-June 30</i>
<i>Cows may be harvested</i>	<i>July 1-May 15</i>
<i>You may not transport more than 5 caribou per regulatory year from Unit 26 except to the community of Anaktuvuk Pass</i>	

Proposed Federal Regulations

Unit 21D—Caribou

<i>Unit 21D—north of the Yukon River and east of the Koyukuk River—caribou may be taken during a winter season to be announced</i>	<i>Winter season to be announced</i>
<i>Unit 21D, remainder—5 caribou per day, as follows: Calves may not be taken.</i>	
<i>Bulls may be harvested</i>	<i>July 1-Oct. 14 10 Feb. 1-June 30</i>
<i>Cows may be harvested</i>	<i>Sep. 1-Mar. 31 Oct. 1 – Feb. 1</i>

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. Calves may not be taken

~~Oct. 1–Apr. 30
May 1–Sep. 30, a
season may be
announced~~

Bulls may be harvested

***July 1 – Oct. 10
Feb. 1 – June 30***

Cows may be harvested

Oct. 1 – Feb. 1

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. Calves may not be taken

~~July 1–June 30~~

Bulls may be harvested

***July 1 – Oct. 10
Feb. 1 – June 30***

Cows may be harvested

Oct. 1 – Feb. 1

Unit 22A, remainder—5 caribou per day. Calves may not be taken

~~July 1–June 30, season
may be announced~~

Bulls may be harvested

***July 1 – Oct. 10
Feb. 1 – June 30***

Cows may be harvested

Oct. 1 – Feb. 1

Unit 22D, that portion in the Pilgrim River drainage—5 caribou per day. Calves may not be taken

~~Oct. 1–Apr. 30
May 1–Sep. 30, season
may be announced~~

Bulls may be harvested

***July 1 – Oct. 10
Feb. 1 – June 30***

Cows may be harvested

Oct. 1 – Feb. 1

Units 22C, 22D remainder, 22E remainder—5 caribou per day. Calves may not be taken

~~July 1–June 30, season
may be announced~~

Bulls may be harvested

July 1 – Oct. 10
Feb. 1 – June 30

Cows may be harvested

Oct. 1 – Feb. 1

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 as follows: Calves may not be taken

Bulls may be harvested

July 1-Oct. 10
Feb. 1-June 30

Cows may be harvested. However, cows accompanied by calves may not be taken July 15-Oct. 14

July 15-Apr. 30
Oct. 1 – Feb. 1

Unit 23, remainder—5 caribou per day, as follows: Calves may not be taken.

Bulls may be harvested

July 1-Oct. 10
Feb. 1-June 30

Cows may be harvested. However, cows accompanied by calves may not be taken July 31-Oct. 14

July 31-Mar. 31
Oct. 1 – Feb. 1

Unit 24—Caribou

Unit 24A—that portion south of the south bank of the Kanuti River—1 caribou

Aug. 10-Mar. 31

Unit 24B—that portion south of the south bank of the Kanuti River, upstream from and including that portion of the Kanuti-Kilolitna River drainage, bounded by the southeast bank of the Kodosin-Nolitna Creek, then downstream along the east bank of the Kanuti-Kilolitna River to its confluence with the Kanuti River—1 caribou

Aug. 10-Mar. 31

Units 24A remainder, 24B remainder—5 caribou per day as follows: Calves may not be taken.

Bulls may be harvested

~~July 1-Oct. 14-10~~
Feb. 1-June 30

Cows may be harvested

~~July 15-Apr. 30~~
Oct. 1 – Feb. 1

Units 24C, 24D—5 caribou per day as follows: Calves may not be taken.

Bulls may be harvested.

~~July 1-Oct. 14-10~~
Feb. 1-June 30

Cows may be harvested

~~Sep. 1-Mar. 31~~
Oct. 1 – Feb. 1

Unit 25A—Caribou

*Unit 25A—in those portions west of the east bank of the East Fork of the Chandalar River extending from its confluence with the **Teedriijik (Chandalar) River** upstream to Guilbeau Pass and north of the south bank of the mainstem of the **Teedriijik (Chandalar) River** at its confluence with the East Fork Chandalar River west (and north of the south bank) along the West Fork **Ch'idriinjik (Chandalar) River**—10 caribou. However, only bulls may be taken May 16-June 30*

~~July 1-June 30~~

Bulls may be harvested

July 1 – Oct. 10
Feb. 1 – June 30

Cows may be harvested

Oct. 1 – Feb. 1

Unit 25A remainder, 25B, and Unit 25D, remainder—10 caribou

~~July 1-Apr. 30~~

Unit 26—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 as follows: Calves may not be taken.

Bulls may be harvested

~~July 1-Oct. 14-10~~
~~Dec. 6~~ **Feb. 1-June 30**

<p>Cows may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15</p> <p>Unit 26A remainder—5 caribou per day as follows: Calves may not be taken.</p> <p>Bulls may be harvested</p> <p>Up to 3 cows per day may be harvested; however, cows accompanied by calves may not be taken July 16-Oct. 15</p> <p>Unit 26B, that portion south of 69°30' N. lat. and west of the Dalton Highway—5 caribou per day as follows:</p> <p>Bulls may be harvested</p> <p>Cows may be harvested</p> <p>Unit 26B remainder—5 caribou per day as follows: Bulls may be harvested.</p> <p>Cows may be harvested.</p> <p>You may not transport more than 5 caribou per regulatory year from Unit 26 except to the community of Anaktuvuk Pass</p>	<p>July 16-Mar. 15 Oct. 1 – Feb. 1</p> <p>July 1-Oct. 15 10 Dec. 6-Feb. 1 June 30</p> <p>July 16-Mar. 15 Oct. 1 – Feb. 1</p> <p>July 1-Oct. 14 10 Dec. 10-Feb. 1 June 30</p> <p>July 1-Apr. 30 Oct. 1 – Feb. 1</p> <p>July 1-June 30 July 1 – Oct. 10 Feb. 1 – June 30</p> <p>July 1-May 15 Oct. 1 – Feb. 1</p>
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Existing State Regulations

Unit 21D—Caribou

<p>21A</p> <p>21B, north of the Yukon River and downstream from Ukawutni Creek</p>	<p>Residents and Nonresidents: 1 bull</p> <p>Residents and Nonresidents</p>	<p>HT</p> <p>No open season</p>	<p>Aug. 10 – June 30</p>
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21B remainder	Residents and Nonresidents: 1 caribou	HT	Aug. 10 – Sept. 30
21C, Dulbi River drainage and Melozitna River drainages downstream from Big Creek	Residents and Nonresidents		No open season
21C remainder	Residents and Nonresidents: 1 caribou	HT	Aug. 10 – Sept. 30
21D, north of the Yukon River and east of the Koyukuk River	Residents: 2 caribou may be taken during the winter season	HT	may be announced
21D remainder	Residents: 5 caribou per day however, calves may not be taken		
	Bulls	HT	July 1 – Oct. 14 Feb. 1 – June 30
	Cows	HT	Sept. 1 – Mar. 31
	Nonresidents: 1 bull however calves may not be taken	HT	Aug. 1 – Sept. 30
21E	Residents and Nonresidents: 1 caribou	HT	Aug. 10 – Sept. 30

Unit 22—Caribou

22A, that portion
north of the Golsovia
River drainage

Residents— 5 caribou
per day, by registration
permit only, up to 20
caribou total; as follows:

	Up to 5 bulls per day; however, calves may not be taken;	RC800	no closed season
			July 1-Mar. 31
	Up to 5 cows per day; however, calves may not be taken	RC800	
			Aug. 1-Sept. 30
	Nonresidents—1 bull; however, calves may not be taken	HT	
22A remainder	Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:		
	Up to 5 bulls per day; however calves may not be taken; bulls may not be taken Oct. 15-Jan. 31.	RC800	may be announced
	Nonresidents—1 bull; however, calves may not be taken	HT	may be announced
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	Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:		
	Up to 5 bulls per day; however, calves may not be taken;	RC800	Oct. 1-Apr. 30
	Up to 5 cows per day; however, calves may not be taken	RC800	Oct. 1-Mar. 31
	Up to 5 caribou per day; however, calves may not be taken; during the period May 1-Sept. 30, a season may be	RC800	may be announced

	<p><i>announced by emergency order; however, cow caribou may not be taken April 1-Aug. 31</i></p>			<i>may be announced</i>
	<p><i>Nonresidents: 1 bull; however, calves may not be taken; during the period Aug. 1-Sept. 30, a season may be announced by emergency order</i></p>		<i>HT</i>	
<i>22B Remainder</i>	<p><i>Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:</i></p>			
	<p><i>Up to 5 bulls per day; however, calves may not be taken</i></p>	<i>RC800</i>		<i>no closed season</i>
	<p><i>Up to 5 cows per day; however, calves may not be taken</i></p>	<i>RC800</i>		<i>July. 1-Mar. 31</i>
	<p><i>Nonresidents—1 bull; however, calves may not be taken</i></p>		<i>HT</i>	<i>Aug. 1-Sept. 30</i>
<i>22C</i>	<p><i>Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:</i></p>			
	<p><i>Up to 5 bulls per day; however calves may not be taken; bulls may not be taken Oct. 15-Jan. 31.</i></p>	<i>RC800</i>		<i>may be announced</i>
	<p><i>Up to 5 cows per day; however calves may not be taken; cows may not</i></p>	<i>RC800</i>		<i>may be announced</i>

	<i>be taken Apr. 1-Aug. 31.</i>		
	<i>Nonresidents—1 bull; however, calves may not be taken</i>	<i>HT</i>	<i>may be announced</i>
<i>22D, that portion in the Pilgrim River drainage</i>	<i>Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:</i>		
	<i>Up to 5 bulls per day; however, calves may not be taken</i>	<i>RC800</i>	<i>Oct. 1-Apr. 30</i>
	<i>Up to 5 cows per day; however, calves may not be taken</i>	<i>RC800</i>	<i>Oct. 1-Mar. 31</i>
	<i>Up to 5 caribou per day; however, calves may not be taken; during the period May 1-Sept. 30, a season may be announced by emergency order; however, cow caribou may not be taken April 1-Aug. 31</i>	<i>RC800</i>	<i>may be announced</i>
	<i>Nonresidents: 1 bull; however, calves may not be taken; during the period Aug. 1-Sept. 30, a season may be announced by emergency order</i>	<i>HT</i>	<i>may be announced</i>
<i>22D, that portion in the Kuzitrin River drainage (excluding the Pilgrim River drainage) and the Agiapuk river</i>	<i>Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:</i>		
	<i>Up to 5 bulls per day;</i>	<i>RC800</i>	<i>no closed season</i>

<i>drainage, including tributaries</i>	<i>however, calves may not be taken</i>		
	<i>Up to 5 cows per day; however, calves may not be taken</i>	RC800	<i>July 1-Mar. 31</i>
	<i>Nonresidents—1 bull; however, calves may not be taken</i>	HT	<i>Aug. 1-Sept. 30</i>
<i>22E, that portion east of and including the Sanaguich River drainage</i>	<i>Residents—5 caribou per day, by registration permit only, up to 20 caribou total; as follows:</i>		
	<i>Up to 5 bulls per day; however, calves may not be taken</i>	RC800	<i>no closed season</i>
	<i>Up to 5 cows per day; however, calves may not be taken</i>	RC800	<i>July 1-Mar. 31</i>
	<i>Nonresidents—1 bull; however, calves may not be taken</i>	HT	<i>Aug. 1-Sept. 30</i>
<i>22E Remainder</i>	<i>Residents—5 caribou per day, by registration permit only; up to 20 caribou total; as follows:</i>	RC800	<i>may be announced</i>
	<i>Up to 5 bulls per day; however calves may not be taken; bulls may not be taken Oct. 15-Jan. 31.</i>	RC800	<i>may be announced</i>
	<i>Up to 5 cows per day; however calves may not be taken; cows may not be taken Apr. 1-Aug. 31.</i>	RC800	<i>may be announced</i>

*Nonresidents—1 bull; HT may be announced
however, calves may not
be taken;*

Unit 23—Caribou

*23, north of and
including the
Singoalik River
drainage*

*Residents—5 caribou
per day; however, calves
may not be taken.*

Bulls

*RC907 July 1-Oct. 14
Feb. 1-June 30*

Cows

RC907 Jul. 15-Apr. 30

*Nonresidents—1 bull;
however, calves may not
be taken*

HT Aug. 1 – Sept. 30

23 remainder

*Residents—5 caribou
per day; however, calves
may not be taken.*

Bulls

*RC907 July 1-Oct. 14
Feb. 1-June 30*

Cows

RC907 Sept. 1-Mar. 31

*Nonresidents—1 bull;
however, calves may not
be taken*

HT Aug. 1-Sept. 30

Unit 24—Caribou

*24A, south of the
south bank of the
Kanuti River*

*Resident Hunters: 1
caribou*

HT Aug. 10 – Mar. 31

*Nonresident Hunters: 1
caribou*

HT Aug. 10 – Sept. 30

24A, remainder	Resident Hunters: 2 caribou	HT	July 1 – Apr. 30
	Nonresident Hunters: 2 bulls	HT	Aug 1 – Sept. 30
24B, south of the south bank of the Kanuti River, upstream from and including that portion of the Kanuti-Kilolitna River drainage, bounded by the southeast bank of the Kodosin-Nolitna Creek, then downstream along the east bank of the Kanuti-Kilolitna River to its confluence with the Kanuti River	Resident Hunters: 1 caribou	HT	Aug. 10 – Mar. 31
	Nonresident Hunters: 1 caribou	HT	Aug. 10 – Sept. 30
24B remainder	Resident Hunters: 5 caribou per day however, calves may not be taken.		
	Bulls	HT	July 1 – Oct. 14 Feb 1 – June 30
	Cows	HT	July 15 – Apr. 30
	Nonresident Hunters: 1 bull	HT	Aug. 1 – Sept. 30
24C, 24D	Resident Hunters: 5 caribou per day however, calves may not be taken.		

			<i>July 1- Oct. 14</i>
<i>Bulls</i>			<i>Feb 1 – June 30</i>
		<i>HT</i>	
<i>Cows</i>			<i>Sept. 1- Mar. 31</i>
		<i>HT</i>	
<i>Nonresident Hunters: 1 bull however calves may not be taken</i>		<i>HT</i>	<i>Aug. 1 – Sept. 30</i>

Unit 25A—Caribou

<i>25A, 25B, 25D remainder</i>	<i>Resident Hunters: 10 caribou</i>	<i>HT</i>	<i>July 1-Apr. 30</i>
	<i>Nonresident Hunters: 2 bulls</i>	<i>HT</i>	<i>Aug. 1 – Sept. 30</i>

Unit 26—Caribou

<i>Unit 26A 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</i>	<i>Resident Hunters: 5 caribou per day, however, calves may not be taken:</i>		
	<i>Bulls</i>	<i>RC907</i>	<i>July 1 – Oct. 14</i> <i>Feb. 1 – June 30</i>
	<i>Cows</i>	<i>RC907</i>	<i>July 15 – Apr. 30</i>
	<i>Nonresident hunters: 1 bull; however, calves may not be taken</i>	<i>HT</i>	<i>July 15– Sept.30</i>
<i>Unit 26A remainder</i>	<i>Resident Hunters: 5 bulls per day; however, calves may not be taken</i>	<i>RC907</i>	<i>July 1 – July 15</i> <i>Mar. 16-June 30</i>

5 caribou per day three RC907 July 16 – Oct. 15
of which may be cows:
calves may not be taken,
and cows with calves
may not be taken

3 cows per day however, RC907 Oct. 16 – Dec. 31
calves may not be taken

5 caribou per day three RC907 Jan. 1 – Mar. 15
of which may be cows;
calves may not be taken

Nonresident Hunters: 1 HT July 15 – Sept. 30
bull however, calves may
not be taken

Unit 26B—Caribou

Unit 26(B), Northwest portion north of the 69° 30' N. lat. and west of the east bank of the Kuparuk River to a point at 70° 10' N. lat., 149° 04' W. long., and west approximately 22 miles to 70° 10' N. lat and 149° 56' W. long, then following the east bank of the Kalubik River to the Arctic Ocean	Resident Hunters: 5 caribou per day		
	Bulls	HT	No closed season
	Cows	HT	July 1- May 15
	Nonresident Hunters: 1- bull	HT	Aug. 1-Sept 15
26B remainder	Resident Hunters: 2 bulls	HT	Aug. 1-Apr. 30
	Nonresident Hunters: 1 bull	HT	Aug. 1-Sept. 15

Extent of Federal Public Lands

Federal public lands comprise approximately 56% of Unit 21D and consist of 53% U.S. Fish and Wildlife Service (USFWS) managed lands and 47% Bureau of Land Management (BLM) managed lands (see **Unit 21 Map**).

Federal public lands comprise approximately 43% of Unit 22 and consist of 65% BLM managed lands, 29% National Park Service (NPS) managed lands, and 7% USFWS managed lands (see **Unit 22 Map**).

Federal public lands comprise approximately 71% of Unit 23 and consist of 56% NPS managed lands, 31% BLM managed lands, and 13% USFWS managed lands (see **Unit 23 Map**).

Federal public lands comprise approximately 64% of Unit 24 and consist of 34% USFWS managed lands, 34% NPS managed lands, and 33% BLM managed lands (see **Unit 24 Map**).

Federal public lands comprise approximately 76% of Unit 25A and consist of 97% USFWS managed lands and 3% BLM managed lands (see **Unit 25 Map**).

Federal public lands comprise approximately 73% of Unit 26A and consist of 66.9% BLM managed lands, 6.6% National Park Service (NPS) managed lands, and 0.1% USFWS managed lands. Federal public lands comprise approximately 29% of Unit 26B and consist of 22.8% USFWS managed lands, 3.6% BLM managed lands, and 2.7% NPS managed lands (see **Unit 26 Map**).

Customary and Traditional Use Determinations

Residents that have a customary and traditional use determination for caribou in Units 21, 22, 23, 24, 25A, 26A and 26B are presented in **Table 1**.

Table 1. Unit specific customary and traditional use determinations

UNIT	CUSTOMARY AND TRADITIONAL DETERMINATION
21D	Residents of Units 21B, 21C, 21D, and Huslia
22A	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
22 Remainder	Residents of Units 21D west of the Koyukuk and Yukon Rivers, 22 (excluding residents of St. Lawrence Island), 23, and 24
23	Residents of Unit 21D west of the Koyukuk and Yukon Rivers, Galena, 22, 23, 24 including residents of Wiseman but no other residents of the Dalton Highway Corridor Management Area and 26A
24	Residents of Unit 24, Galena, Kobuk, Koyukuk, Stevens Village, and Tanana
25A	Residents of Units 24A and 25
26A and 26C	Residents of Unit 26 (except the Prudhoe Bay–Deadhorse Industrial Complex), Anaktuvuk Pass, and Point Hope
26B	Residents of Unit 26, Anaktuvuk Pass, Point Hope, and Unit 24 within the Dalton Highway Corridor Management Corridor Area (DHCMA)

Regulatory History

See **Appendix A** for a summary of the regulatory history.

Current Events

Several proposals concerning Federal caribou harvest regulations in Unit 23 and Unit 26 were submitted for the 2018-2020 wildlife regulatory cycle.

At the Northwest Arctic Subsistence Regional Advisory Council meeting in March 2017, the Council voted to submit a proposal to decrease the caribou harvest limit in Unit 23 from 5 to 3 caribou/day (WP18-45).

The North Slope Subsistence Regional Advisory Council submitted a proposal requesting that Federal public lands in Units 26A and 26B be closed to caribou hunting by non-Federally qualified users (NFQU) (WP18-57).

Two proposals, the first submitted by the Western Arctic Caribou Herd Working Group (WACH Working Group) (WP18-46), and the second by Enoch Mitchell of Noatak (WP18-47), request that Federal public lands in Unit 23 be closed to caribou hunting except by Federally qualified subsistence users. Proposal WP18-47 specifically requests that the closure extend from 2018/19-2020/21 only.

Two proposals, the first submitted by the WACH Working Group (WP18-48) and the second by Louis Cusack (WP18-49), request that Federal reporting requirements for caribou in Units 22, 23, and 26A be aligned with the State's registration permit requirements.

Biological Background

The TCH, WACH, and CACH have ranges that overlap in Unit 26A (**Map 1**) and there can be considerable mixing of herds during the fall and winter (Hemming 1971). During the early 2000s, the number of caribou from the WACH, TCH, CACH, and Porcupine Caribou Herd (PCH) peaked at over 700,000 animals, which may be the highest number since the 1970s (OSM 2017b). Currently, the WACH, TCH, and CACH populations are all declining (Dau 2011, Lenart 2011, Parrett 2011). After declining slowly during the 1990s and early 2000s, the PCH has been increasing and by 2016 was at 197,000, which is the highest population yet recorded for this herd (OSM 2017b). In some years, harvest on Federal public lands within the Arctic National Wildlife Refuge (Arctic NWR) in Unit 26B is primarily from the PCH (Arthur 2017 pers. comm.).

Caribou abundance naturally fluctuates over decades (Gunn 2001, WACH Working Group 2011) and this may result in proportional constrictions and expansions of migratory pathways that shift caribou near or away from communities. Other factors may influence migratory patterns such as human disturbance, industrial development, habitat suitability, and climactic conditions. The influence of NFQU hunting activities, especially the use of aircraft and motorized vehicles as well as the harvest of lead caribou adjacent to what are considered important migratory corridors, has been an ongoing and contentious topic in the northwestern Arctic, since at least the 1980s (Georgette and Loon 1988, Jacobson 2008, Harrington and Fix 2009, Fix and Ackerman 2015, Halas 2015, NWARAC 2015, Braem et al. 2015). In the Northwest Arctic, the Unit 23 Working Group was established to assist with some of these concerns among various user groups. These user conflicts were, in part, the impetus for the closure of Federal public lands to NFQU in Unit 23 for the 2016/2017 regulatory year. Gunn (2001) reports the mean doubling rate for Alaskan caribou as 10 ± 2.3 years. Although the underlying mechanisms causing these fluctuations are uncertain, Gunn (2001) suggests climatic oscillations (i.e. Arctic and Pacific Decadal Oscillations) as the primary factor, exacerbated by predation and density-dependent reduction in forage availability resulting in poorer body condition. During the 1970s, there was little overlap between these four herds, but the degree of mixing seemed to have increased as the herds grew in the early 2000s (Lenart 2011, Dau 2011, Parrett 2011).

Caribou calving generally occurs during late May and early June. 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. Joly (2000) found that calves orphaned later in life have greater chances of surviving. Data from Russell et al. (1991)

suggests 50% and 75% of the calves orphaned in September and November, respectively, survived the winter (Joly 2000). Indeed, there is little evidence that calves orphaned after weaning experience strongly reduced overwintering survival rates than non-orphaned calves (Rughetti and Festa-Bianchet 2014, Joly 2000, Holand et al. 2012), although Holand et al. (2012) found orphaned calves to have greater losses of winter body mass than non-orphaned calves.

The WACH, TCH, and CACH migrate between seasonal summer and winter ranges and calving areas. Over many years, traditional migration routes have developed in response to spatial and temporal variability of environmental conditions encountered (Duquette 1988). Migration routes that were successful in previous years are likely learned by young caribou following older, more experienced animals (Pullainen 1974). Maintaining connectivity between the seasonal areas is important because restoring disturbed migration routes can be challenging (Wilcove and Wikelski 2008, Singh and Milner-Gulland 2011). Long-term climate changes may affect seasonal ranges and migratory patterns through changes in forage abundance, habitat quality, and weather (Joly et al. 2011). In addition, increased development along migration routes could increase energy costs, impede movements, or deflect caribou to less optimal areas. Understanding the importance of spatial and temporal variation of the seasonal habitat use and the migration routes are important considerations for management of caribou herds.

Central Arctic Caribou Herd

The CACH range includes the area from the eastern portion of the Arctic coastal plain of the North Slope to the Canadian border, the north side of the Brooks Range from the Itkillik River to the Canadian border, the south side of the Brooks Range from the North Fork of the Koyukuk River to the East Fork of the Teedriijik (Chandalar) River, and as far south as the Teedriijik (Chandalar) River valley (Lenart 2015). The traditional calving grounds of the CACH are between the Colville and Kuparuk rivers on the west side of the Sagavanirktok River and between the Sagavanirktok and Canning rivers on the east side. In response to oil and gas development and infrastructure in the 1990s caribou that calved in the western Unit 26B shifted their calving grounds to the southwest (Arthur and Del Vecchio 2009). The CACH summer range extends east from Fish Creek, just west of the Colville River, along the coast and inland about 30 miles to the Canadian border. Typically the CACH summer range extends from the Colville River to just east of the Katakaturuk River and from the coast inland to the foothills of the Brooks Range. The winter range of the CACH occurs in the northern and southern foothills of the Brooks Range. In most years the CACH begin migrating toward the foothills of the Brooks Range in August and by September most of the caribou are in the foothills around Toolik Lake, Galbraith Lake, Accomplishment Creek, Ivishak River and the upper Sagavanirktok River. Depending on the year, the rut, which typically occurs in mid-October, can occur on the north or south side of the Brooks Range (Lenart 2015). The range of the CACH often overlaps with the PCH on the summer and winter ranges to the east and with the WACH and TCH herds on the summer and winter ranges to the west (**Map 1**) (Lenart 2015).

2016). The CACH typically cross the Dalton Highway from the northwest to the southeast during the fall migration, which is away from Anaktuvuk Pass (Nicholson et al. 2016). The CACH used multiple migration routes, or a network of corridors versus a single migration route. Although caribou migratory patterns varied each year, some areas were consistently used each year. The migration paths that consistently had high caribou concentrations during spring and fall migrations each year were along the Dalton Highway between Galbraith Lake and the Ribdon River (Nicholson et al. 2016, Jack Reakoff 2017 pers. comm.).

The State manages the CACH to provide for subsistence and other hunting opportunities on a sustained yield basis. State management objectives for the CACH are as follows (Lenart 2015):

- Maintain a population of at least 28,000-32,000 caribou
- Maintain accessibility of seasonal ranges for CACH caribou
- Maintain a harvest of at least 1,400 caribou if the population is \geq 28,000 caribou
- Maintain a ratio of at least 40 bulls:100 cows
- Reduce conflicts between consumptive and nonconsumptive uses of caribou along the Dalton Highway

When the CACH was recognized as a distinct herd in 1975, the population was estimated to be 5,000 caribou (Cameron and Whitten 1979). The population increased to approximately 23,000 in 1992 (Valkenburg 1993), decreased to 18,000 in 1995, and then increased rapidly from 27,000 in 2000 to 70,034 in 2010 (Lenart 2015). Low cow mortality, high parturition rates, and high calf survival and recruitment contributed to the population increase of approximately 12% per year from 1998-2008 (Lenart 2015). In 2013, the population dropped to approximately 50,000 and by 2016 the population decreased to 22,360 caribou, which is below State management objectives (Lenart 2011, 2013, 2017a, b). The recent decline from 2010 to 2016 represented a decline of approximately 17% per year. The late spring of 2013, which killed many adult and yearling females, likely contributed to the population decline from 2010 to 2013. Two major factors influencing the population decline from 2013 to 2016 were the high mortality of adult females and emigration (Lenart 2017b). From 2013-2016 54% of the collared females ($n = 54$ in 2013) died and 19% switched from the CACH to other caribou herds (Lenart 2017b). Previous research indicates that predation has not played a major role in calf mortality and it is not thought to be a major factor in the decline (Lenart 2017b). Disease is also not implicated as a major factor for the decline of the CACH (Lenart 2017b). The State attributes the decline between 2013 and 2016 censuses to a large proportion of older females that died of old age, the late spring of 2013, and herd switching (Lenart 2017a).

Composition surveys are usually conducted during the fall near the peak of the rut to take advantage of the mixing of the bulls, cows, and calves. Composition counts were conducted in 2009-2012, 2014, and 2016 (Lenart 2015, 2017a). Composition surveys were not done in 2013 because the CACH was mixed with the PCH (**Table 2**) (Lenart 2015). The calf:cow ratio did not decline until after 2012 (**Table 2**). From 2009-2012 calf:cow ratios averaged 49 calves:100 cows (**Table 2**) (Lenart 2015). The calf:cow ratio was 48 calves: 100 cows when the population dropped to 22,360 caribou in 2016 (Lenart 2017a). Calf:cow ratios for calves \leq 4 years old, were above 70 calves:100 cows during the period when the herd was growing between 2000 and 2010 (Lenart 2017a). From 2010-2016, when the herd was declining, the calf:cow ratio

for older calves dropped below the 70 calves:100 cows. Although the bull:cow ratio had declined to 39 bulls:100 cows in 2016, it was still close to the State recommended objective of 40 (Lenart 2015, 2017b) between 2000 and 2010 (Lenart 2017a).

Table 2. CACH sex and age composition information collected during fall composition surveys, 2009-2014 (Lenart 2015)^a.

Date	Bulls:100 cows	Calves:100 cows	Percent Calves (n)	Percent Cows (n)	Percent Bulls (n)	Sample Size	Groups
13-14 Oct. 2009	50	33	18 (1,193)	55 (3,641)	27 (1,814)	6,648	19
23 Oct. 2010	50	46	23 (889)	51 (1,930)	26 (968)	3,787	12
13 Oct. 2011	69	56	25 (1303)	44 (2,306)	31 (1,590)	5,199	22
14 Oct. 2012	56	61	23 (1,132)	55 (1,845)	22 (1,039)	4,016	15
13-14 Oct. 2014 ^b	41	42	23 (462)	55 (1,097)	22 (445)	2,004	18
2016	39	48					

^a 2016 data is incomplete (Lenart 2017b)

^b Data may not be comparable with previous years due to small sample size.

Teshkepuk Caribou Herd

The TCH calving and summering areas overlap with the eastern portion of the National Petroleum Reserve–Alaska (NPR–A). Most of the TCH moves toward Teshkepuk Lake in May to calve in early June. The primary calving grounds of the TCH (approximately 1.8 million acres) occur to the east, southeast and northeast of Teshkepuk Lake (Person et al. 2007, Wilson et al. 2012). From late June through July cows and bulls move to the Beaufort Sea coast from Dease Inlet to the mouth of the Kogru River (Utqiagvik (Barrow) to the Colville River Delta), around the north and south side of the Teshkepuk Lake, and the sand dunes along the Ikpikpuk River to seek relief from insects (Carroll 2007, Parrett 2007). The narrow corridors of land to the east and northwest of the Teshkepuk Lake are important migratory corridors to insect relief areas as well (Yokel et al. 2009). River corridors are also used more during periods of insect harassment. Fall and winter movements are more variable, although most of the TCH winters on the coastal plain around Atqasuk, south of Teshkepuk Lake. However, the TCH has wintered as far south as the Seward Peninsula, as far east as the Arctic NWR, and in the foothills and mountains of the Brooks Range (Carroll 2007). In 2008/2009, the TCH used many of these widely disparate areas in a single year (Parrett 2011, 2015a). From 2007-2011, the TCH wintered in four relatively distinct areas: the coastal plain between Atqasuk and Wainwright; the coastal plain west of Nuiqsut; the central Brooks Range; and the shared winter ranges with the WACH in the Noatak, Kobuk, and Selawik drainages. During the winters of 2012-2013 and 2013-2014, the TCH wintered primarily near Atqasuk and Wainwright and east of Anaktuvuk Pass (Parrett 2015a).

The State manages the TCH to provide for subsistence and other hunting opportunities on a sustained yield basis, to ensure that adequate habitat exists, and provide for viewing and other uses of caribou (Parrett 2011). Specific State management objectives for the TCH are as follows (Parrett 2011):

Attempt to maintain a minimum population of 15,000 caribou, recognizing that caribou numbers naturally fluctuate.

- Maintain a harvest level of 900–2,800 caribou using strategies adapted to population levels and trends.
- Maintain a population composed of least 30 bulls per 100 cows.
- Monitor herd characteristics and population parameters (on an annual or regular basis).
- Develop a better understanding of the relationships and interactions among North Slope caribou herds.
- Encourage cooperative management of the herd and its habitat among State, Federal, and local entities and all users of the herd.
- Seek to minimize conflicts between resource development and the TCH.

Since 1984, the minimum population of the TCH has been estimated from aerial photocensuses and radio-telemetry data. Population estimates are determined by methods described by Rivest et al. (1998), which account for caribou in groups that do not have a collared animal and for missing collars. Based on these methods the TCH population increased from an estimated 18,292 caribou (minimum estimate 11,822) in 1982 to 68,932 caribou (minimum estimate 64,106) in 2008. The minimum estimates are derived from the visual estimate in 1982 and from the aerial photocensus minimum after 1982. From 2008 to 2014, the population declined by almost half to 39,000 caribou (**Figure 1**) (Parrett 2015a). Interpretation of population estimates is difficult due to movements and range overlap among caribou herds, which results in both temporary and permanent immigration and emigration (Person et al. 2007). For example, the minimum count in 2013 contained an unknown number of CACH caribou (Parrett 2015a). Following the 2013 census, Alaska Department of Fish and Game (ADF&G) made the decision to manage the TCH based on the minimum count because the bulk of the animals that were estimated rather than counted were with the WACH at the time of the photocensus (Parrett 2015b, pers. comm.). In 2015, the minimum count was 35,181 with a population estimate of 41,542 (SE = 3,486) (Parrett 2017a, pers. comm.).

In 2013 and 2016 the number of bulls:100 cows was 39 bulls:100 cows and 28 bulls:100 cows in 2016, respectively (**Figure 2**) (Parrett 2011, 2013, 2015a, Parrett 2017a, pers. comm.). Comparison of bull:cow and calf:cow ratios from 1991-2000 and later years is not possible due to changes in methodology. From 2009-2013 the calf:cow ratio increased from 18 calves:100 cows to 48 calves: 100 cows in 2016 (Parrett 2013, 2015a, Parrett 2017a, pers. comm.). In addition, the number of short-yearlings:adults, which is a measure of recruitment, declined from an average of 20 short-yearlings:100 adults between 1999 and 2008 to an average of 14 short-yearlings:100 adults from 2009-2014 (**Figure 3**) (Parrett 2013) and increased in 2016 to 29 short-yearlings:100 adults (Parrett 2017a, pers. comm.).

The annual mortality of adult radio collared females from the TCH has remained close to the long term (1991-2012) average of 14.5% (range 8–25%) (Parrett 2011, 2015a, Caribou Trails 2014). As the TCH

has declined, calf weights declined, indicating that poor nutrition may be having a significant effect on this herd (Carroll 2015, pers. comm., Parrett 2015b, pers. comm.). In 2016 increased calf weights, high adult female survival (92%), high yearling recruitment (29 yearlings:100 adults), and high calf production (81%), and a high calf:cow ratio (48 calves:100 cows) suggest that the population may be stable or declining at a slower rate (Parrett 2017a, pers. comm.) In contrast, the body condition of individuals from the WACH, which also declined dramatically, has remained relatively good, indicating that caribou are still finding enough food within their range (Caribou Trails 2014, Dau 2014). A recent study found that calf production was low, calf survival on calving grounds was high, 40% of the concentrated wintering range was on NPS land, and that starvation was a significant mortality factor on non-NPS lands (Parrett 2017a, pers. comm.). The late spring in 2013 likely contributed to the decline in winter survival in 2014.

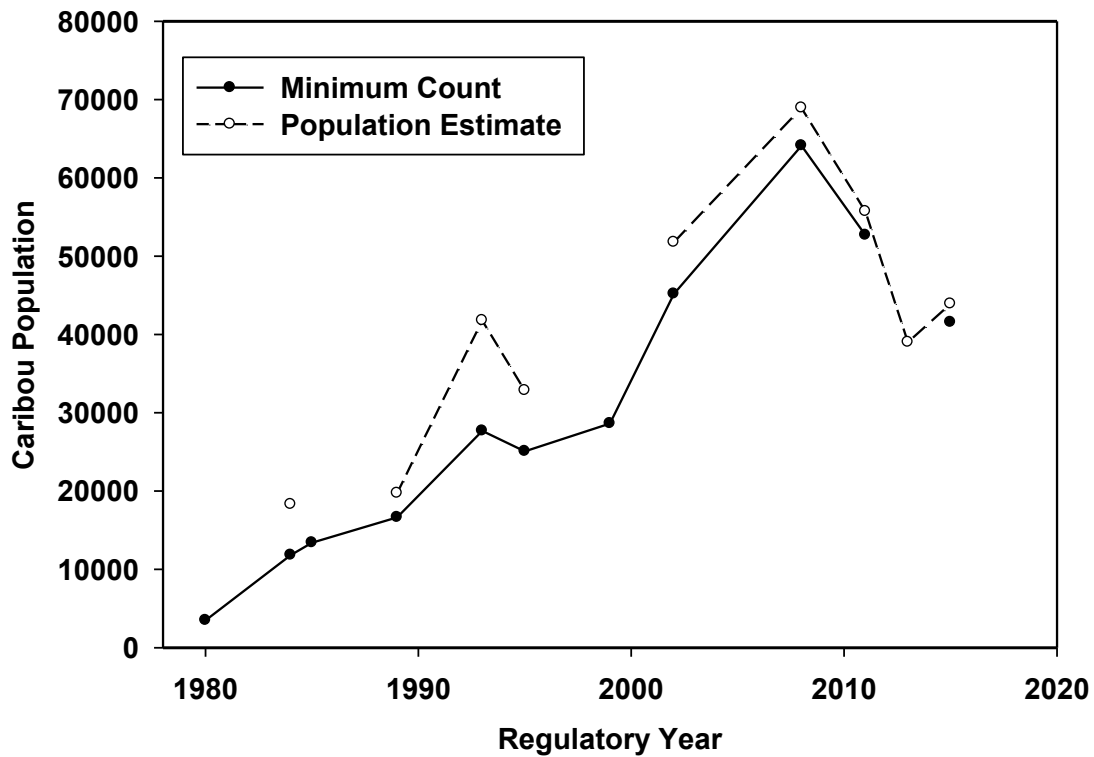


Figure 1. Minimum counts and population estimates of the Teshekpuk Caribou Herd from 1980-2014. Population estimates from 1984-2013 are based on aerial photographs of groups of caribou that contained radio-collared animals (Parrett 2011, 2013, Parrett 2015a).

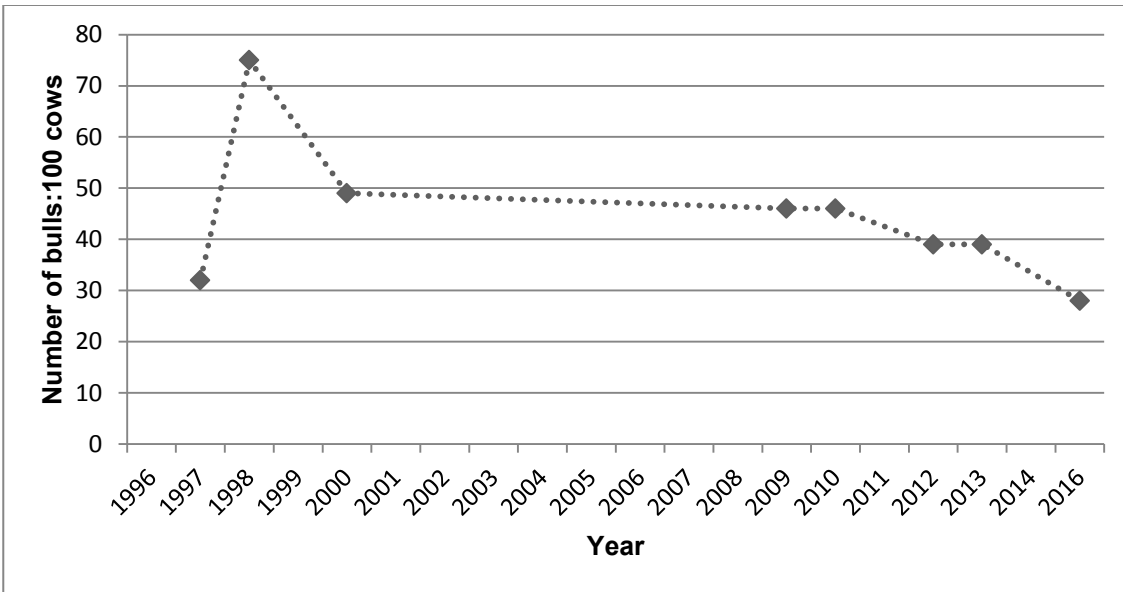


Figure 2. Bull:cow ratios of the Teshekpuk Caribou Herd (Parrett 2013).

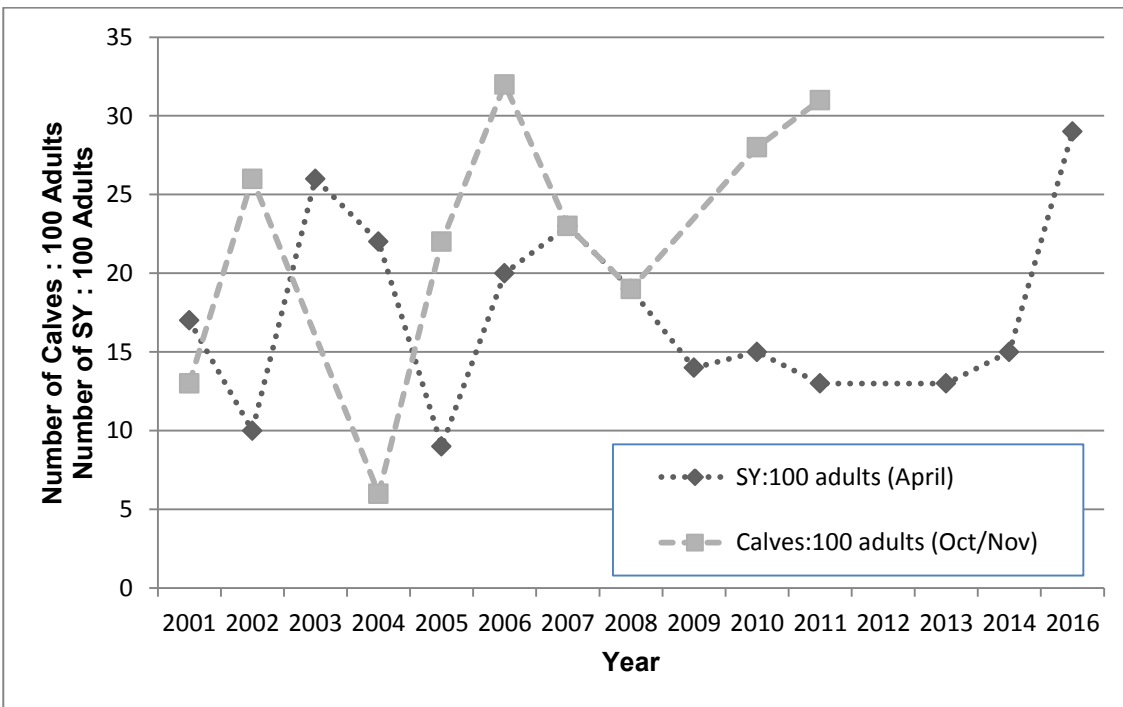


Figure 3. Calf:adult and short-yearling (SY):adult ratios for the Teshekpuk Caribou Herd (Parrett 2015a). Short-yearlings are 10-11 months old caribou.

Western Arctic Caribou Herd

The WACH, the largest herd in Alaska, has a home range of approximately 157,000 mi² 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 area (Dau 2011, WACH Working Group 2011). Spring migration for the WACH usually begins around April 1 (Joly 2017). Dau (2013) determined the calving dates for the WACH to be June 9–13. This is based upon long-term movement and distribution data obtained from radio-collared caribou (these are the dates cows ceased movements and were assumed to be calving). After calving, cows and calves move west toward the Lisburne Hills where they mix with the remaining bulls and non-maternal cows. During the summer the herd moves rapidly to the Brooks Range.

In the fall the herd moves south toward their wintering grounds in the northern portion of the Nulato Hills. Rut occurs during fall migration (Dau 2011, WACH Working Group 2011). Dau (2013) determined the WACH rut dates to be October 22–26 based on back-calculations from calving dates using a 230-day gestation period. Since about 2000, the timing of fall migration has been less predictable, often occurring later than in previous decades (Dau 2015a). Approximately 99% of the WACH migrate through the Noatak National Preserve and the Gates of the Arctic National Park (Joly 2017). From 2010-2015, the average date that GPS collared caribou crossed the Noatak River ranged from Sep. 30 – Oct. 23 (**Figure 4**) (Joly and Cameron 2017). The proportion of caribou using certain migration paths varies each year (Joly and Cameron 2017). 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). In recent years (2012-2014), the path of fall migration has shifted east (Dau 2015a). The caribou migrated early in 2016 and the mean distance travelled was 1932 miles which is about average. More of the herd crossed the eastern portion of the Noatak River compared to 2015 when a greater proportion crossed the western Noatak River near the coast (Joly 2017). The start of the cow fall migration can vary by a month and by October 1 many of the cows will have passed through the northern portion of Unit 23 while the bulk of the WACH will still be migrating through the southern half of Unit 23. On average, collared cows cross the Selawik River during fall migration around Oct. 15 and are still migrating on Oct. 1 (Joly 2017), the proposed opening cow season for Unit 22. In Units 26A and 26B most of the cow caribou will have migrated through.

In part, due to the collapse of the WACH in the 1970s, the WACH Working Group was formed. In 2003 it developed a WACH Cooperative Management Plan, and revised it in 2011 (WACH Working Group 2011). The WACH Management Plan identifies seven plan elements: cooperation, population management, habitat, regulations, reindeer, scientific and traditional ecological knowledge, and education 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. Revisions to recommended harvest levels under liberal and conservative management (+/- 100 - 2,850 caribou) were made in December 2015 (WACH Working Group 2015, **Table 3**). Potential management actions and harvest recommendations for each management level can be found

in Appendix 2 of the Western Arctic Caribou herd Cooperative Management Plan (WACH Working Group 2011).

The State manages the WACH to protect the population and its habitat, provide for subsistence and other hunting opportunities on a sustained yield basis, and provide for viewing and other uses of caribou (Dau 2011). State management objectives for the WACH are listed in the 2011 Western Arctic Caribou Cooperative Management Plan (WACH Working Group 2011, Dau 2011) and include:

- Encourage cooperative management of the WACH among State, Federal, local entities, and all users of the herd.
- Manage for healthy populations using management strategies adapted to fluctuating population levels and trends.
- Assess and protect important habitats.
- Promote consistent and effective State and Federal regulations for the conservation of the WACH.
- Seek to minimize conflict between reindeer herders and the WACH.
- Integrate scientific information, traditional ecological knowledge of Alaska Native users, and knowledge of all users into management of the herd.
- Increase understanding and appreciation of the WACH through the use of scientific information, traditional ecological knowledge of the Alaska Native users, and knowledge of all other users.

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 declined at an average annual rate of 7.1% from approximately 490,000 animals in 2003 to 235,000 in 2013 (Dau 2011, 2013, 2014, 2015a; Caribou Trails 2014) (**Figure 4**).

Between 1982 and 2011, the WACH was within the liberal management level prescribed by the WACH Working Group (**Table 3**). In 2013, the WACH population estimate fell below the threshold for liberal management of a decreasing population (265,000), slipping into the conservative management level. In July 2015, ADF&G attempted an aerial photocensus of the herd. However, the photos taken could not be used due to poor light conditions that obscured unknown portions of the herd (Dau 2015b). ADF&G conducted a successful photocensus of the WACH on July 1, 2016. This census resulted in a minimum count of 194,863 caribou with a point estimate of 200,928 (Standard Error = 4,295), suggesting the WACH is still within the conservative management level, although close to the threshold for preservative management (**Figure 5, Table 3**)(Parrett 2016a). Results of this census indicate an average annual decline of 5% per year since 2013, representing a much lower rate than the 15% annual decline between 2011 and 2013. The large cohorts of 2015 and 2016, which currently comprise a substantial proportion of the herd, contributed to the recent decreased rate of decline, but remain vulnerable to difficult winter conditions due to their young age (Parrett 2016a). The data from the 2017 photo census is currently being analyzed by ADF&G (Parrett 2017b, pers. comm.).

Between 1970 and 2016, the bull:cow ratio exceeded critical management levels in all years except 1975, 2001, and 2014 (**Table 4**). Reduced sampling intensity in 2001 likely biased the 2001 bull:cow ratio low (Dau 2013). Since 1992, the bull:cow ratio has trended downward (Dau 2015a). 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 (2015a) 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 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). Increased survival and recruitment is important to slow or reverse the current decline. In a population model developed specifically for the WACH, Prichard (2009) found adult survival to have the largest impact on population size. Calf production has likely had little influence on the population trajectory (Dau 2013, 2015a). 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 (**Table 4, 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 are likely contributing to the current population decline (Dau 2013, 2015a). Fall calf:cow ratios indicate calf survival over summer. Between 1976 and 2016, the fall calf:cow ratio ranged from 35 to 59 calves:100 cows/year, averaging 46 calves:100 cows/year (**Figure 6**). Fall calf:cow ratios declined from an average of 46 calves:100 cows/year between 1990-2003 to an average of 42 calves:100 cows/year between 2004-2016 (Dau 2015a, **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 2015c).

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 2003, SY:adult ratios averaged 20 SY:100 adults/year. Since the decline began in 2003, SY:adult ratios have averaged 16 SY:100 adults/year (2004-2016, **Figure 6**). However, 23 SY:100 adults were observed during spring 2016 surveys, the highest ratio recorded since 2007 (Dau 2016b). The overwinter calf survival for the 2015 cohort (Oct. 2015-June 2016) was 84% (Parrett 2016b). While 2016 measures suggest improvements in recruitment, the overall trend since the early 1980s has been downward (Dau 2015a).

Increased cow mortality is likely affecting the trajectory of the herd (Dau 2011, 2013). 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, 2015a). Estimated mortality includes all causes of death including hunting (Dau 2011). Dau (2015a) states that cow mortality estimates are conservative due to exclusion of unhealthy (i.e. diseased) and yearling cows. Dau (2009, 2013) reported that rain-on-snow events, deep snow and winter thaws may have contributed to the relatively high estimated mortality rates of 23% during 2008-2009, 27% during 2009-2010 and 33% in 2011-2012. Prior to 2004, estimated adult cow mortality only exceeded 20% twice, but has exceeded 20% in 7 out of 9 regulatory years between 2004 and 2012. The annual mortality rate was 8% as of April 2016 (Dau 2016b). This may fluctuate

substantially throughout the year based on changing local conditions and harvest levels. Dau (2015a) suggests that mortality rates may also change in subsequent management reports as the fate of collared animals is determined, and that these inconsistencies are most pronounced for the previous 1–3 years.

Far more caribou died from natural causes than from hunting between 1992 and 2012. Cow mortality remained constant throughout the year. However, natural and harvest mortality for bulls spiked during the fall. Predation, particularly by wolves, accounted for the majority of the natural mortality (Dau 2013). 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 (2015a) suggest that harvest levels and rates of cow harvest can greatly impact population trajectory. If bull:cow ratios continue to decline, harvest of cows may increase, exacerbating the current population decline.

Dau (2015a) cites fall and winter icing events as 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 (Gunn 2001, Joly et al. 2007, Dau 2013, 2014, 2015a). Changing climatic conditions can affect snow depth, icing, forage quality and growth, frequency, location, and intensity of wildfires, insect abundance, and predation which can affect migration and have long-term population level effects (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) reported that degradation in range condition is not thought to be a primary factor in the decline of the WACH because animals in the WACH, unlike the TCH, have generally maintained good body condition since the decline began. Body condition is assessed on a subjective scale from 1-5. The body condition of adult females in 2015 were characterized as “fat” (mean = 3.9/5) with no caribou being rated as skinny or very skinny (Parrett 2015c). However, the body condition of the WACH in spring may be a better indicator of the effects of winter range condition versus the fall when the body condition of the WACH is routinely assessed and when caribou are in prime condition, and weights may be more reflective of summer range conditions (Joly 2015, pers. comm.). Fall condition is also the best indicator of whether or not caribou are likely to become pregnant (Parrett 2017a, pers. comm.).

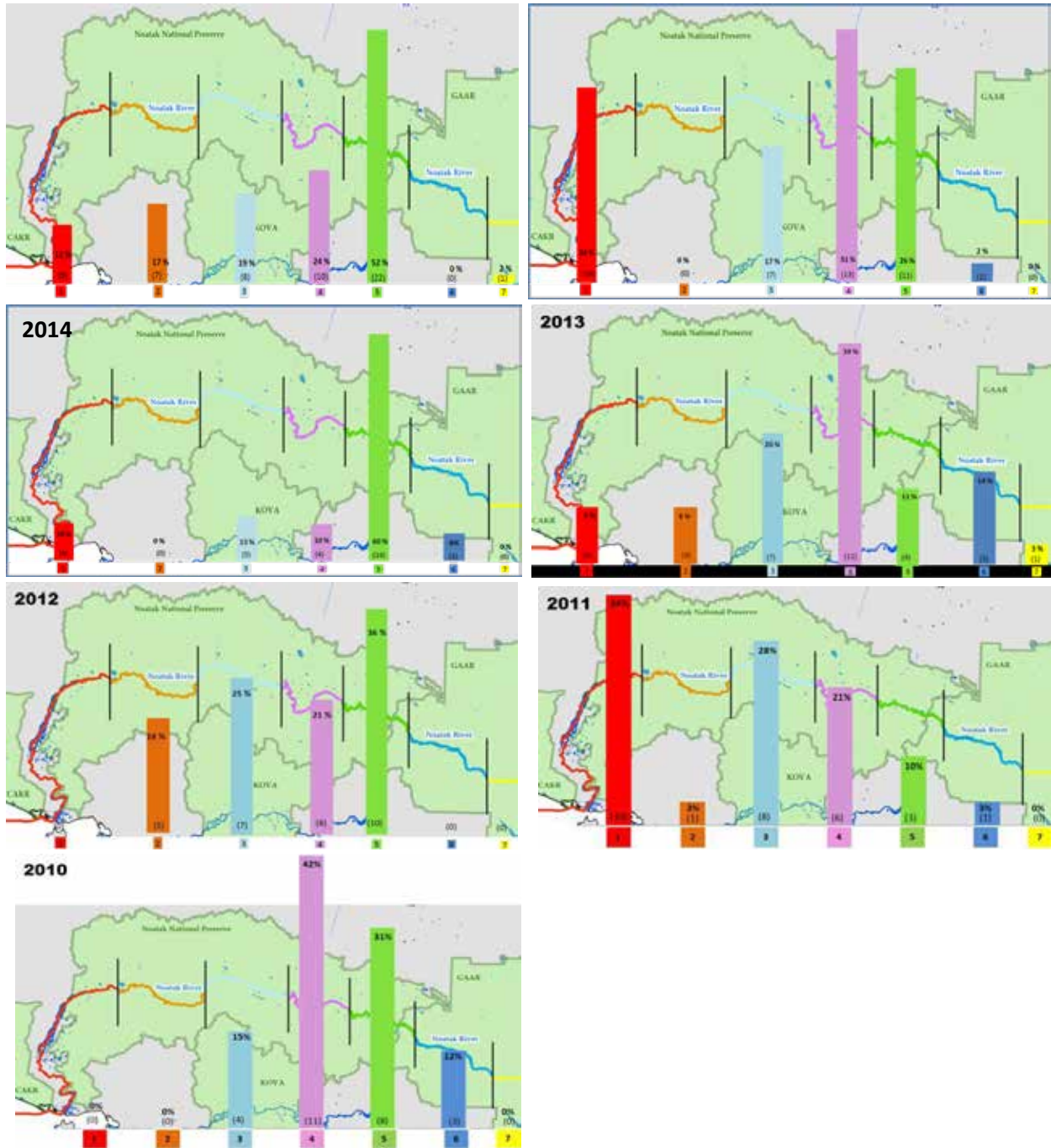
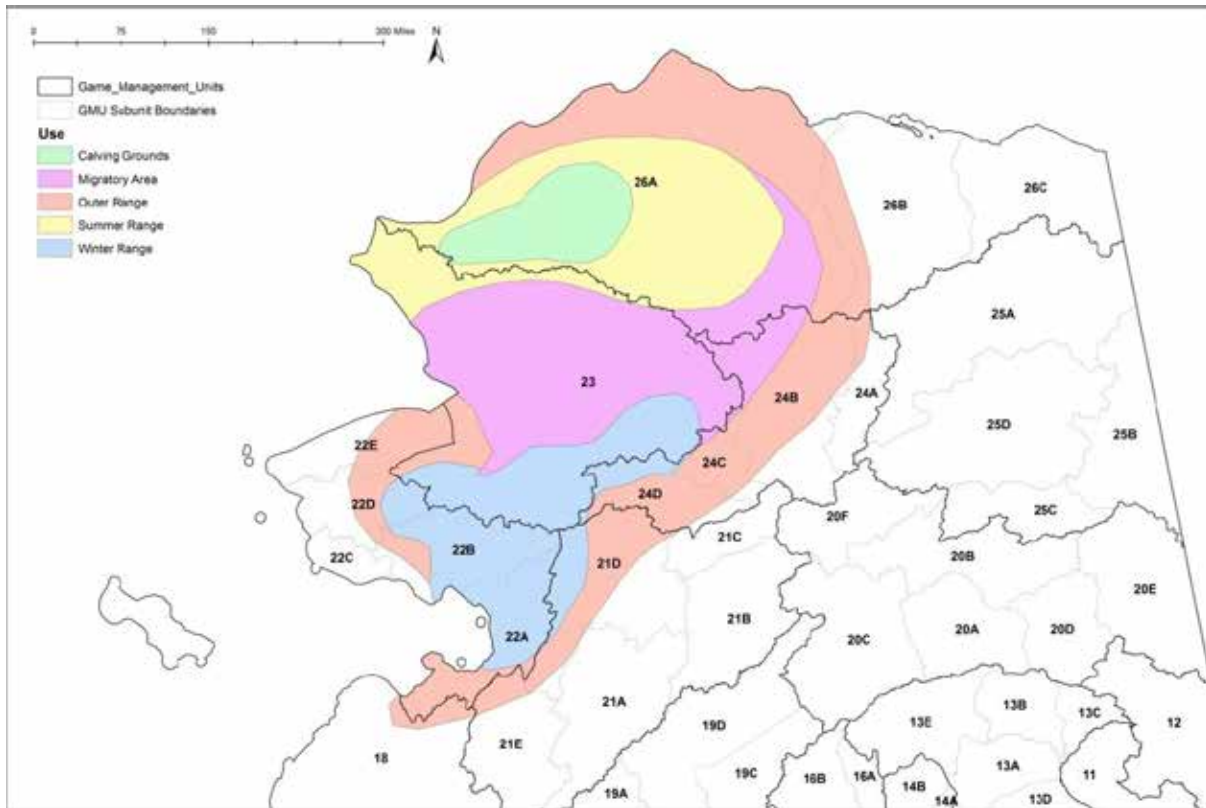


Figure 4. Distribution of caribou crossing the Noatak River during fall. Histograms depict where collared female caribou crossed the Noatak River, generally from north to south, on their fall migration. Relative percentages (top number) and the absolute number (middle number) of caribou are provided. 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. The number of caribou with GPS collars ranged from 39-79 caribou/year with later years having more collared caribou than earlier years (Joly and Cameron 2017).



Map 2. Calving grounds, wintering range, summering range, migratory areas, and home range extent of the Western Arctic Caribou Herd (WACH Working Group 2011)

Table 3. Western Arctic Caribou Herd management levels using herd size, population trend, and harvest rate (WACH Working Group 2011, 2015).

Management and Harvest Level	Population Trend			Harvest Recommendations May Include:
	Declining Low: 6%	Stable Med: 7%	Increasing High: 8%	
Liberal	Pop: 265,000+	Pop: 230,000+	Pop: 200,000+	<ul style="list-style-type: none"> • Reduce harvest of bulls by nonresidents to maintain at least 40 bulls: 100 cows • No restriction of bull harvest by resident hunters unless bull:cow ratios fall below 40 bulls:100 cows
	Harvest: 16,000-22,000	Harvest: 16,000-22,000	Harvest: 16,000-22,000	
Conservative	Pop: 200,000-265,000	Pop: 170,000-230,000	Pop: 150,000-200,000	<ul style="list-style-type: none"> • No harvest of calves • No cow harvest by nonresidents • Restriction of bull harvest by nonresidents • Limit the subsistence harvest of bulls only when necessary to maintain a minimum 40:100 bull:cow ratio
	Harvest: 12,000-16,000	Harvest: 12,000-16,000	Harvest: 12,000-16,000	
Preservative	Pop: 130,000-200,000	Pop: 115,000-170,000	Pop: 100,000-150,000	<ul style="list-style-type: none"> • 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 40 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to nonqualified users may be necessary
	Harvest: 8,000-12,000	Harvest: 8,000-12,000	Harvest: 8,000-12,000	
Critical Keep Bull:Cow ratio ≥ 40 Bulls:100 Cows	Pop: < 130,000	Pop: < 115,000	Pop: < 100,000	<ul style="list-style-type: none"> • 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 40 bulls:100 cows • Harvest restricted to residents only, according to state and federal law. Closure of some federal public lands to nonqualified users may be necessary
	Harvest: 6,000-8,000	Harvest: 6,000-8,000	Harvest: 6,000-8,000	

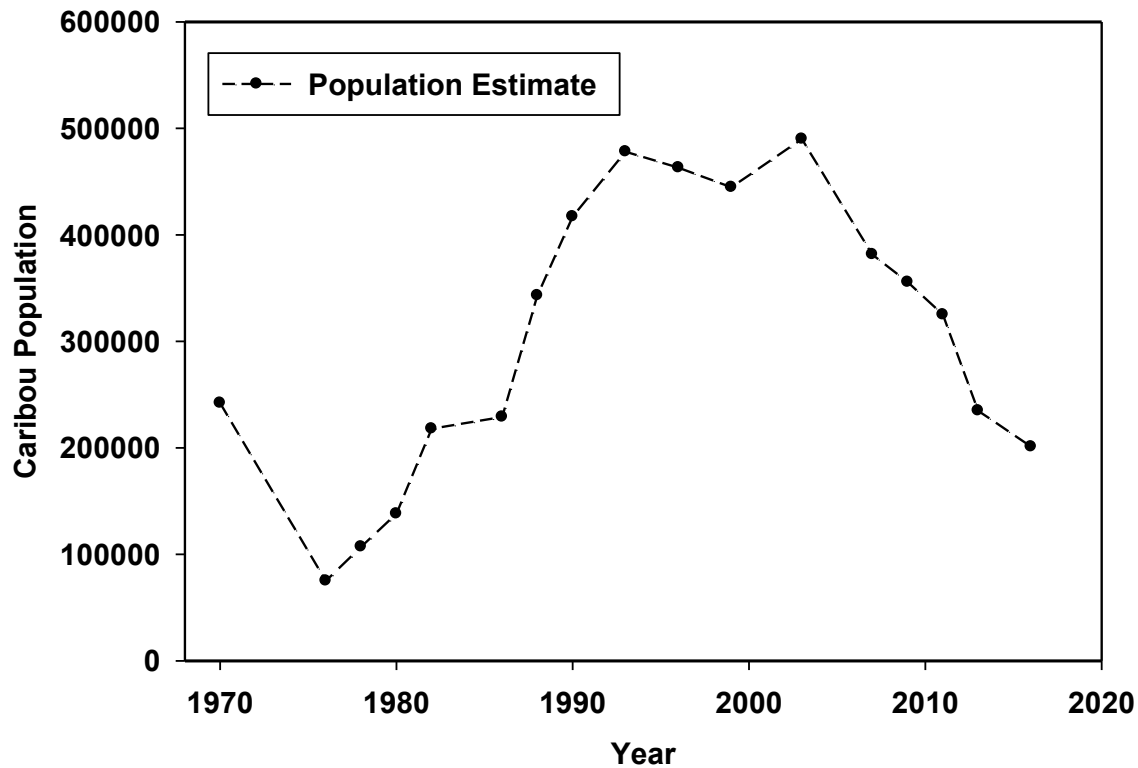


Figure 5. Maximum population estimates of the Western Arctic Caribou Herd from 1970-2016. Population estimates from 1986-2016 are based on aerial photographs of groups of caribou that contained radio-collared animals (Dau 2011, 2013, 2014, 2015a, Parrett 2017a, pers. comm.).

Table 4. Western Arctic Caribou Herd fall composition 1976 – 2014 (Dau 2011, 2013, 2014, 2015a, 2016b).

Regulatory Year	Total bulls: 100 cows ^a	Calves: 100 cows	Calves: 100 adults	Bulls	Cows	Calves	Total
1976/1977	63	52	32	273	431	222	926
1980/1981	53	53	34	715	1,354	711	2,780
1982/1983	58	59	37	1,896	3,285	1,923	7,104
1992/1993	64	52	32	1,600	2,498	1,299	5,397
1995/1996	58	52	33	1,176	2,029	1,057	4,262
1996/1997	51	49	33	2,621	5,119	2,525	10,265
1997/1998	49	43	29	2,588	5,229	2,255	10,072
1998/1999	54	45	29	2,298	4,231	1,909	8,438
1999/2000	49	47	31	2,059	4,191	1,960	8,210
2001/2002	38	37	27	1,117	2,943	1,095	5,155
2004/2005	48	35	24	2,916	6,087	2,154	11,157
2006/2007	42	40	28	1,900	4,501	1,811	8,212
2008/2009	45	48	33	2,981	6,618	3,156	12,755
2010/2011	49	35	23	2,419	4,973	1,735	9,127
2012/2013	42	38	27	2,119	5,082	1,919	9,120
2014/2015	39	b	b	b	b	b	b
2015/2016	41 ^c	54	b	b	b	b	b

^a 40 bulls:100 cows is the minimum level recommended in the WACH Cooperative Management Plan (WACH Working Group 2011)

^b Data not available

^c Estimated from power point presentation presented at the WACH Working Group Meeting December 13, 2016 (Parrett 2016a)

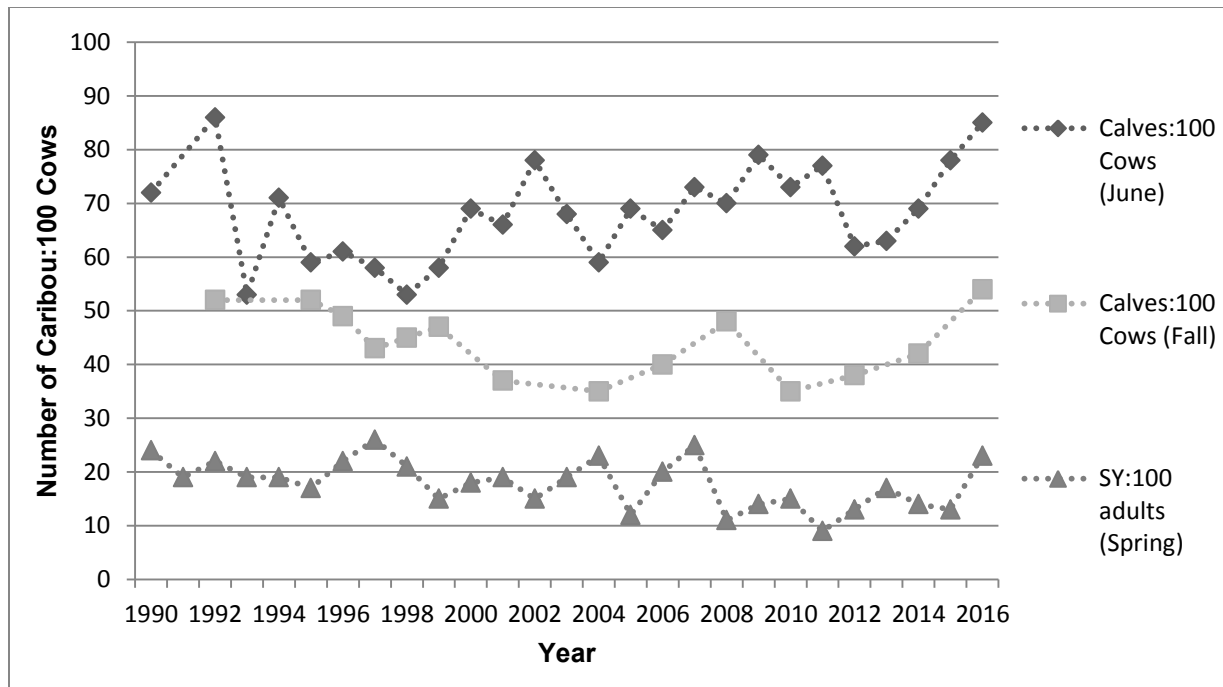


Figure 6. Calf:cow and short-yearling (SY):adult ratios for the WACH (Dau 2013, 2015a, 2016a, ADF&G 2017c). Short -yearlings are 10-11 months old caribou.

Habitat

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 (Miller 2003). The importance of high use areas for the TCH at Teshekpuk Lake during the summer has been well documented (Person et al. 2007, Carroll 2007, Parrett 2011, Wilson et al. 2012, Smith et al. 2015). Presumably the importance of areas to the north, south, and east of Teshekpuk Lake during calving is due to the high concentration of sedge-grass meadows (Wilson et al. 2012) and extremely low predator densities (Parrett 2017, pers. comm.). In 2013 BLM closed 3.1 million acres around Teshekpuk Lake in the NPR–A to oil and gas development in recognition of the importance of these areas for caribou, waterfowl and shorebirds (BLM 1998, 2008, 2013; Cameron et al. 2005, Arthur and Del Vecchio 2009).

Harvest History

Reliance on caribou from a particular herd varies by community. Weather, distance of caribou from the community, terrain, and high fuel costs are some of the factors that can affect the availability and accessibility of caribou (Parrett 2015a). Local residents in Units 21D, 23, 24, 25A, 26A and 26B are defined as those having customary and traditional use in these units (**Table 1**). Generally, in State harvest monitoring efforts, local residents are those that reside within the range of the WACH, TCH, or CACH. Point Hope, which is located in Unit 23, and Anaktuvuk Pass, which is located in Unit 24B near the border with Unit 26A, have a customary and traditional use determination for caribou in Units 26A and 26B.

Documentation of harvest for Alaska residents has varied depending on whether they live north or south of the Yukon River. Prior to 2017/2018, Alaska residents who lived north of the Yukon River were not required to obtain harvest tickets although they were required to register with ADF&G or an authorized vendor. Compliance with registration requirement was low and not enforced (Braem 2017a, pers. comm.). Harvest by Alaska residents who live south of the Yukon River and nonresidents was monitored using harvest reports (Lenart 2015, Dau 2015a).

Understanding the overlap between caribou hunting by local users and nonlocal users is complicated by the lack of annual information on the exact location, harvest numbers, and caribou herd used by local hunters. Recently enacted State regulations requiring registration permits for residents hunting caribou within the range of the Western Arctic and Teshekpuk herds in Units 21, 23, 24, and 26 seek to improve harvest monitoring and allow for more detailed analysis of harvest trends and distribution.

Central Arctic Caribou Herd

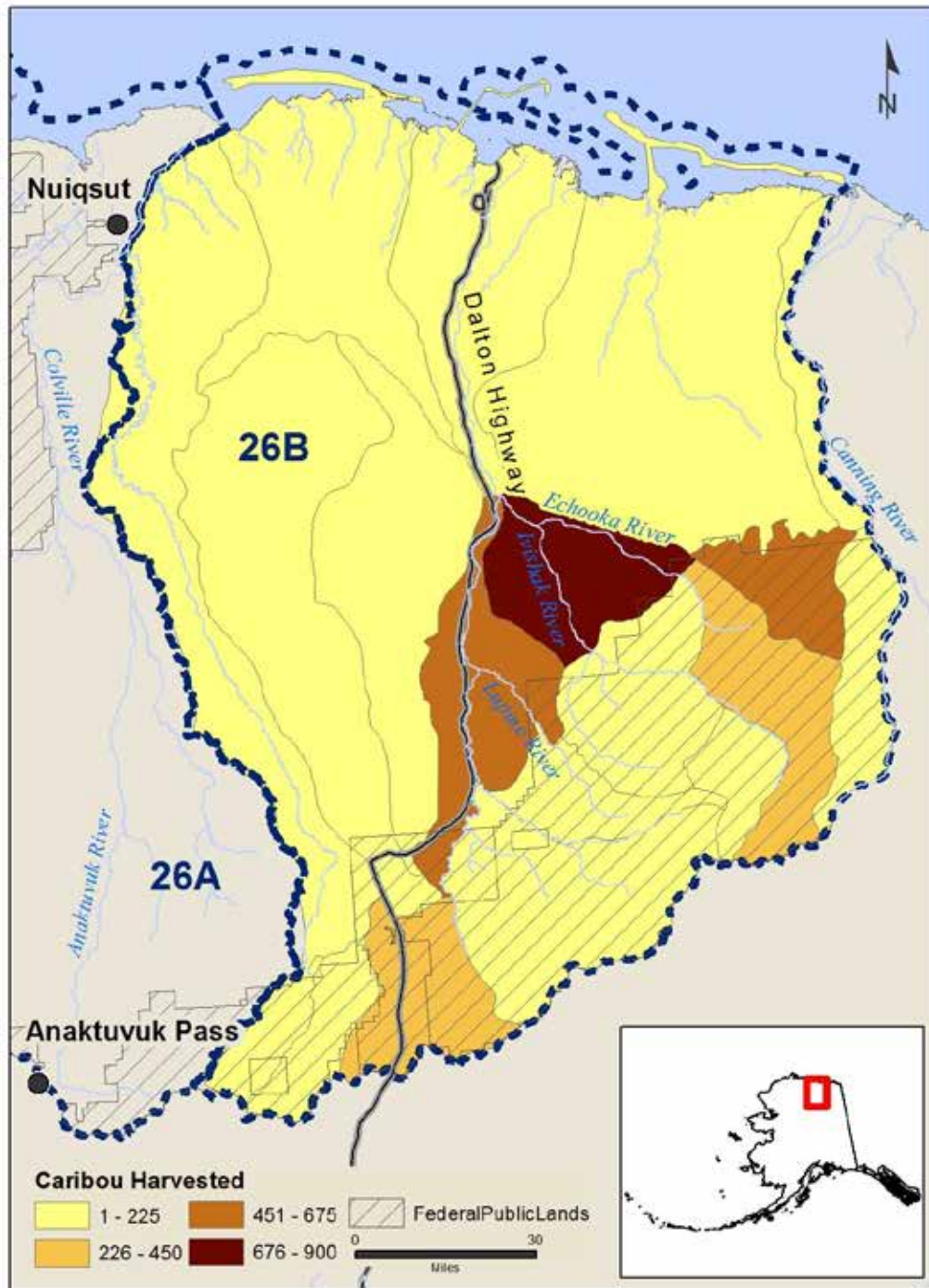
Although most of the harvest from the CACH comes from Unit 26B, some occurs in Units 24A, 24B, 25A, 26A, and 26C. Less than 10% of the harvest in Unit 25A (range 250-400) is estimated to come from the CACH (Caikoski 2015). Harvests in summer and early fall that occur in Units 24A, 24B, 25A, and 26C are primarily from other herds such as the PCH, TCH, or WACH. Additional harvest from the CACH may occur when the CACH is located near Kaktovik (Unit 26C) in the summer, near Wiseman and Coldfoot (Unit 24A) in the fall and winter, and near Arctic Village (Unit 25A) in the fall and winter.. During the fall and winter some caribou from the TCH and WACH occasionally mix with the CACH. For the purposes of documenting the annual harvest from the CACH, Lenart (2017a) used an estimate of 100 caribou (Lenart 2017b) based on community harvest surveys by local residents outside of Unit 26B (**Table 5**). Harvest information presented for the CACH will refer to Unit 26B unless noted otherwise.

Harvest by local hunters from Nuiqsut occurs in the summer and fall, from July through September, and during the spring, from March through April (Braem et al. 2011, Brown et al. 2016). A little more than 50% of the caribou harvest taken by Nuiqsut hunters occurs during the summer and fall and is from both the TCH and CACH (Lenart 2015). Nuiqsut hunters, who usually hunt west of the community, represent most of the local harvest from the CACH. Based on the distribution of caribou and the timing and location, Braem et al. (2011) estimated that 13% of the total harvest between 2002 and 2007 by Nuiqsut residents, was in Unit 26B, just west across the border with Unit 26A where the community is located. Braem et al. (2011) estimated that Nuiqsut hunters averaged approximately 61 caribou from the CACH annually from 2002 and 2007. The average total annual caribou harvest by Nuiqsut hunters, which includes TCH and CACH, from 2000-2007 was 469 caribou. In 2014, 774 caribou were estimated to have been harvested by Nuiqsut residents (Braem 2015). Nuiqsut residents harvested approximately 317 caribou (41%) from the CACH in 2014 (Braem 2017b). In 2014, Nuiqsut residents harvested caribou in all months except May. The most productive months were June (114), July (189), and August (215). Harvest declined sharply after August, only 73 caribou were harvested in September. The fewest caribou were taken in April (2) and November (4). There were 43 caribou harvested for which the date of harvest was not known. Of the caribou harvested in 2014, 72% were bulls. An estimated 166 cows were harvested in 2014 with 45% being harvested in January and February (Brown et al. 2016).

The average annual CACH harvest by nonlocal hunters from 2013/14 to 2015/16 in Unit 26B was approximately 937 caribou. (**Table 5**) (Lenart 2017a, WinfoNet 2017). Bow hunters took approximately 21% of the total harvest during this time. The average number of bulls harvested annually from the CACH from 2012-2015 was 699 and the average number of cows harvested was 234 (**Table 5**). A majority of the reported caribou harvest from the CACH occurs in August and September (Lenart 2015).

The proportion of resident and nonlocal harvest has fluctuated with CACH population trends (WinfoNet 2017) (**Figure 7, Table 6**). In general resident harvest has decreased with the recent population decline and the nonresident harvest has increased slightly (**Figure 7, Table 6**). Nonlocal residents accounted for 89% of the total caribou harvest from 2013-2015, which is approximately 827 caribou annually (Lenart 2017a). The location and total caribou harvest by NFQU hunters from the CACH during the population decline from 2011-2016 is shown in **Map 3**. It should be noted that the displayed spatial data is reflective of reported harvest records with locational data at fine scales; records lacking spatial specificity are not represented. Assuming unreported data is proportional to available data, **Maps 3, 5, and 6** represent general spatial harvest patterns. Between 2011 and 2016, a total of 5,049 caribou were harvested by NFQU in Unit 26B. Among those, 3,433 (68%) were from nonlocal Alaska residents and 1,616 (32%) and from nonresidents (WinfoNet 2017). The annual cow harvest by NFQU in Unit 26B increased from 47 in 2006-2009 to 234 in 2010-2016 (**Figure 8**). This increase coincided with the change in the harvest limits from two to five caribou and harvest season for cows from Oct.1-Apr. 30 to July 1-Apr. 30 in the 2010 State regulations.

Although a harvest rate of 5% of the population has been used as a guideline by ADF&G since 1991 to determine the allowable harvest, the reported harvest has been well below the harvestable surplus, averaging less than 2% since 2000/01 (Lenart 2015). However, with the recent population decline, Lenart (2017a) recommended a harvest level of 3% of the population. ADF&G adopted new caribou regulations for Unit 26B for 2017/2018 with the intended goal of reducing the annual harvest from an average of 937 caribou from 2013-2015 to 680 (3% of 22,360) and reducing the cow harvest from approximately 200 to 75 (Lenart 2017a).



Map 3. Reported caribou harvest in Unit 26B from the CACH by NFQU during the population decline 2011-2016 (WinfoNet 2017).

Table 5. Reported harvest from the Central Arctic Caribou Herd by sex and method of take in Alaska, 2006-2015 (Lenart 2013, 2015, 2017a; ADF&G 2017b).

Regulatory Year^a	Male	Female	Unit 26A Residents^a	Total Harvest (# harvested by bow)^b	Total Hunters
2006/07	795	32	100	927 (301)	1,331
2007/08	596	65	100	761 (183)	1,380
2008/09	658	47	100	805 (180)	1,362
2009/10	750	45	100	895 (224)	1,317
2010/11	976	234	100	1,310 (296)	1,622
2011/12	808	344	100	1,252 (330)	1,401
2012/13	727	276	100	1,103 (285)	1,430
2013/14	721	134	100	955 (190)	1,423
2014/15	717	195	100	1,012 (198)	na ^c
2015/16	522	222	100	844 (92)	na ^c
Mean	699	234	100	1,033 (219)	–

^a Estimated yearly average from Unit 26A residents from community harvest surveys, Kaktovik and Nuiqsut

^b Total includes bow harvest and harvest from Unit 26A residents

^c Not available

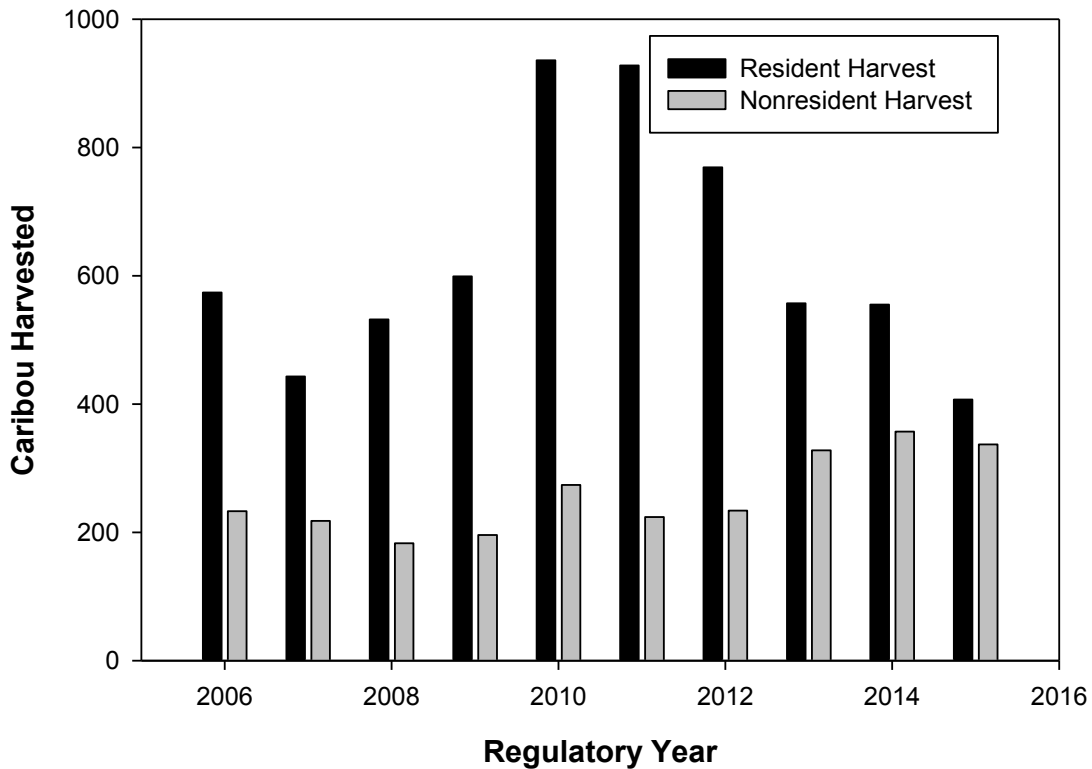


Figure 7. Reported CACH harvest by residency, 2006-2015 (Lenart 2017a).

Table 6. Characteristics of the Central Arctic Caribou Herd average annual harvest in Unit 26B by residency, 2013-2015. The proportion of the total Unit 26B caribou harvest by residency for 2006-2015 is included for comparison (Lenart 2017a).

Residency	Total CACH Harvest	Female CACH Harvest	Proportion of the Harvest (%) 2013-2015	Proportion of the Harvest (%) 2006-2015	Hunters	Success Rate (%)
Unit 26A Residents	100	20	11%	10%	na	na
Other Alaskan Residents	490	158	53%	64%	910	38%
Nonresident	340	24	36%	26%	430	62%
Total	930	202	-	-	-	-

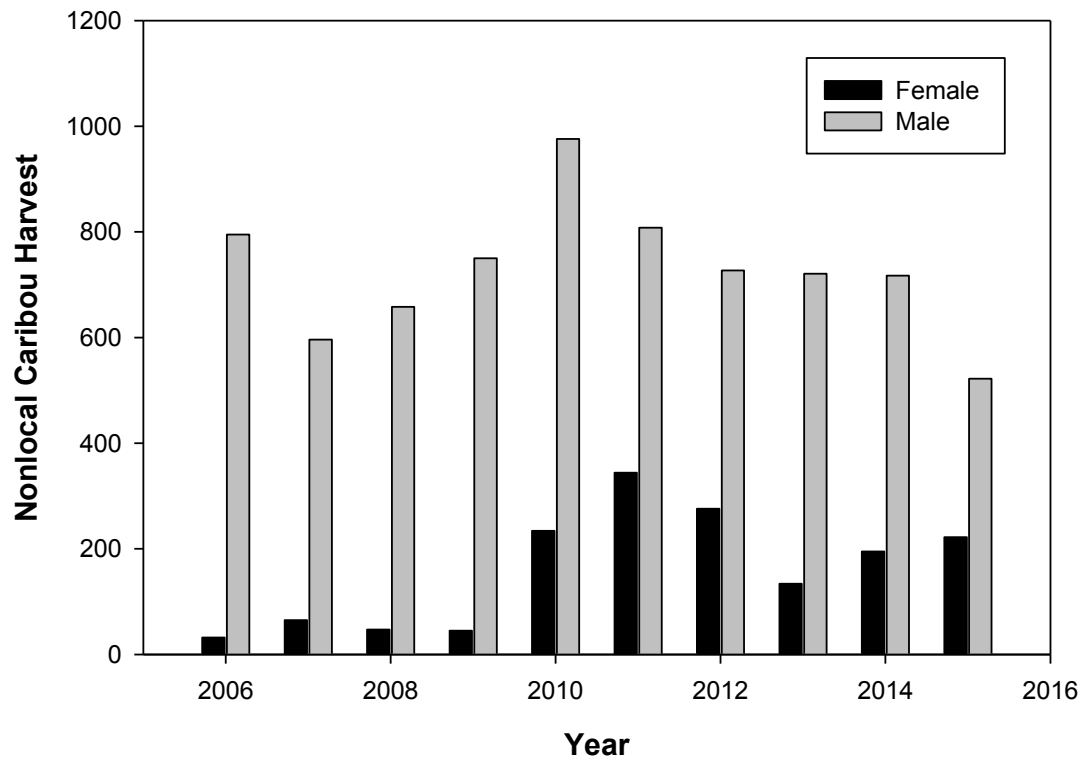
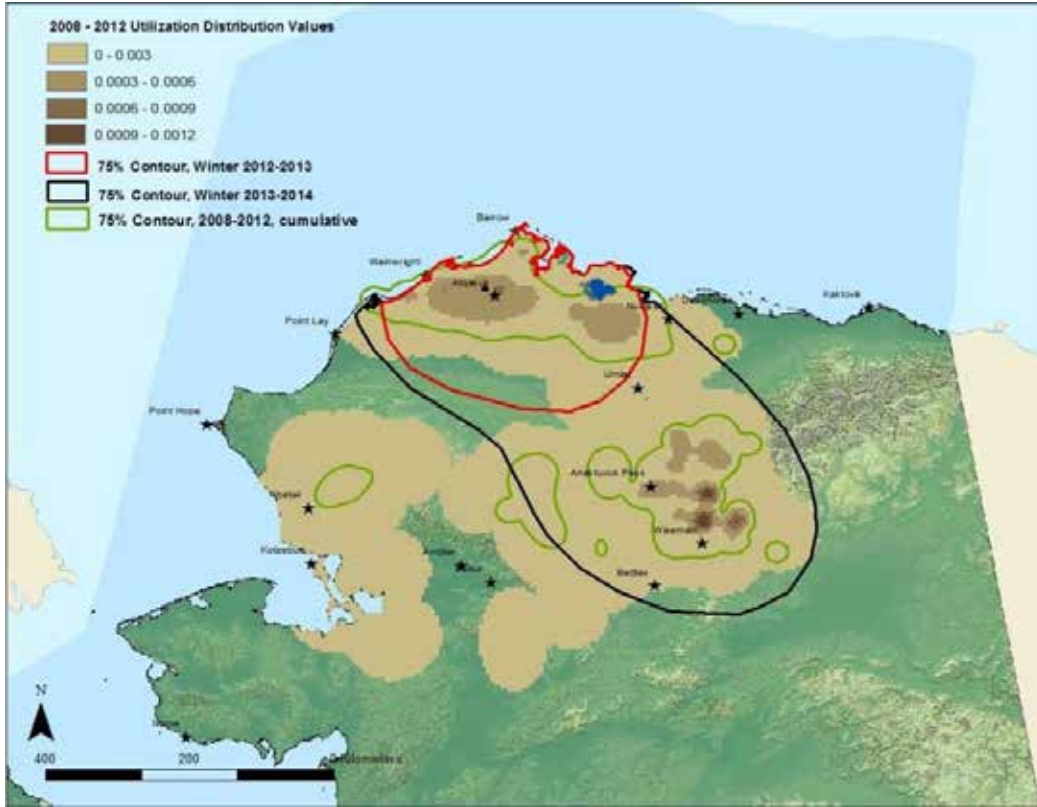


Figure 8. Central Arctic caribou herd harvest by sex by nonlocals in Unit 26B, 2006-2016 (Lenart 2017a)

Teshkepuk Caribou Herd

The TCH annual harvest is 4,000-5,000 (Parrett 2015a). Most of the harvest is by local Federally qualified subsistence users (FQSU). Less than 1% of the TCH harvest is by nonlocal residents in Alaska and nonresidents (Parrett 2011, Parrett 2015a). Residents of Atkasuk, Utqiagvik, Nuiqsut, and Wainwright harvest caribou primarily from the TCH while residents from Anaktuvuk Pass, Point Lay, and Point Hope harvest caribou primarily from the WACH (**Table 7**) (Dau 2011, Parrett 2011). For example the TCH winter range did not overlap Anaktuvuk Pass in 2012/2013 but did in 2013/2014 (**Map 4**). Residents of Nuiqsut, which is on the northeast corner of Unit 26A, harvest approximately 77% and 86% of their caribou from the TCH between 2002 and 2007 and 2010 and 2010, respectively (Parrett 2013). A little more than 50% of the caribou harvest taken by Nuiqsut hunters occurs in the summer and fall and is from both the TCH and CACH (Lenart 2015). Although some harvest from the TCH occurs outside of Unit 26A in Units 23, 24, and 26B, it is unlikely that the overall harvest is significant when the TCH is mixed with other caribou herds (Parrett 2013, 2015a).



Map 4. Cumulative Teshekpuk caribou herd winter range, Alaska, 2008-2012, with utilization distribution values depicted in shades of brown, 75% kernel contour from the 2008-2012 in green. The 75% contours from the two individual winters from 2012-2014 are depicted by the red and black outlines (Parrett 2015a).

Range overlap between the three caribou herds, frequent changes in the wintering distribution of the TCH and WACH, and annual variation in the community harvest survey effort and location make it difficult to determine the proportion of the TCH, WACH and CACH in the harvest. Knowledge of caribou distribution at the time of the reported harvest is often used to estimate the proportion of the harvest from each herd.

The use of harvest tickets, required by nonlocal hunters, provides time and location of the harvest and, together with knowledge of the caribou distribution and allows for a more accurate assessment of the proportion of caribou harvested from each herd by nonlocals. For harvests by FQSU, analysis of the proportional harvest from different herds has been difficult due to poor or non-existent reporting, variation in the timing and effort of community harvest surveys, changes in the distribution and timing of TCH migration, and overlapping distribution with adjacent herds. However, previous efforts from 2002-2007 determined that Utqiagvik residents harvest primarily from the TCH (Parrett 2013, Braem 2017b). If used throughout the range, harvest tickets would allow for better tracking of the FQSU harvest with respect to the overlapping caribou herds. Community harvest surveys continue to be the preferred method to estimate

harvest by FQSU, since previous attempts to conduct registration hunts were not effective (Georgette 1994, Parrett 2015a).

For communities where harvest surveys have not been conducted or the estimates are unreliable, the Division of Wildlife Conservation estimated annual harvests based on the current community population, previous per capita harvest estimates and yearly caribou availability. A general overview of the relative utilization of caribou herds by community from 2008/09 to 2009/10 is presented in **Table 7** (Parrett 2011, Dau 2011, and Lenart 2011). These years were chosen because there was good separation between the herds during this period. The total estimated annual harvest from the TCH during 2008/09 (3,219 caribou) (Parrett 2011) was similar to 2012/13 and 2013/14 (3387 caribou) (Parrett 2015a) (**Table 7**). Most of the caribou harvest in 2012/2013 and 2013/2014 occurred in August and September (Parrett 2015a). The estimated annual harvest during 2012/13 and 2013/14 using this method was approximately 3,387 (Parrett 2015a).

Table 7. Estimated caribou harvest of the Teshekpuk, Western Arctic and Central Arctic caribou herds during the 2008/2009 regulatory years by FQSU in Unit 26A (Parrett 2011, Dau 2011, Lenart 2011, Sutherland 2005). Note: Due to the mixing of the herds, annual variation in the community harvest surveys and missing data, the percentages for each community do not add up to 100%.

Community	Human population ^a	Per capita caribou harvest ^{bc}	Approximate total community harvest	Estimated annual TCH harvest (%) ^d	Estimated annual WACH harvest (%) ^d	Estimated annual CACH harvest (%) ^d
Anaktuvuk Pass	298	1.8	524	157 (30)	431 (82)	
Atkasuk	218	0.9	201	197 (98)	6 (2)	
Barrow (Utqiagvik)	4,127	0.5	2,063	2,002 (97)	62 (3)	
Nuiqsut	396	1.1	451	388 (86)	3 (1)	58 (13)
Point Lay	226	1.3	292	58 (20)	210 (72)	
Point Hope	689	0.3	220	0	220 (100)	
Wainwright	547	1.3	695	417 (60)	48 (15)	
Total Harvest				3,219	980	58

^a Community population size based on 2007 census estimates

^b Citations associated with per-capita caribou harvest assessment by community can be found in **Table 6** (Parrett 2011).

^c Sutherland (2005)

^d Percent of the total community harvest

The harvest estimate for Utqiagvik, from household surveys conducted by ADF&G in 2014/15 was 4,231 caribou (Braem 2015). Based on data collected by the North Slope Borough Wildlife Department and others, the average annual harvest estimate for Utqiagvik from 1992-2003 was 2096 caribou (Braem 2015).

Currently the harvestable surplus for the TCH is estimated to be approximately 2,500 at a 6% harvest rate. A conservative estimated harvest rate for the period between 2012/13 to 2013/14 is approximately 10% of the 2013 (3,917 caribou) population estimate of 39,172 (range 32,000-45,000) (Parrett 2015a). However, due to the mixing of TCH with the WACH and CACH, the lack of annual harvest data for FQSU and the lack of spatial data, it is difficult to determine the actual TCH harvest. The conservative TCH harvest rate of 10% is almost double the harvest rate estimates for the WACH and CACH (Parrett 2015a) and a conservation concern. If the TCH population declines to below 35,000 the harvest rate may be reduced to 4-5%, assuming that the harvest composition remains consistent at approximately 15% bulls and 2% cows (Parrett 2017a, pers. comm.).

Due to the remoteness and inaccessibility of much of the area, most of the TCH harvest is by local hunters (Parrett 2015a). TCH harvest by local hunters in recent years has occurred primarily from July to October (Braem et al. 2011, 2015; Parrett 2011) whereas nonresidents and nonlocal residents typically harvest most of their caribou from the WACH, along the Colville River drainage, in August and September (Parrett 2015a). For example, greater than 95% of the caribou harvested by nonresidents and nonlocal residents in 2012/13 and 2013/14 occurred in August and September (Parrett 2015a). The nonresident and nonlocal resident harvest from the TCH, which averages about 100 caribou a year, or 3% of the total TCH harvest, is split evenly between the nonlocal and nonresidents (Parrett 2013).

Western Arctic Caribou Herd

Annual caribou harvest by local residents is estimated from community harvest surveys, when available. In 2015 the linear model (Sutherland 2005) used to estimate caribou harvests by hunters who live within the range of the WACH was replaced by a new analysis of covariance developed by Adam Craig, a biometrician with ADF&G's Division of Wildlife Conservation Region V (Arctic and Western Alaska). These models incorporate factors such as community size and availability of caribou (Dau 2015a). In 2015, changes to the methods developed by Sutherland (2005) by Craig to analyze the harvest data, resulted in changes to local caribou harvest estimates from past years. While Craig's model accurately reflects long-term trends in annual local harvests, it is too insensitive to detect short-term changes in harvest levels useful to real time management decisions to regulate harvests and does not accurately reflect actual harvest levels or harvest levels by Unit (Dau 2015a). This analysis only considers the updated harvest estimates using the new model (Dau (2015a)). The accuracy of harvest reporting by locals may improve with the requirement for registration permits for those that live north of the Yukon River. Caribou harvest by NFQU is based on harvest ticket reports (Dau 2015a).

From 2000–2014, the estimated harvest from the WACH averaged 11,984 caribou/year, ranging from 10,666-13,537 caribou/year (**Figure 9**) (Dau 2015a). The total harvest during 2012/13 and 2013/14 was 13,352 and 12,713 caribou, respectively. These harvest estimates assumed that 95% of all caribou harvested by nonlocal hunters in Unit 26A were from the WACH and the remainder from the TCH. Using the 2011 and 2013 population estimates, the total annual harvest during 2012/13 and 2013/14 was approximately 4-5% of the population (Dau 2015a). These harvest levels are within or below the conservative harvest level specified in the WACH Management Plan (**Table 3**). However, harvest estimates do not include wounding loss or caribou killed but not salvaged, which may be hundreds of

caribou (Dau 2015a). Subsistence hunters throughout the range of the WACH take caribou whenever they are available. Thus the seasonal harvest patterns among communities are dependent upon the seasonal movements of the caribou. Despite year-round seasons prior to 2015, most of the caribou taken by FQSU and NFQU has been between Aug. 25 and Oct. 7 (Dau 2015a). Local residents, defined as living within the range of the WACH, account for approximately 95% of the WACH harvest, with residents of Unit 23 accounting for approximately 58% (**Figure 10**) (Parrett 2017a, pers. comm.). Approximately 37% of the total annual WACH harvest is taken by local residents in Units 22, 24B, 26A, and 26B (**Figure 10**).

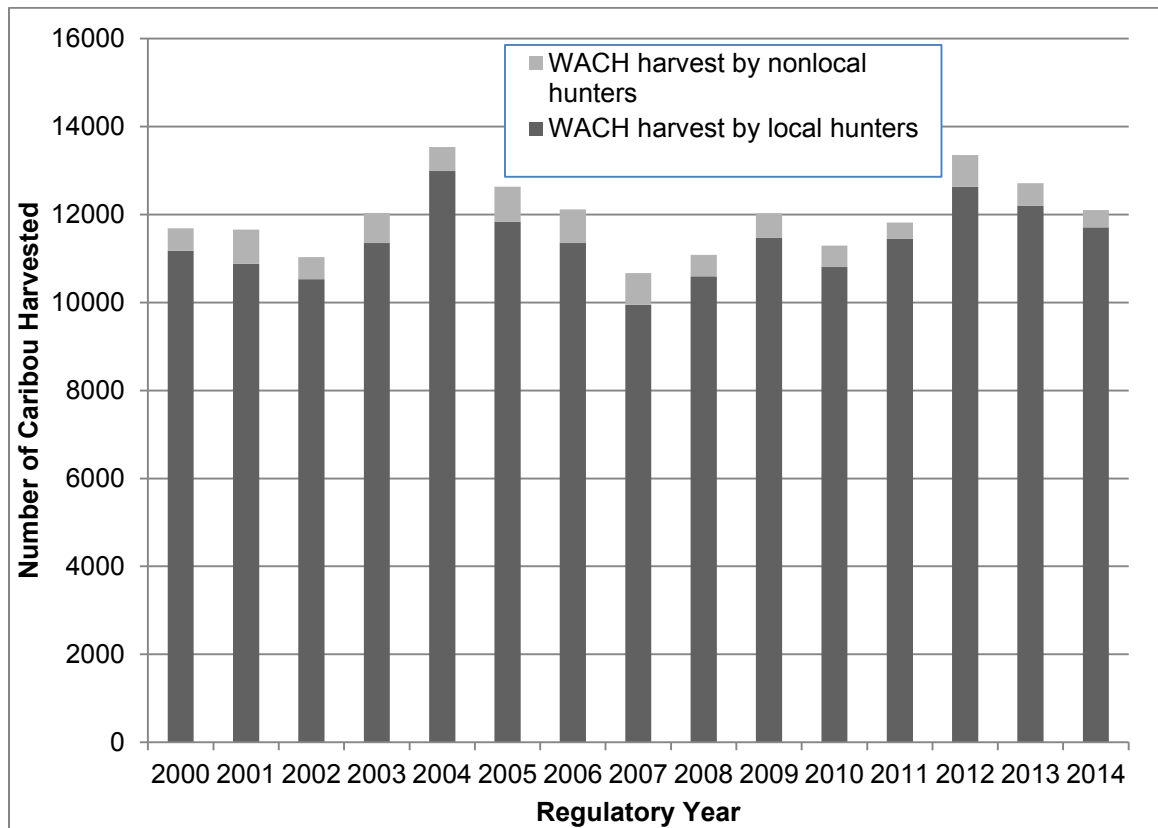


Figure 9. Estimated number of caribou harvested from the WACH by residency (Dau 2015a).

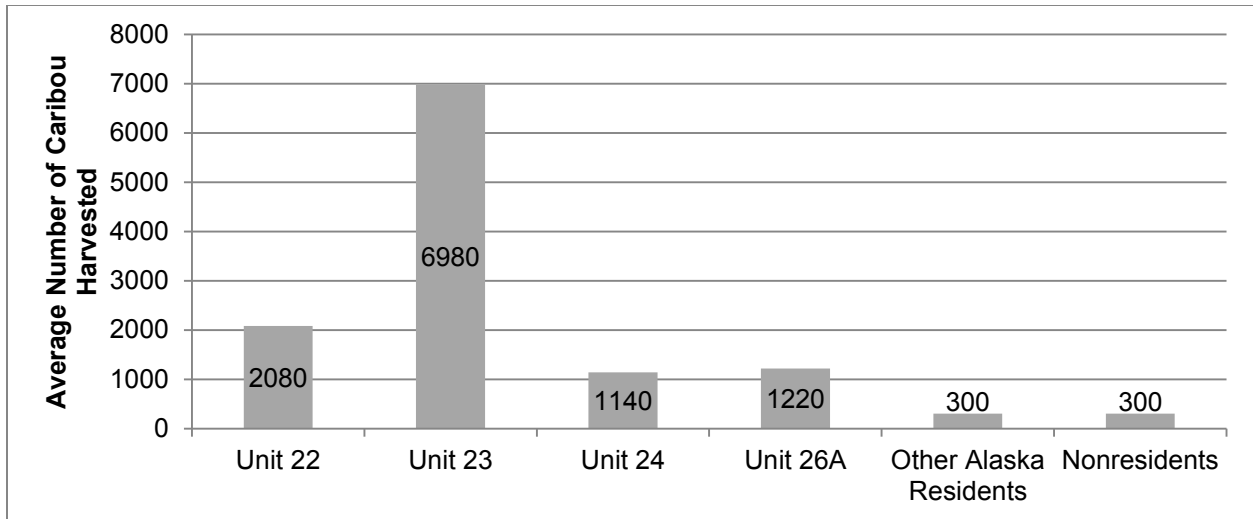


Figure 10. Average WACH annual caribou harvest by unit and residency from 1998-2015 (Parrett 2017a, pers. comm.).

The WACH are on their periphery of their winter range when on the Seward Peninsula (Unit 22). Consequently movements and locations are much less predictable than the core part of the range. Due to the lack of established migratory patterns, local subsistence users need flexibility with respect to the hunting season for bulls and cows so that they can take advantage when the caribou are present. Hunters in the northern areas get access to bulls earlier than in more southern wintering areas of the WACH in Unit 22. Hunters in the more southern locations also consider bulls palatable much later in the fall than hunters up north (July 2015).

From 2001-2013, total average annual nonlocal WACH harvest was 598 caribou (range 421-793) (WinfoNet 2017) (**Figure 11**). Over the same time period, nonlocal WACH harvest from Units 26A, 26B, and 24B averaged 102 caribou/year (range 60-144) (**Figure 11**). Nonlocal WACH harvest from Unit 23 and Units 26A, 26B, and 24B combined accounts for 76% and 14% of the total nonlocal WACH harvest on average, respectively.

Between 1998 and 2014, the number of NFQU hunting caribou and the number of caribou harvested by NFQU in Unit 23 averaged 487 hunters (range: 404-662) and 511 caribou (range: 248-669), respectively (**Figure 12**, USFWS 2017). In 2015, after the BOG enacted restrictions, the number of NFQU and caribou harvested by NFQU decreased appreciably (340 hunters and 230 caribou). In 2016, during the closure of Federal lands to NFQU, the number of NFQU and caribou harvested by NFQU decreased even further (149 hunters and 111 caribou), although there may still be some outstanding 2016 harvest reports from nonlocal residents (**Figure 12**, WinfoNet 2017). Based on patterns in submission rates and timing of harvest reports, the State estimates a 50% reduction in the number of and harvest by nonlocal caribou hunters in Unit 23 during 2016/17 as a result of the closure (Parrett 2016b, ADF&G 2017d).

Based on those hunters that provided harvest ticket reports for Unit 26A, the number of nonresidents compared to Alaska residents outside the WACH range that harvested caribou from the WACH increased from 2011-2015 (**Figure 13**). Approximately 95% of the total Unit 26A caribou harvest was from the

WACH and by residents within the WACH range (Dau 2013). The annual harvest by NFQU is a very small percentage ($\approx 1\%$) of the total WACH harvest (Figures 11 and 14). Female harvest by NFQU in Unit 26A averaged 10% (range 2-19) from 2006-2016.

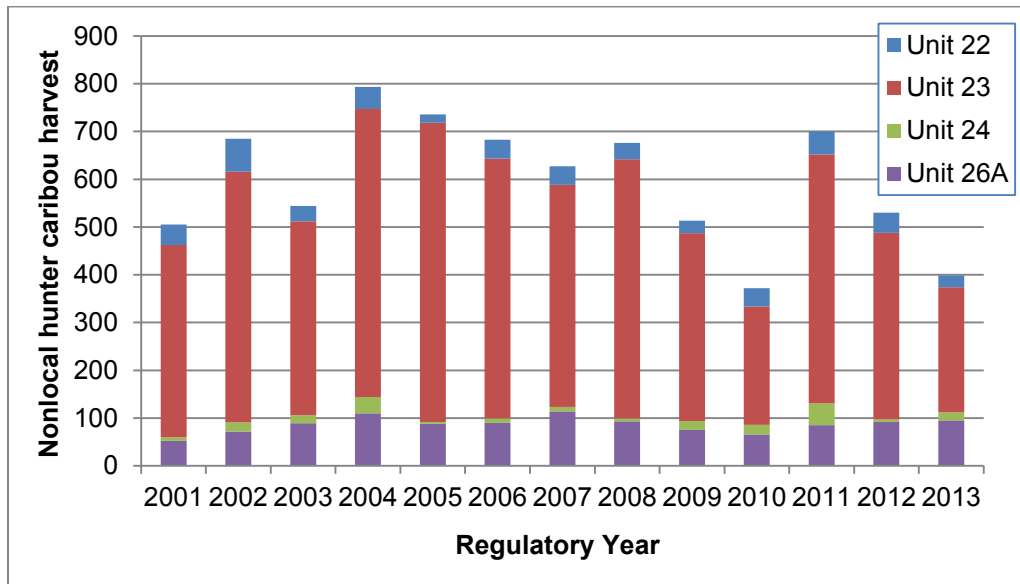


Figure 11. Nonlocal WACH harvest by unit (Dau 2013, 2015a, WinfoNet 2017). Unit 21D was not included as only 0-2 caribou have been harvested from this unit each year.

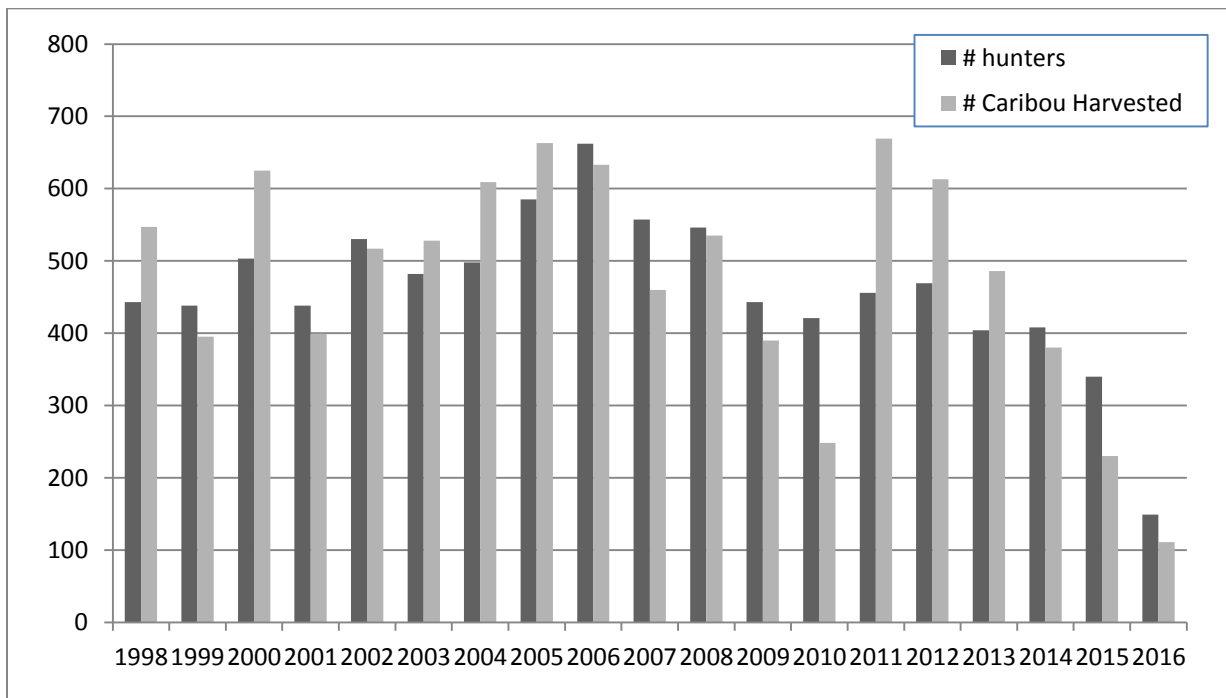


Figure 12. Number of non-Federally qualified users (NFQU) and number of caribou harvested by NFQU in Unit 23 (ADF&G 2016c, USFWS 2016, WinfoNet 2017).

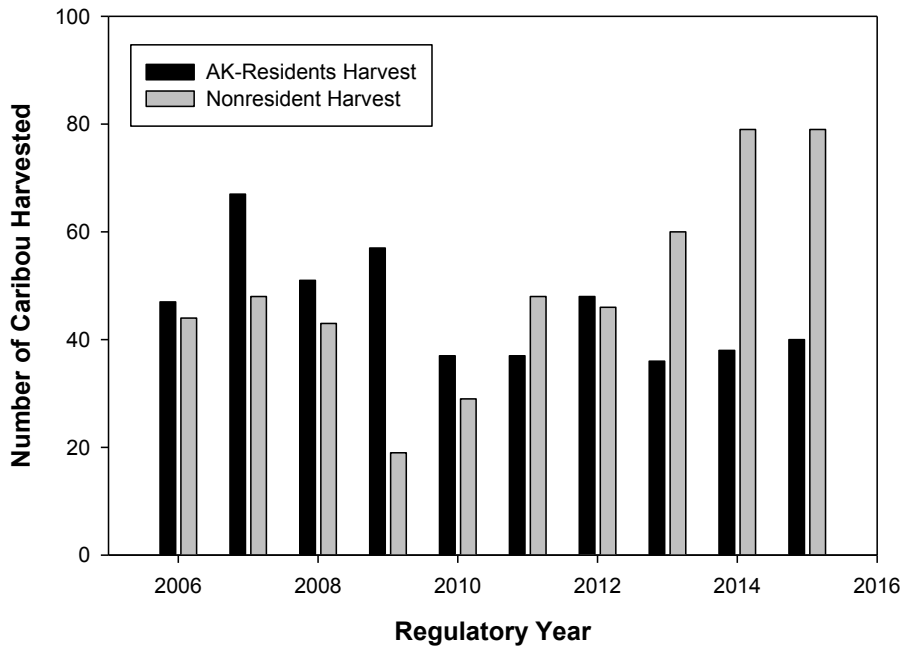


Figure 13. Residency of successful nonlocal caribou hunters from the WACH in Unit 26A, 2006-2015 (Dau 2013, 2015a).

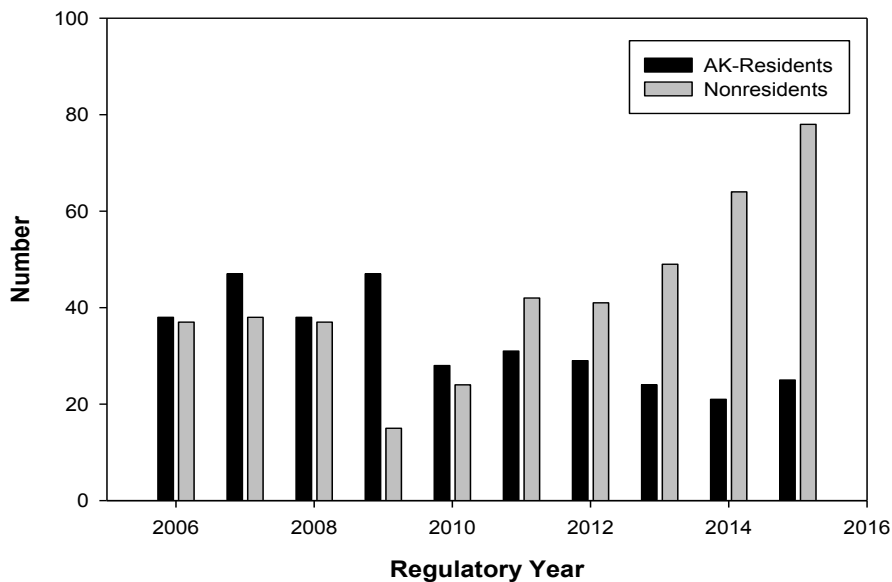
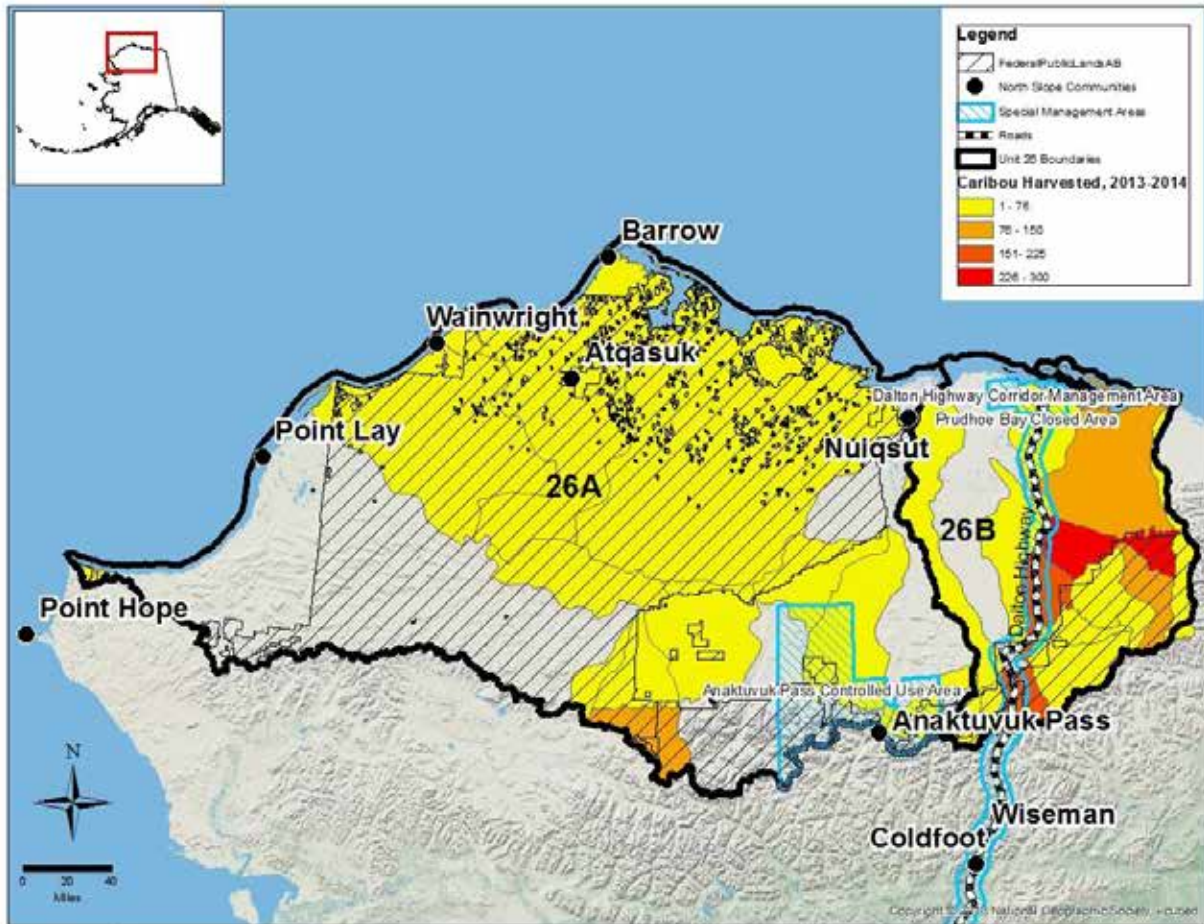


Figure 14. Nonlocal WACH harvest in Unit 26A, 2006-2015 (Dau 2013, ADF&G 2017b).

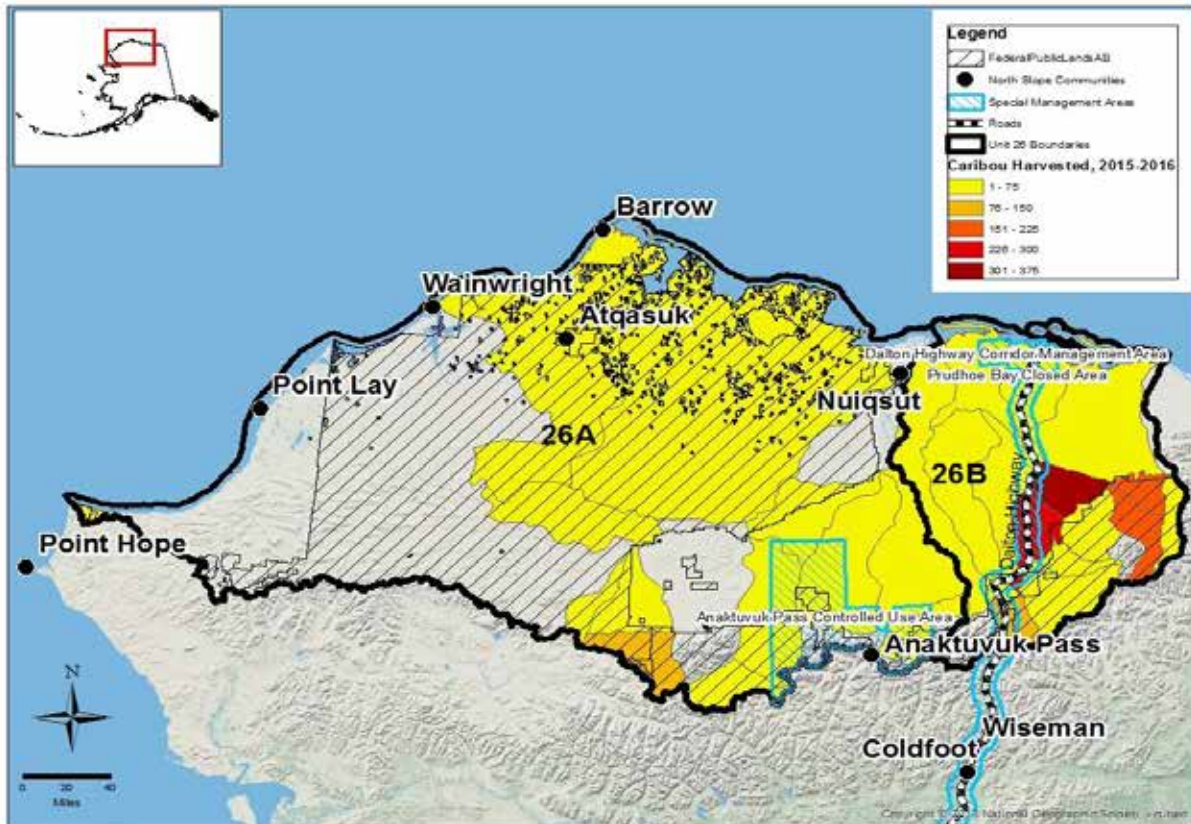
Harvestable surplus for the WACH is calculated as 6% of the population (Braem 2017a, pers. comm.) and when evaluated separately by sex is approximately 15% bulls and 2% cows (Dau 2015a). In recent years, as the WACH population has declined, the total harvestable surplus has also declined (Dau 2011, Parrett 2015a). In 2015/16, the combined TCH/WACH harvestable surplus declined from an estimated 13,250 caribou in 2014/15 to an estimated 12,400 caribou. While there is substantial uncertainty in the harvestable surplus estimates, the overall trend is decreasing and it is likely that sustainable harvest will soon be exceeded if the decline continues (Parrett 2015a, Dau 2015a). Of particular concern is the overharvest of cows, which has probably occurred since 2010/11 (Dau 2015a). Dau (2015a) states, “Even modest increases in the cow harvest above sustainable levels could have a significant effect on the population trajectory of the WACH. Harvest from the WACH, which has remained fairly consistent, is one of the factors that prompted the BOG to enact restrictions to WACH and TCH caribou harvest in March 2015.

Using the percentage of harvest reported by community from the WACH in 2008/09 (**Table 7**) and the 2014 community harvest estimates for Utqiagvik, Anaktuvuk Pass, Nuiqsut, and Point Hope (Braem 2015) and the 2014 total nonlocal harvest (117 caribou) (ADFG 2017a), the total WACH caribou harvest for Unit 26A in 2014 was approximately 1,185 caribou. Adding another 120 caribou from Point Lay and Atkasuk (Parrett 2011) would bring the total to approximately 1,305 caribou harvested from the WACH in 2014 in Unit 26A. This year was chosen because it was the most recent community harvest records for the North Slope (Braem 2015).

Comparison of the two year period from 2013-2014 (**Map 5**) with 2015-2016 (**Map 6**) shows an increase in 2015-2016 of the harvest within the vicinity of Anaktuvuk Pass in Unit 26A. These changes in harvest patterns may be due in part to hunters shifting hunting areas and intensity to areas within Unit 26A and 26B in response to changes in the movement of the caribou herds as a result of the closure of Federal public lands to caribou hunting by NFQU in Unit 23 in 2016/2017.



Map 5. Reported caribou harvest in Units 26A and 26B from the WACH, TCH, and CACH by NFQU , 2013-2014 (WinfoNet 2017).



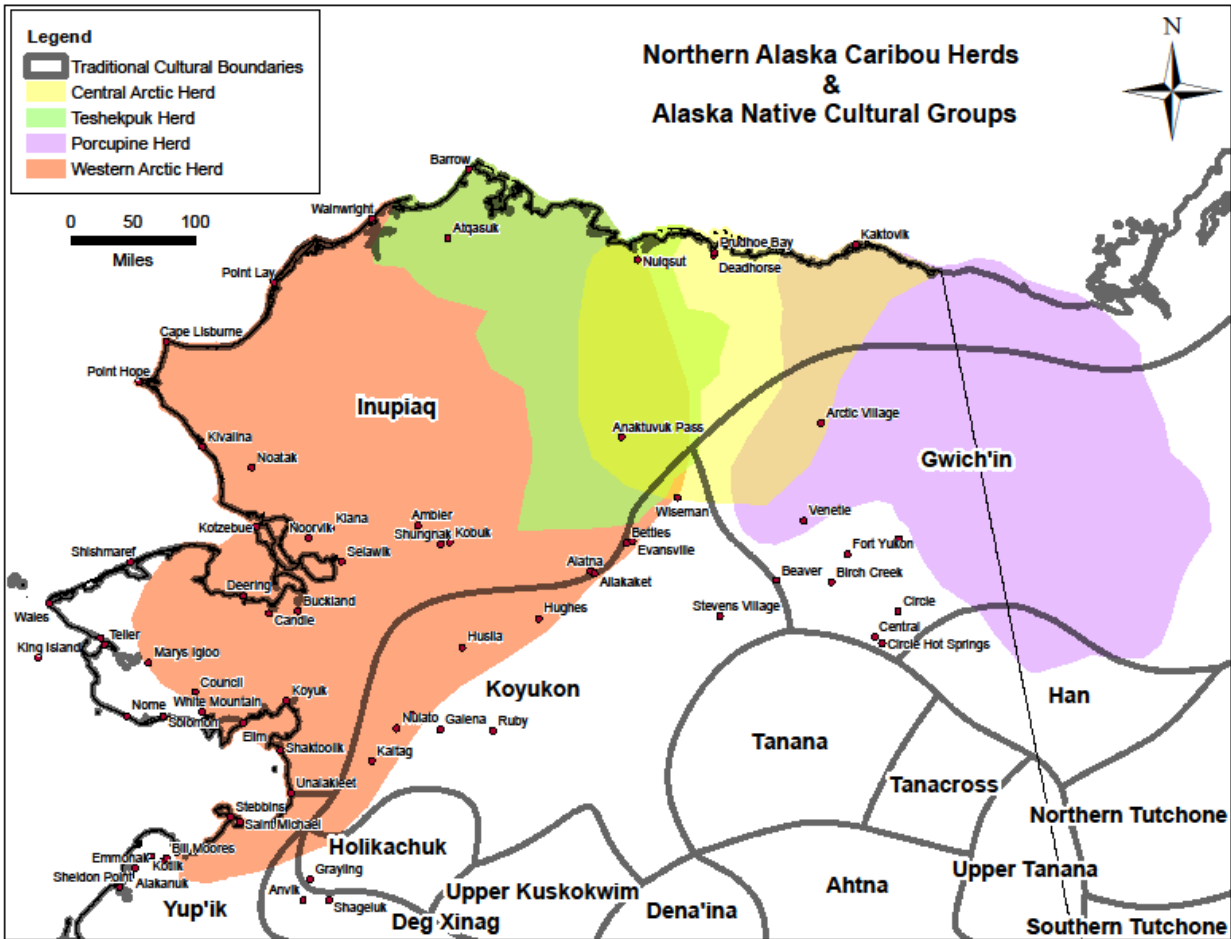
Map 6. Reported caribou harvest in Units 26A and 26B from the WACH, TCH, and CACH by NFQU, 2015-2016 (WinfoNet 2017).

Cultural Knowledge and Traditional Practices

Meeting the nutritional and caloric needs of Arctic and Subarctic communities is 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 through "philosophy, ethics, religious belief and practice, art, ritual, ceremony, and celebration." Fienup-Riordan (1990) also describes subsistence in terms of the cultural cycles of birth and death representing the close human relationship and reciprocity between humans and the natural world. Concerning caribou specifically, Ms. Esther Hugo, a lifelong resident of Anaktuvuk Pass, describes the human-caribou relationship as a "way of life" (NWARAC 2017).

The effects of this proposal span the range of several caribou herds and the traditional territories of several cultural groups (Map 7). These cultural groups include the Inupiat of the North Slope, Northwest Arctic and the Seward Peninsula, the Koyukon Athabascans of the Western Interior, and the Gwich'in Athabascans of the Eastern interior. The range of the PCH also includes a small portion of traditional Han Athabaskan territory within Alaska, while the range of the WACH includes a small portion of Holikachuk

and Deg Xinag Athabascan territory in Alaska. The southernmost extent of the WACH range extends into the northern extent of the Yup'ik cultural group in the vicinity of Stebbins and Saint Michael.



Map 7. Map depicting the overlap of northern Alaska caribou herds and traditional territories of Alaska Native cultural groups.

Caribou have been a significant resource for Inupiat and Athabascan peoples for thousands of years (Burch 1984, Caulfield 1983, Brown et al. 2004). Caribou bones dating from 8,000 to 10,000 years ago have been excavated from archeological sites on the Kobuk River (ADF&G 1992). Foote (1959, 1961) wrote about caribou hunting in the Noatak region forty years ago, noting that life would not be possible in Noatak without this source of meat. Caribou were traditionally a major source of both food and clothing and continue today to be among the most important land animal consumed in these regions (Burch 1984, 1994, 1998; ADF&G 1992). Uhl and Uhl (1979) documented the importance of caribou as a main source of red meat for Noatak residents as well as other communities in the region. Betcher (2016) also documents the critical contemporary importance of caribou to people residing throughout the Northwest Arctic.

The WACH population declined rapidly in the Northwest Arctic 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).

The availability of WACH, TCH, CACH, and PCH herds within the traditional territories of the interior Athabascans is more variable and depends on annual migratory patterns. Harvest of caribou in these communities depends on the proximity of the migration to each village (Brown et al 2004). Within Koyukon Athabaskan territory, Allakaket, Alatna and Huslia have been documented as the largest communities that harvest caribou, although several hunters from Galena have been documented traveling long distances to harvest this species (Brown et al 2004). Communities from this region are thought to primarily harvest WACH caribou (Brown et al 2004). In terms of the use of caribou (which includes caribou received from other households) within Koyukon territory, a 2002-2003 study documented 0% use among households in Kaltag and Ruby, 96% in Allakaket, and 100% in Alatna (Brown et al 2004).

Within traditional Gwich'in Athabaskan territory, particularly those villages located in proximity to the Upper Yukon and Porcupine Rivers, residents primarily harvest from the PCH, although Central Arctic and Fortymile Herd animals are occasionally harvested (Caulfield 1983). Residents of other areas in this region have also been documented as traveling north to obtain caribou meat, including residents of Beaver traveling along the Yukon River to the vicinity of Charley Creek [Kandik River] (Schneider 1976) and residents of Fort Yukon traveling above Circle for caribou (Caulfield 1983). Caribou in this region are usually first seen in mid-August while migrating south from the coastal plain along alpine ridges. Caribou meat is generally stored by freezing or drying and is typically prepared by boiling but may also be baked or fried (Caulfield 1983).

Historically the North Slope Inupiat hunted caribou year-round (Braem 2013). Traditionally, coastal groups tended to store caribou frozen in ice cellars while inland groups more commonly stripped and dried the meat (Braem 2013). Today, caribou is frozen, dried, and eaten fresh (Braem 2013). As a food resource, caribou remain important to meeting the subsistence needs of Inupiaq families on the North Slope. In 1989 the coastal community of Wainwright harvested approximately 83,187 lb. of caribou (178 lb. per capita), representing 24% of the community's harvest in that year (ADF&G 2017c). Comparatively, Wainwright harvested approximately 243,594 lbs. of marine mammals (521 lb. per capita), representing 69% of the community's harvest (Brown et al. 2016). Utqiagvik, the largest community in the region, harvested 4,231 caribou in 2014, representing 103 lb. per capita of edible weight.

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, Caulfield 1983). Caribou drives allowed a large number of caribou to be harvested in a short time (Burch 2012, Spencer 1959, Murdoch 1988). These methods were replaced with firearms in the 19th century.

Caribou were traditionally harvested any month of the year they were available in the Northwest Arctic Region. 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 Inupiat. The fall hunt was to acquire large quantities of meat to freeze for winter (Burch 1994). The timing and routing of migration determined caribou hunting. Hunting seasons change from year to year according to the availability of caribou (ADF&G 1991). The numbers of animals and the duration of their stays varies from one year to the next (Burch 1994) and harvest varies from community to community depending on the availability of caribou. Generally, communities in the southern portion of Unit 23 (Buckland, Deering) take a majority of their caribou in the winter and spring, while the other communities in Unit 23 take caribou in the fall, winter, and spring. Kivalina and Point Hope also take caribou in the summer in July (ADF&G 1992) and Selawik residents regularly hunt in the fall (Georgette 2016, pers. comm.). In Gwich'in Athabaskan territory, caribou were typically harvested in the fall, winter and spring (Caulfield 1983). Caribou typically only remain available to Arctic Village and Venetie residents through winter and spring (Caulfield 1983).

Currently, caribou hunting by FQSU in Unit 23 is most intensive from September through November. Caribou can be harvested in large numbers, when available, and can be transported back to villages by boat before freeze-up. Hunters often search for caribou and attempt to intercept them at known river crossings. Ideally, caribou harvest occurs when the weather is cool enough to prevent spoilage of meat. If not, meat is frozen for later use. Prior to freeze-up in Inupiaq regions, bulls are preferred because they are fatter than cows (Braem et al. 2015, Georgette and Loon 1993). In Athabaskan regions, hunters often select cows between October and February when they are fatter and better tasting than bulls (Caulfield 1983). At other times, bulls or cows may be taken (Caulfield 1983).

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 Inupiat consider caribou taken at this time to be “lean and good for making dried meat (*paniqtuq*) during the warm, sunny days of late spring” (Georgette and Loon 1993:80).

Caribou are especially important for inland communities such as Atqasuk and Anaktuvuk Pass for which marine mammals are not available. While whaling communities tended to be more permanent, inland peoples traditionally tended toward annual and seasonal movements to reflect caribou migrations (Spencer 1984). The abandonment of this more mobile lifestyle has probably had significant consequences for the adaptability of hunters and their ability to meet subsistence needs. The two dominant modes of subsistence were intertwined by trading relationships between inland and coastal communities that sometimes helped to supplement dietary needs (Spencer 1984).

In 2014, the inland community of Anaktuvuk Pass harvested approximately 104,664 lbs. of caribou (330 lbs. per capita), representing 84% of the community harvest in that year (Brown et al. 2016). Among the harvested animals, 51% were bulls, 39% were cows, and 10% were of unknown sex (Brown et al. 2016). Cows were primarily harvested between November and April while bulls were primarily harvested throughout the rest of the year (Braem 2015). In 2011 approximately 85% of the bulls were taken during the months of August and September (Holen et al. 2012). Approximately 89% of Anaktuvuk Pass households reported using caribou in 2014, with 47% of households giving caribou away and 68% of households receiving caribou (ADF&G 2017c); use and sharing of caribou in this community remains high and has led to food security concerns in recent years when caribou migration patterns shifted away from the community.

User conflict concerns have been voiced in the North Slope region over time, especially regarding the effect of non-local hunting activity on caribou migration patterns (NWARAC and NSRAC 2016, WIRAC 2016, NSRAC 2015, 2016, 2017). Despite documented concerns through repeated public testimony, information is lacking on the degree of impact that these hunting activities have on both short and long-term caribou migration patterns. 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 (2015a) 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 non-subsistence hunter activity, ADF&G attempted to document such effects from 1991-93, but none were found (OSM 1995).

In 1995 the Board adopted a proposal from the City of Anaktuvuk Pass to close Federal public lands in Unit 26A, south of the Colville River, upstream from and including the Anaktuvuk River drainage, to NFQU from August 1st through September 30th. The justification was to allow for caribou migrations to take their normal route into Anaktuvuk Pass. Concerns have frequently been expressed about activities that disturb caribou migrations by guides and transporters north of Anaktuvuk Pass, especially in light of severe food security concerns for that community in recent years (NWARAC and NSRAC 2016, WIRAC 2016). The BOG established the Anaktuvuk Controlled Use Area in 2005, to reduce the user conflict during the caribou hunting season and to provide more opportunity for Anaktuvuk Pass residents to harvest caribou. The current regulations close the area to the use of aircraft for hunting caribou, including the transportation of caribou hunters, their hunting gear, or parts of caribou from August 15 through October 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. 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 2016-2017 regulatory year was perceived as having improved the situation, allowing for the resumption of historical migration patterns and harvest activities (OSM 2017a, 2017b).

User 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 in Fix and Ackerman 2015, Halas 2015, NWARAC 2015, Braem et al. 2015), even during times of high caribou abundance. 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).

Halas (2015; **Map 5**), in a case study of Noatak caribou hunters and their interactions with transported hunters, examined the links between caribou behavior and migration, user group interactions, and changes to subsistence caribou hunting. In describing observations by Noatak hunters in 2012 and 2014 Halas (2015:81) explained,

Observations of caribou behavior (“spooked” caribou, deflected caribou groups from river crossings) due to aircraft are likely witnessed as a dramatic event not easily forgotten by a waiting Noatak hunter. Whether the aircraft intentionally or unintentionally may be “influencing” caribou movement, observing “scared” caribou can be a powerful experience for hunters.

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 (2015a) noted that despite substantial transporter traffic in the Anisak drainage, which is within the Noatak NP, 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).

Concerns over the impact of sport hunting activities on caribou migration have also been expressed. Aircraft can affect caribou behavior in the short-term (< 8 hours), which can impact hunting success. However, aircraft are unlikely to have long-term impacts on caribou migration through the Noatak NP (Fullman et al. 2017, Halas 2015, Dau 2015a). The WACH have migrated through Unit 23 for thousands of years, although specific migration routes change annually (Figure 4). The long-held Inupiaq 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 2015a).

Shifts in caribou migration paths have created difficulty for Noatak, Kivalina, and Kotzebue hunters (Dau 2015a). 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 2015a:14-30). This is due in part to having to travel farther, more frequently, and for longer durations to find caribou (Halas 2015). Some communities such as Unalakleet and Noatak have “not met their subsistence needs in many recent years” (Dau 2015a:14-30). This was also expressed by Northwest

Arctic Council members during meetings in October 2015 and March 2016 (NWARAC 2015, NWARAC and NSRAC 2016).

Northwest Arctic Council members reported ongoing concerns about extensive user conflicts in Unit 23 prior to the closure of Federal public lands (NWARAC 2015). Council members have testified that these conflicts have confounded their ability to successfully harvest caribou for subsistence purposes in some areas, and that these conflicts have caused degradation to their subsistence lifestyle through landscape modifications (e.g. abandoned structures and trash; landing strips; ATV trails), herd diversion and positioning (e.g. pushing or scaring caribou with low-flying aircraft for hunting, sightseeing, photography and other purposes; creating camp structures along migratory paths), and hunting of lead caribou. Aircraft activity was of particular concern and includes operations by transporters, guides, “nonlocal” hunters utilizing personal aircraft, and recreational users. Specifically, aircraft in the vicinity of the Squirrel River was cited as particularly problematic (NWARAC 2015).

Effects of the Proposal

If this proposal is adopted, Federally qualified subsistence users would have less opportunity to harvest cow and bull caribou from the WACH, TCH, and CACH due to shorter harvest seasons on Federal public lands in Units 21, 22, 23, 24, 25A, 26A, and 26B. The peak of the caribou harvest from these populations in Units 23, 24, 25A, 26A and 26B occurs during late summer and fall from mid-August to early October. Starting the cow season on October 1 would eliminate September, which has traditionally been a heavily used month by Federally qualified subsistence users (FQSU). Limiting the bull hunt in Unit 22 from July 1 to Oct. 10 will limit the hunt to primarily those caribou that reside there year-round and would reduce flexibility to hunt caribou when they are present. The North Slope Subsistence Regional Advisory Council (NSRAC) discussed the start date following the rut, when changes were made to the caribou regulations in 2016, and they were adamant that bull caribou are edible by early December versus Feb. 1 as proposed by the proponent.

There are some potential benefits to delaying the start of the cow season until October 1 as the more restrictive cow harvest season would allow calves to stay with cows longer in the fall, thus increasing their survival. Also, delaying the hunting season may give cows from the WACH, TCH, and CACH more time to establish their preferred migration routes prior to disturbance from hunters if this is occurring given the current level of hunting activity. This may benefit local subsistence hunters if the caribou establish routes closer to the communities and traditional hunting corridors. However, it should be noted that many caribou will still be in migration, and thus, the possibility of deflecting the herds still exists.

OSM PRELIMINARY CONCLUSION

Oppose Proposal WP18-32.

Justification

Modifying the cow seasons as suggested by the proponent would likely reduce the overall cow harvest and increase calf survival which may lessen the population decline and aid in recovery. However, the changes

proposed for cow and bull seasons would have little effect in reducing deflections of the caribou herds. This is due to the variability of the timing and location of migration patterns between calving, summer, and winter areas of the WACH, TCH, and CACH, the location of communities and their dependence on these caribou, traditional hunting patterns of local subsistence users, and current Federal and State regulations already in place to protect caribou in each unit. In addition to human disturbance, population expansion and contraction, long-term effects of habitat fragmentation, climate change, habitat loss, and industrial development also affect variation in the migratory patterns and seasonal habitat use by the WACH, TCH, and CACH.

Ending the cow caribou season on Feb. 1, which is approximately 2 months before the start of the spring migration, is an unnecessary conservation measure for the protection of migrating caribou although it may help reduce the overall cow harvest. Shortening the start of the bull season is likely to have little impact as most subsistence hunters will not hunt bull caribou in the rut and those that do, for example in Unit 22, would oppose this change (WACH 2016).

For the proposed changes to the cow and bull caribou seasons to be fully effective, similar changes would need to be made to State regulations by the BOG. Rather than seasonal changes to minimize caribou migration deflections over the range of the three herds in seven Game Management Units as suggested by the proponent a more effective approach may be to have local Federal and State land managers in each unit enact short term seasonal hunting restrictions when needed to allow the lead animals to migrate through undisturbed. In response to the declines in the WACH and TCH populations, the BOG and the Board adopted caribou hunting restrictions regulations in 2015 and 2016 to reduce the cow harvest and overall harvest. Recently enacted conservation actions for the WACH, TCH, and CACH need to be given time, to determine if they are effective in reducing the caribou harvest in slowing down or reversing the population declines in the WACH, TCH, and CACH, before additional changes are made to the caribou regulations and to see what effect, if any, they have on the migratory patterns of caribou. Reasons for the OSM Justification are discussed on a unit-specific basis below.

Unit 26B

The primary caribou herd in Unit 26B is the CACH. NFQU are responsible for a majority (89%) of the caribou harvest in Unit 26B. Under State regulations, Unit 26B is divided up into two hunt areas, one in the northwest corner of Unit 26B and Unit 26B remainder. State caribou regulations for the northwestern corner have liberal seasons and harvest limits to support local subsistence users, primarily from Nuiqsut. In response to the recent decline in the CACH population, the State adopted new caribou hunting regulations which eliminated the cow harvest, reduced the harvest from 5 caribou per day to 2 bull caribou for residents, and 1 bull caribou for nonresidents in Unit 26B remainder for 2017/2018. The combination of variable migratory patterns of the CACH from year to year, hunting pressure that is distributed across the landscape, the relatively small percentage of Federal lands, and high use of State lands by NFQU suggest the restricted cow season would have little effect on reducing disturbance to the fall CACH migration across the DHCMA. The newly enacted State regulations for Unit 26B, which will likely reduce the overall CACH caribou harvest and have the greatest effect on reducing harvest pressure and impact to migrating caribou across the DHCMA, need to be given time to determine if they are effective.

The start for the bull season following the rut was discussed extensively by the NSRAC for the previous caribou regulations enacted in 2015 and 2016. The Dec. 10 start date versus the proposed Feb. 1 start date provides more opportunity for FQSU.

Unit 26A

The availability of caribou to local communities in Units 26A is dependent on the seasonal movements of the TCH and WACH. Utqiagvik, Wainwright, and Atkasuk harvest primarily from the TCH and Point Hope, Point Lay, and Anaktuvuk Pass harvest primarily from the WACH. Most of the caribou migration through Unit 26A occurs prior to Oct. 1, the proposed start date for the cow season, and thus would have the desired effect of allowing the caribou to migrate on Federal public lands undisturbed. However, it would also eliminate the prime caribou hunting season for cows from the WACH and TCH, which occurs during the months of August and September. Federally qualified subsistence users would also have less opportunity to harvest caribou if they were restricted to a bull only harvest during August and September. The potential benefit of a later cow season to allow unrestricted migration of the cows from the WACH and TCH does not outweigh the need for FQSU to harvest caribou when they are available.

The start for the bull season following the rut was discussed extensively by the NSRAC for the previous caribou regulations enacted in 2015 and 2016. The Dec. 6 start date following the rut versus the proposed Feb. 1 start date provides more opportunity for FQSU.

Unit 25A (West)

Although caribou in Unit 25A are harvested from three herds (PCH, Forty Mile Herd, and the CACH), the PCH is the primary herd for subsistence users. Arctic Village is the primary subsistence community in Unit 25A. Overlap with the PCH and CACH on the wintering grounds makes it difficult to determine the percentage of harvest from each herd. Although there is lack of data on the CACH harvest and migration in Unit 25A, it is estimated that <10% of the harvest is from the CACH. The PCH is at an all-time high, so sex-specific season restrictions to protect migration of the small proportion of wintering caribou from the CACH are not warranted.

Unit 24

Residents of Anaktuvuk Pass, who are highly dependent on caribou, have expressed concerns that NFQU have been responsible for deflecting WACH from their normal migration routes, thus causing hardship for local users. The closure of caribou hunting in Unit 23 to NFQU during the 2016-2017 regulatory year was perceived as having improved the situation, allowing for historical migration patterns and harvest activities in Anaktuvuk Pass in 2016. Changing the start date to Oct. 1 for the cow season would have the desired effect of allowing the caribou to migrate on Federal public lands undisturbed. However, to be fully effective similar regulations would have to be adopted by the Alaska Board of Game. However, it would also eliminate the prime caribou hunting season for cows from primarily the WACH, and to a lesser extent the TCH, which occurs during the months of August and September. Federally qualified subsistence users would also have less opportunity to harvest caribou if they were restricted to a bull only harvest during August and September. The potential benefit of a later cow season to allow unrestricted migration of the

cows from the WACH and TCH does not outweigh the need for FQSU to harvest caribou when they are available.

Unit 23

A majority of the harvest from the WACH occurs in Unit 23. The start of the cow migration can vary by a month, which adds to the complexity of trying to establish a cow season to protect the migration of the lead cows. Some of the caribou in the northern portion of the unit will have migrated through the Unit by Oct. 1 while many more will still be migrating through the southern portion of Unit 23. In addition, changing the cow season to Oct.1 - Feb.1 would eliminate the month of September which overlaps with the primary hunting period from the WACH of Aug. 25-Oct. 7 (Dau 2015a). Setting the end date for the caribou season as February is two months prior to the start of the spring migration so will have no effect to the migration but may help reduce the overall cow harvest. It also would reduce the opportunity of FQSU to harvest cows by two months compared to the current Federal regulations. Given the seasonal, yearly, and spatial variability during the WACH spring and fall migration, establishment of Oct. 1 as the start date for the cow season in Unit 23 does not meet the proponent's objectives in Unit 23. Additionally, caribou harvest by NFQU is already somewhat reduced due to the 2015 changes to State regulations (e.g. reduction in nonresident harvest limit) (**Figures 9 and 12**).

Unit 22

On average, cows cross the Selawik River during the fall migration around Oct. 15th, so cow caribou would still be migrating on Oct. 1, the proposed start date for the cow season. Restricting the bull season to July 1 - Oct. 10 and Feb. 1 to June 30 would limit the hunt to those caribou that reside year-round. In addition, many of the Federally qualified subsistence users have expressed the need for longer not shorter caribou hunting seasons because of the lack of established migration patterns in this unit and the need to be able to hunt caribou whenever they become available. For example, FQSU in the north typically have access to caribou much earlier than hunters in the southern areas.

Unit 21

The number of cows making it to this unit prior to Oct. 1 is negligible, so the proposed fall date does little to meet the proponent's goal. There is no spring season in Unit 21, so any deflection of lead cow caribou by NFQU is not an issue.

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Appendix A

Regulatory History

Unit 21D

In 1991, the Federal Subsistence Board (Board) adopted Proposal P91-132 with modification to designate new hunt areas in Unit 21D and establish a to-be-announced winter season with a harvest limit of two caribou (FWS 1991).

In 1992, the Board approved Temporary Special Action S92-06 to open a temporary winter season for caribou in Unit 21D north of the Yukon River and east of the Koyukuk River (FWS 1992).

In 2007, the Board adopted Proposal WP07-33, closing Unit 21D north of the Yukon River and east of the Koyukuk River to caribou hunting during the Federal fall season. This was done in order to conserve the declining Galena Mountain Caribou Herd (FWS 2007).

Unit 22

In 1994, the Board adopted Proposal P94-63A with modification to allow snowmachines to be used to take caribou and moose in Unit 22 (OSM 1994a).

In 1996, the Board adopted Proposal P96-049 with modification to provide a customary and traditional use determination for caribou in Unit 22 for rural residents of Unit 21D west of the Koyukuk and Yukon rivers, Units 22 (except St. Lawrence Island), 23, 24. The Proposal also provided a customary and traditional use determination for caribou in Unit 22A for residents of Kotlik, Emmonak, Marshall, Mountain Village, Pilot Station, Pitka's Point, Russian Mission, St. Mary's, Sheldon Point, and Alakanuk (OSM 1996).

In 1997, the Board adopted Proposal P97-54 with modification to add residents of Hooper Bay, Scammon Bay, and Chevak to the customary and traditional use determination for caribou in Unit 22A (OSM 1997).

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 (OSM 2000a).

In 2002, the ADF&G issued two emergency orders addressing caribou/reindeer conflicts. The first, EO 05-03-02, closed the portion of Unit 22D within the Pilgrim River drainage south of the Pilgrim River bridge to caribou hunting between Aug. 31, 2002 and June 30, 2003. The purpose of this action was to prevent the harvest of reindeer, since no caribou were present in the area during this time. The second, EO 05-04-02, opened this same area to the harvest of caribou from Oct. 17, 2002 through Jun. 30, 2003. This emergency order provided harvest opportunity after caribou had moved into the area (Dau 2005).

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 (OSM 2003).

In 2005, the Alaska Board of Game (BOG) adopted a proposal creating two new hunt areas for caribou in Units 22B and 22D. This proposal also changed the season for these newly described areas to Oct. 1 – Apr. 15.

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 (OSM 2006a).

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.

Unit 23

In 1995, the Board adopted Proposal P95-51 to increase the caribou harvest limit from 5 per day to 15 per day to increase opportunity for subsistence hunters to maximize their hunting when the caribou were available (FWS 1995a).

In 1997, the Board adopted Proposal P97-66 with modification to provide a positive 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 (FWS 1995b, 1997b).

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

In 2013, an aerial photocensus indicated significant declines in the TCH (Caribou Trails 2014), WACH (Dau 2011), and the Central Arctic Caribou Herd (CACH) populations. In response, the BOG adopted modified Proposal 202 (RC76) in March 2015 to reduce harvest opportunities for both residents and nonresidents within the range of the WACH and the TCH. These regulation changes – which included lowering bag limits, changing harvest seasons, modifying the hunt area descriptors, and restricting bull and cow harvest and prohibiting calf harvest – were adopted to slow or reverse the population decline.

In 2015, The Board approved Temporary Special Action WSA15-03/04/05/06 with modification to simplify and clarify the regulatory language; maintain the current hunt areas in Units 23; decrease the harvest limit from 15 to 5 caribou per day, shorten the cow and bull seasons and prohibit the harvest of calves and cows with calves in Unit 23 (OSM 2015).

In 2015, the Northwest Arctic Subsistence Regional Advisory Council submitted Temporary Special Action Request WSA16-01 to close caribou hunting on Federal public lands in Unit 23 to non-Federally

qualified users (NFQU) for the 2016/17 regulatory year (OSM 2016a). The Council stated that their request was necessary for conservation purposes but were 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 Temporary 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 Alaska Regional Advisory Councils), 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 (FSB 2017, OSM 2017a).

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 22, 23, and 26 a similar proposal was passed for Unit 22 in 2016). ADF&G submitted the proposal in order to better monitor harvest and improve management flexibility (ADF&G 2017a).

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 Subsistence Regional Advisory Council submitted Temporary Special Action Request WSA17-03 to close caribou hunting on Federal public lands in Unit 23 to NFQU for the 2017/18 regulatory year. The Northwest Arctic Subsistence Regional Advisory Council stated that the intent of the proposed closure was to ensure subsistence use in the 2017/18 regulatory year, to protect declining caribou populations, and to reduce user conflicts. In June 2017, the Board approved Temporary Special Action WSA17-03 with modification to close Federal public lands to caribou hunting within a 10 mile wide corridor (5 miles on either side) along a portion of the Noatak River and within the Squirrel River drainage for the 2017/2018 regulatory year. While these closures may help reduce user conflicts along these high use areas, the Board concluded that closure of all Federal public lands to NFQU was not warranted.

Unit 24

In 2000, the Board adopted Proposal P00-44 to expand the hunting area north of the Kanuti River for caribou to allow Federally qualified subsistence users additional opportunities to harvest from the WACH (OSM 2000b). The harvest limit was set at 5 caribou per day with the restriction that cows may not be taken from May 16-June 30 (FWS 2000b). The Board, however, did not change the harvest limit of one

caribou in the southern section of Unit 24B and 24A which was enacted to protect the Ray Mountain Caribou Herd, a small population of about 1,000 animals, on their wintering range (Jandt 1998).

In 2015, The Board approved Temporary Special Action WSA15-03/04/05/06 with modification to shorten the cow and bull seasons and to prohibit the harvest of calves in Unit 24 remainder (OSM 2015).

Unit 25A

In 2010 the Board adopted Proposal WP10-94 with modification to increase the caribou hunting season to year-round and restricted the harvest season to bulls only from May 16- June 30. The increase to a year-round harvest season was in response to increasing trend of the CACH. Restricting the harvest to bulls only during May and June was implemented to protect calving females. The hunt occurs in the area where the CACH winter in Unit 25A (OSM 2010).

Unit 26A and 26B

The Board adopted Proposal P94-82 with modification to allow motor-driven boats and snowmachines to be used to take caribou in Unit 26A and to allow swimming caribou to be taken with a firearm in Unit 26A (OSM 1994b).

In 1995, the Federal Subsistence Board (Board) adopted Proposal P95-64 to increase the harvest limit from 5 caribou per day to 10 caribou per day in Unit 26 to increase opportunity for subsistence hunters (OSM 1995a). The Board also adopted Proposal P95-62 which closed the area east of the Killik River and south of the Colville River to NFQU (OSM 1995b). This closure was enacted to prevent NFQU from harvesting lead animals, which may have caused the migration to move away from the area that local subsistence users hunted in Unit 26A (OSM 1995b).

In 2005, the BOG established a Controlled Use Area for the Anaktuvuk River drainage that prohibited the use of aircraft for caribou hunting from Aug. 15–Oct. 15. The intent of this proposal was to limit access by nonlocal hunters, reduce user conflicts, and lessen the impact on caribou migration.

In 2006, the Board adopted Proposal WP06-65 which opened the area east of the Killik River and south of the Colville River to NFQU (OSM 2006b). 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. However, only the lands east of Anaktuvuk Pass were affected by the closure, making the closure less effective. Second, the WACH, TCH, and CACH populations, which traverse Unit 26A, were healthy and could support both subsistence and non–subsistence uses.

In 2013, an aerial photocensus indicated significant declines in the TCH (Caribou Trails 2014), WACH (Dau 2011), and possibly the CACH (Caribou Trails 2014). In response, the BOG adopted modified Proposal 202 (RC76) in March 2015 to reduce harvest opportunities for both residents and non-residents within the range of the WACH and the TCH. These regulation changes, which included lower bag limits, changes to harvest seasons, modification of hunt areas, restrictions on bull and cow harvest and a

prohibition on calf harvest, were adopted to slow or reverse the population decline. These regulatory changes, which were the result of extensive discussion and compromise among a variety of user groups, took effect on July 1, 2015.

In an effort to enact conservation measures the North Slope Subsistence Regional Advisory Council submitted four temporary wildlife special actions (WSA) for Units 23, 24, 26A, and 26B to change caribou harvest regulations on Federal public lands for the 2015/16 regulatory year. The Board approved Temporary Special Actions WSA15-03/04/05/06, which were similar to the changes made to State regulations in an attempt to reverse or slow the decline of the WACH and TCH. To address two primary factors contributing to the decline, low calf survival and high adult cow mortality, WSA15-03/04/05/06 prohibited the harvest of cows with calves, prohibited the harvest of calves, and reduced the harvest limit from 10 to 5 caribou per day, and shortened the cow and bull seasons in Unit 26A. Compared to the new State caribou regulations, it requested 3 additional weeks to the bull harvest season (Dec. 6- Dec. 31). In Unit 26B WSA15-03/04/05/06 reduced the harvest limit from 10 to 5 caribou and shortened the cow and bull seasons (OSM 2015).

Changes to caribou regulations in 2015 by the State Board of Game and the Federal Subsistence Board represented the first time in over 30 years that major changes to the harvest regulations were implemented for the WACH and TCH. These restrictions for the WACH were also supported by management recommendations outlined in the Western Arctic Herd Management Plan (WACH Working Group 2011). The intent of these regulations was to reduce the overall harvest and cow mortality to allow the WACH and TCH populations to recover. In 2015, three proposals were submitted for the 2016-2018 wildlife regulatory cycle concerning caribou regulations in Unit 26A and 26B, two from the North Slope Subsistence Regional Advisory Council (WP16-63 and WP16-64) and one from Jack Reakoff (WP16-37). The Board adopted WP16-37 with modification and took no action on WP16-63/64 based on action taken on WP16-37 (OSM 2016b). Changes to the 2016-2018 Federal regulations in Unit 26A included a reduction from ten to five caribou per day harvest limit, splitting Unit 26A into two hunt areas based on range and migration patterns of the WACH and TCH, selecting the opening date for bulls in the winter season as December 6, a prohibition on the take of calves, and protection of cows with calves from July 16-Oct. 15. Changes to caribou regulations in Unit 26B which include harvest from the CACH were: a reduced harvest limit from ten to five caribou per day; splitting Unit 26B into two hunt areas, one south of 69°30' N. lat. west of the Dalton Highway and 26B remainder; a restricted cow season from July to April/May; and a reduction in the cow and bull seasons.

In February 2017, in response to the decline in the CACH, the BOG adopted Proposal 105 (RC22) with amendments to reduce overall caribou harvest from 930 to 680 and the cow harvest from 202 to 75 in Unit 26B (Lenart 2017a).

In March 2017, the Norwest Arctic and North Slope Subsistence Regional Advisory Councils submitted Temporary Special Action Requests WSA17-03, and WSA-04, 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 continuation of subsistence uses in the 2017/18 regulatory year, to protect declining caribou populations, and to reduce user conflicts. In June

2017, the Board approved Temporary Special Action WSA17-03 with modification to close Federal public lands to caribou hunting within a 10 mile wide corridor (5 miles on either side) along a portion of the Noatak River; within the Squirrel River drainage; and within the northern and southern boundaries of the Eli and Agashashok River drainages; for the 2017/2018 regulatory year. While these closures may help reduce user conflicts along these high use areas, the Board concluded that closure of all Federal public lands to NFQU was not warranted at that time.

In June 2017, the Board rejected WSA17-04 for a variety of reasons including: 1) the relatively small cow harvest by NFQU in Unit 26A; 2) the need for adequate time to determine if the recently enacted conservation actions for WACH, TCH, and CACH are effective in reducing the caribou harvest and reversing or slowing down the population declines; 3) the closure of Federal public lands in Unit 26A would likely shift hunters to State lands around Anaktuvuk Pass; 4) closure of Federal public lands in Unit 26B, which makes up only about 30% of the unit, is not likely to have as much effect as recent BOG regulations to protect the CACH; and 5) a reduction in hunting pressure along the Dalton Highway Corridor Management Area (DHCMA), which is thought to affect the migration of the CACH, is unlikely to be effective, as most NFQU will use the DHCMA to access adjacent State lands.

WP18–14 Executive Summary	
General Description	Proposal WP18-14 requests an extension of the wolverine hunting and trapping seasons in Unit 13 and the hunting season in Unit 11. The proposed hunting seasons in Units 11 and 13 would change from Sept. 1 – Jan. 31 to Sept. 1 – Feb. 28. The proposed Unit 13 trapping season would change from Nov. 10 – Jan. 31 to Nov. 10 – Feb. 28, which would match the existing trapping season in Unit 11. <i>Submitted by: Wrangell-St. Elias National Park Subsistence Resource Commission.</i>
Proposed Regulation	<p>Hunting</p> <p style="text-align: center;">Units 11 and 13—Wolverine</p> <p style="text-align: center;"><i>1 wolverine</i> <i>Sept. 1 – Jan. 31 Feb. 28</i></p> <p>Trapping</p> <p style="text-align: center;">Unit 11—Wolverine</p> <p style="text-align: center;"><i>No limit</i> <i>Nov. 10 – Feb. 28</i></p> <p style="text-align: center;">Unit 13—Wolverine</p> <p style="text-align: center;"><i>No limit</i> <i>Nov. 10 – Jan. 31 Feb. 28</i></p>
OSM Preliminary Conclusion	Support
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council	

WP18-14 Executive Summary	
Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwi m 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	

WP18–14 Executive Summary	
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	1 Support

**DRAFT STAFF ANALYSIS
WP18-14**

ISSUES

Proposal WP18-14, submitted by the Wrangell-St. Elias National Park Subsistence Resource Commission, requests an extension of the wolverine hunting and trapping seasons in Unit 13 and the hunting season in Unit 11. The proposed hunting seasons in Units 11 and 13 would change from Sept. 1 – Jan. 31 to Sept. 1 – Feb. 28. The proposed Unit 13 trapping season would change from Nov. 10 – Jan. 31 to Nov. 10 – Feb. 28, which would match the existing trapping season in Unit 11.

DISCUSSION

The proponent would like to have the same opportunities for harvesting wolverines in Units 11 and 13. In addition, alignment of the wolverine and lynx trapping seasons would allow trappers to keep a wolverine incidentally caught in a lynx set in February in Unit 13.

Existing Federal Regulation

Hunting

Units 11 and 13—Wolverine

1 wolverine

Sept. 1 – Jan. 31

Trapping

Unit 11—Wolverine

No limit

Nov. 10 – Feb. 28

Unit 13—Wolverine

No limit

Nov. 10 – Jan. 31

Proposed Federal Regulation

Hunting

Units 11 and 13—Wolverine

1 wolverine

*Sept. 1 – ~~Jan. 31~~ Feb.
28*

Trapping

Unit 11—Wolverine

No limit

Nov. 10 – Feb. 28

Unit 13—Wolverine

No limit

*Nov. 10 – ~~Jan. 31~~ Feb.
28*

Existing State Regulation

Hunting

Units 11 and 13—Wolverine

One wolverine

Sept. 1 – Jan. 31

Units 11 and 13—Wolverine

Trapping

No limit

Nov. 10 – Jan. 31

Extent of Federal Public Lands

Federal public lands comprise approximately 87% of Unit 11 and consist of approximately 84% National Park Service (NPS) managed lands, 3% U.S. Forest Service (USFS) managed lands, and 0.1% Bureau of Land Management (BLM) managed lands (See **Unit 11 Map**).

Federal public lands comprise approximately 12% of Unit 13 and consist of approximately 6% National Park Service (NPS) managed lands, 2% U.S. Forest Service (USFS) managed lands, and 4% Bureau of Land Management (BLM) managed lands (See **Unit 13 Map**). Federal public lands within Denali National Park as it existed prior to ANILCA (December 1980) are closed to all hunting and trapping.

Customary and Traditional Use Determinations

The Federal Subsistence Board (Board) has not made a customary and traditional use determination for wolverine in Units 11 and 13. Therefore, all Federally qualified subsistence users may harvest this species in this unit.

Under the guidelines of the Alaska National Interest Lands Conservation Act (ANILCA), National Park Service regulations identify qualified local rural subsistence users in National Parks and Monuments by: 1) identifying resident zone communities which include a significant concentration of people who have customarily and traditionally used subsistence resources on park lands; and 2) identifying and issuing subsistence use (13.440) permits to individuals residing outside of the resident zone communities who have a personal or family history of subsistence use. In order to engage in subsistence on National Park lands in Wrangell St. Elias National Park (WRST) or Denali National Park (DENA) ANILCA additions, the National Park Service requires that subsistence users either live within the park's resident zone (36 CFR 13.430, 36 CFR 13.902) or have a subsistence permit (36 CFR 13.440) issued by the park superintendent.

Regulatory History

Wolverine harvests declined throughout the 1970s and 1980s following the mandatory sealing requirement implemented by the State in 1971. Before sealing began, fur buyer reports and bounty records were the primary source of wolverine harvest data. In 1990 the Federal Subsistence Board (Board) adopted the State's hunting and trapping regulations for wolverines. In 1987 the State wolverine trapping season was shortened in Units 11 and 13 from Nov. 10 -Mar. 31 to Nov. 10-Feb. 28 to help the wolverine populations recover. However, this did not occur and by 1992 wolverines could only be found in the remote mountains of Unit 13. In 1992, the Board adopted Proposal P92-031 to reduce the harvest limits under the trapping regulations from "No limit" to "two wolverines" and to retain the Feb. 28 closure date for the trapping season as wolverines are more vulnerable to harvest in late winter and early spring (OSM 1992a). In 1992, the Board also closed Federal public lands in Unit 11 and Unit 13 to wolverine hunting except by Federally qualified subsistence users (P92-031) (OSM 1992a). The Board also adopted Proposal P92-032 which reduced the hunting season from Sept. 1- Mar. 31 to Sept. 1 – Jan. 31 (OSM 1992b). The State also shortened the wolverine hunting and trapping seasons to January 31 and the hunting harvest limit to 1 wolverine on State lands in the 1992-1993 regulations. The trapping harvest limit remained at 2 wolverines during 1992-1993.

In 1994, the Board rejected Proposal P94-21 which sought to allow non-Federally qualified users to take wolverines on Federal public lands in Units 11 and 13. The Board supported the Southcentral Alaska Subsistence Regional Advisory Council's (Council) recommendation to oppose the proposal due to concerns that the wolverine populations in Units 11 and 13 had not recovered sufficiently (OSM 1994).

In 1997, the Board adopted Proposal WP97-32 opening Federal public lands for Federally qualified users to wolverine trapping in Units 11 and 13 and increased the harvest limit from “two wolverines” to “No limit”. The State also dropped the harvest limit that restricted trappers to two wolverines. These actions were based on density estimates that suggested wolverine densities were within the range of densities found in typical wolverine habitat in other areas. In addition, there was no significant difference in the harvest before and after the two wolverine harvest limit and the restriction on non-Federally qualified users (OSM 1997).

At the spring 2008 Board meeting, the Alaska Department of Fish and Game (ADF&G) opposed proposal WP08-03/04 to align the lynx and wolverine trapping season, but noted that it “...can support in-season authority being delegated to either the National Park Service or to the Office of Subsistence Management to adjust the wolverine trapping season so that it matches the lynx trapping season” (FSB 2008). Council Chair Ralph Lohse explained to the Board, “There’s no way you can trap lynx without catching wolverines but there’s no way you can trap wolverines without catching lynx.” Chairman Lohse also noted that the idea of WP08-03/04 “...was to align the lynx and wolverine season so that somebody’s not tempted to keep a wolverine after the lynx season is closed, or to keep lynx after the wolverine season’s closed”(FSB 2008). On April 30, 2008, the Board adopted Proposal WP08-03/04 to align the Unit 11 wolverine trapping season with the Unit 11 lynx season and extend the trapping season from Nov. 10–Jan. 31 to Nov. 10–Feb. 28 and delegated its authority to do so to the Assistant Regional Director, Office of Subsistence Management in coordination with the State of Alaska regulations based on health of the lynx population in Unit 11. The wolverine populations in Unit 11 were considered healthy enough to sustain the additional harvest and the season extension would allow trappers to keep wolverines incidentally taken in lynx sets in February (OSM 2008).

In March 2010 the Council supported Proposal WP10-34, which requested the wolverine season be managed independently from the lynx season in Unit 11. Chairman Lohse and other Council members did not feel that there were associated wolverine conservation issues. In 2010, the Board adopted the proposal. Because lynx populations are cyclic and wolverine populations are not, the Board decided to manage the species separately (OSM 2010).

Biological Background

State management goals and objectives for wolverines in Units 11 and 13 are as follows (Robbins 2013):

- Provide for and optimal harvest of furbearers consistent with sustained yield principles.
- Manage accurate annual harvest records based on sealing documents
- Maintain indices of population trends using trapper questionnaires and track surveys.

Relatively little research on wolverines has been done in Units 11 and 13 and thus the biology is based in part on studies from other parts of Alaska, North America, and Scandinavia. Wolverines are distributed across Alaska and are most abundant in the mountains of the Chugach, Talkeetna, and Alaska ranges in Unit 13 and in the Chugach and Wrangell ranges in Unit 11. Male wolverines have exceptionally large home ranges that range from 230-1579 km² (89 to 610 mi²); resident female home ranges average 100-400 km² (39-154 mi²), and the home range of transient and subordinate individuals is between the two

(Hornocker and Hash 1981, Magoun 1985, Whitman et al. 1986, Banci and Harestad 1990, Gardner et al. 2010). Wolverines are opportunistic predators and scavengers, eating just about anything they can find or kill. They have a seasonal pattern to primarily scavenge in winter and use a variety of prey in summer, e.g. rodents, snowshoe hares, birds, and carrion. In a Yukon Territory study, snowshoe hare contributed the highest proportion of any single prey species to the wolverine's diet (Banci 1987). Range size may be related to habitat, topography, and food availability (Gardner 1985)

Wolverines are generally solitary outside of the breeding season (May et al. 2006). Breeding season occurs between May and August; however, the species is polygamous and exhibits delayed implantation, occurring between December and February, followed by a gestation period of 30-50 days (Rausch & Pearson 1972, Inman et al. 2012). Use of reproductive dens begins from early February to late March (Copeland and Whitman 2003). In Unit 11 pregnant female wolverines den mostly in the inaccessible higher mountainous areas (FSB 2008). Females utilize two different dens prior to weaning their young: a natal den (birth location) and a maternal den (used after birthing but before weaning). Female wolverines usually give birth to 1-2 young between February and April (Inman et al. 2012). Females vacate dens in late April to mid-May, moving to rendezvous sites where mothers leave their young while acquiring food (Inman et al. 2012). In Alaska and the Yukon Territory, wolverine kits are born predominantly from mid-February through March (Rausch and Pearson 1972). Juveniles are weaned in 9 to 10 weeks, begin to travel with their mothers in early summer, and are independent by late summer.

The reproductive capacity of wolverines is limited; the abundance of food determines whether pregnancy will be maintained, and the number of young that will be born. Wolverine research in North America and Scandinavia found that only 38-57% of the females reproduced each year, and that the annual birth rate was only 0.4-0.9 kits/female (Magoun 1985, Copeland 1996, Persson 2003, and Krebs and Lewis 1999). Wolverines have low reproductive rates, averaging <1 weaned kit/adult female annually (Krebs et al. 2004). Female wolverines are capable of aborting or reabsorbing fetuses if food availability is too low to support pregnancy and lactation. Persson (2003) found that the annual recruitment of juveniles to one year of age was 0.5 kits/female. The size of winter food caches likely influences the outcome of wolverine pregnancies (Inman et al. 2012).

Wolverine population estimates are difficult to determine as the species' large home ranges cause them to naturally occur at low densities. Between 1987 and 1995 density estimates in good habitat at high elevations in Units 13A and 13D were 4.7-5.2/1000 km² (Becker and Van Daele 1988, Gardner and Becker 1991, Golden 2007). Densities in the Talkeetna mountains were estimated to be 1/213 km² (4.7/1000km²) (Gardner and Becker 1991).

Gardner et al. (2010) conducted a coarse (large)-scale aerial survey of Interior Alaska in 2006 to estimate wolverine occurrence and distribution. The survey covered an estimated 180,000 km² (69,500 mi²) which included all of the Eastern Interior region as well as portions of Units 24 and 21. They observed wolverine tracks in 66% of the units sampled and occupancy modelling indicated 83% of the study area as core wolverine habitat, illustrating that wolverines are widely distributed throughout Interior Alaska (Gardner et al. 2010). Gardner (1985) found that movements of radio collared wolverines in Unit 13 declined during

the fall but increased again in February with the dispersal of juveniles into vacant habitat. This suggests that wolverine harvest is not just a function of trapping effort and that extending the season into February may increase the take of dispersing juveniles. Long distance dispersal of wolverines has been documented in Unit 13 (Golden 1997) and is a potential source of population redistribution into vacant habitat. Krebs et al. (2004) found trapped wolverine populations to likely be maintained by immigration of wolverines from untrapped areas, termed refugia. Krebs et al. (2004) asserted the establishment and/or preservation of refugia twice the size of trapped areas may be necessary to ensure long-term viability of trapped wolverine populations.

Human caused mortality is an important source of adult wolverines mortality according to many North American studies (Hornocker and Hash 1981, Whitman and Ballard 1983, Magoun 1985, Banci 1987). Banci (1994) and Copeland (1996) reported that starvation and predation are the most common natural causes of wolverine mortality. Persson (2003) found that predation by adult wolverines was the most important cause of juvenile wolverine mortality during their first summer. It appears that few wolverines live longer than 5 to 7 years in the wild, however some do survive to 13 years of age (Rausch and Pearson 1972, Liskop et al. 1981, Banci 1987).

Little research on wolverine population dynamics has been conducted in Units 11 or 13 and thus populations, distribution, habitat use, and movements is limited. Reports by hunters and trappers, harvest records, and field observations by ADF&G biologists are the main source of wolverine abundance information for Unit 11 (Schwanke and Tobey 2007).

Harvest from Units 11 and 13 occur primarily in the foothills of the mountains in the Chugach, Talkeetna, Alaska, and Wrangell ranges. Robbins (2013) states there are large areas that could be used for refuge between harvest locations, particularly in Unit 11. Much of this area is difficult to access, and thus some areas may not be trapped and essentially serve as refugia (Robbins 2013).

Since regulatory year 1996/97, ADF&G trapper questionnaires have provided furbearer abundance and population trends based on responses from area trappers. While qualitative, this information is used for tracking population changes over time and is the best available data for many furbearer populations, including wolverines in Units 11 and 13 (ADF&G 2006, 2007, 2010a, 2010b, 2010c, 2012, 2013a, 2013b, Parr 2016). However, harvest records were not found to be a good indicator of wolverine distribution (Gardner et al. 2010). Low reproductive rates, inherently low population densities, and susceptibility to harvest pressure indicate that conservative harvest strategies are warranted for wolverines (Krebs et al. 2004).

Habitat

Wolverine presence is also positively correlated with elevation and negatively associated with human infrastructure and disturbance (Gardner et al. 2010, May et al. 2006). Wolverines in Interior Alaska may occupy lowland habitats where harvest pressure and human influences are limited (Gardner et al. 2010). Wolverines utilize subalpine, high-elevation habitats (Magoun and Copeland 1998, Gardener et al. 2010, Copeland et al. 2007) and are considered common in the more remote mountainous regions of Units 11 and

13 and relatively scarce at lowland elevations (Schwanke 2010). In southcentral Alaska, wolverines prefer spruce habitats during winter and rocky areas during summer (Gardner 1985, Whitman et al. 1986).

Wolverine populations are demographically vulnerable and susceptible to impacts from climate change (Inman et al. 2012). Copeland et al. (2010) found a positive correlation between wolverine distribution and persistent spring snow cover. This association can be explained by several factors: wolverines den beneath the snow; large feet give wolverines a morphological advantage over ungulates in deep snow, improving food availability; food caches are more secure from competitors and less prone to spoilage; and human influences are generally absent (Inman et al. 2012, Gardener et al. 2010, Copeland et al. 2010). Thermoregulatory needs (Hornocker and Hash 1981), protection from predators (e.g. wolves), suitability of the site during the spring thaw, and proximity to rearing habitat are some factors influencing den site selection (Copeland and Whitman 2003). Information from trapper reports and general observations suggest wolverine numbers are low in forested areas but relatively common in the mountainous areas of Units 11 and 13 (Robbins 2013).

Cultural Knowledge and Traditional Practices

At least five Alaska Native groups, including the Dena'ina, Tanana, Ahtna, Tanacross, and Upper Tanana, historically held territories within present day Units 11 and 13 (Krauss et al. 2011). Much of the land in these units was the territory of the Ahtna Athapaskans with the northeastern portion of Unit 13 belonging to the Dena'ina. The Copper River Basin has been occupied by Ahtna Athapaskans for centuries (Stratton & Georgette 1984, VanStone 1974). Wolverines were found throughout the region and were one of several furbearing species of importance to the local people (VanStone 1974, de Laguna et al. 1981). De Laguna and McClellan (1981) noted that the pelts from lynx, wolverine, marten, fox, beaver, and otter were valuable and were kept separated until they were dried.

The fur trade was in full swing by the beginning of the nineteenth century, and the Dena'ina incorporated furs into their existing trade system. Some Dena'ina men acted as middlemen for the Russians trade of furs with the more interior native groups (Townsend 1981). Furbearers (i.e. wolverines) were snared and were an important resource to the Ahtna for making clothes, blankets, packs, tents, and bags with some furbearer bones utilized in creating tools or pieces of equipment (de Laguna et al. 1981, Reckord 1983).

The nineteenth and twentieth centuries brought about many changes to the eastern interior of Alaska. Trading posts, roads, mining camps, roadhouses, schools, missions, and the Trans-Alaska pipeline were examples of many such changes. Population increased in the Copper River Basin, especially in the 1940s with an influx of military personnel coming into Alaska to serve in the Pacific Theater during World War II (Townsend 1981). Those living in the Copper River Basin today are of diverse backgrounds (Holen et al. 2015, La Vine et al. 2013, La Vine & Zimpelman 2014).

In recent comprehensive subsistence surveys conducted by ADF&G, it was noted that although wolverines do not compose a majority of the harvest for communities of the region they are an important subsistence resource. The total attempted harvest of wolverines by households within the surveyed communities

ranged between 0% and 44% (Holen et al. 2015, Kukkonen and Zimpelman 2012, La Vine et al. 2013; La Vine & Zimpelman 2014).

During each study year, communities within the Copper River Basin harvested or attempted to harvest wolverine in Units 11, 12, and 13. Harvest and search areas specific to Units 11 and 13 described locations along Dan, Drop, and May Creeks; Indian, Chitistone, and Sanford Rivers; Crosswind and Paxson Lakes; the area around the community of Chitina; Nabesna and McCarthy Roads; and the Denali, Parks, Glenn, Richardson, and Edgerton Highways (Holen et al. 2015; La Vine et al. 2013; La Vine & Zimpelman 2014). The community of Mentasta Pass, which had the highest attempted, harvested, and use rates of wolverine in the area, also had the largest search range. This community utilizes all of Unit 13C, most of the northwestern portion of Unit 12, and road systems along Units 11, 13A, and 13B (La Vine et al. 2013).

Harvest History

All harvested wolverines are required to be sealed by the State. Wolverine harvest in Unit 11 remains relatively low given the amount of potential wolverine habitat that is available. Between 2000/2001 and 2011/2012, an average of 11 and 41 wolverines/year were reported harvested in Units 11 and 13, respectively (**Figure 1**) (ADF&G 2017). The opening dates for the wolverine trapping season typically has been Nov. 10 and prior to 1985 closed on March 31. During the period between 1971 and 1984 the average annual harvest was 28 animals in Unit 11. During the period from 1985 to 1991, when the harvest season was shortened to Nov. 10 to Feb. 28, the annual wolverine harvest dropped to 10 animals in Unit 11. The annual wolverine harvest remained at about 10 animals between 1992 and 2007 despite a shorter trapping harvest season in Unit 11 from Nov. 10 to Jan. 31. The wolverine Federal trapping season was lengthened in Unit 11 to Feb. 28 in 2008. From 2007-2011 an average of 11 wolverines (range 8-14) were harvested annually in Unit 11. From 2007 to 2011 approximately 36% of the harvest was female and 64% male (Robbins 2013). The lack of easy access, low harvest, and the high percentage of males and relatively few trappers suggests that the longer Federal trapping season in Unit 11 is sustainable.

Unit 13 is more accessible than Unit 11 due to the proximity to the Glenn, Richardson, Parks, and Denali highways and this may account for the greater harvest pressure. This may be one of the factors why the wolverine trapping season on Federal public lands in Unit 13 has been a month shorter (Robbins 2015, pers. comm.). Most of the wolverine harvest occurs in Unit 13B, north of the Denali Highway, and averages about 12 animals per year (Robbins 2015, pers. comm.). The annual wolverine harvest in Unit 13 from 2007-2011, averaged 45 (range 37-63) (Robbins 2013). The percentage of females in the harvest was 37% from 2007-2011 (Robbins 2013).

Changes in harvest may or may not accurately reflect the effects of harvest on the wolverine population dynamics. Harvest fluctuations which can vary as much as 100% between years (**Figure 2, Figure 3**) can be the result of population fluctuations, changes in the hunter/trapper success rates, hunter effort, fur prices, and accessibility. Wolverine populations occur in low densities and thus are susceptible to overharvest.

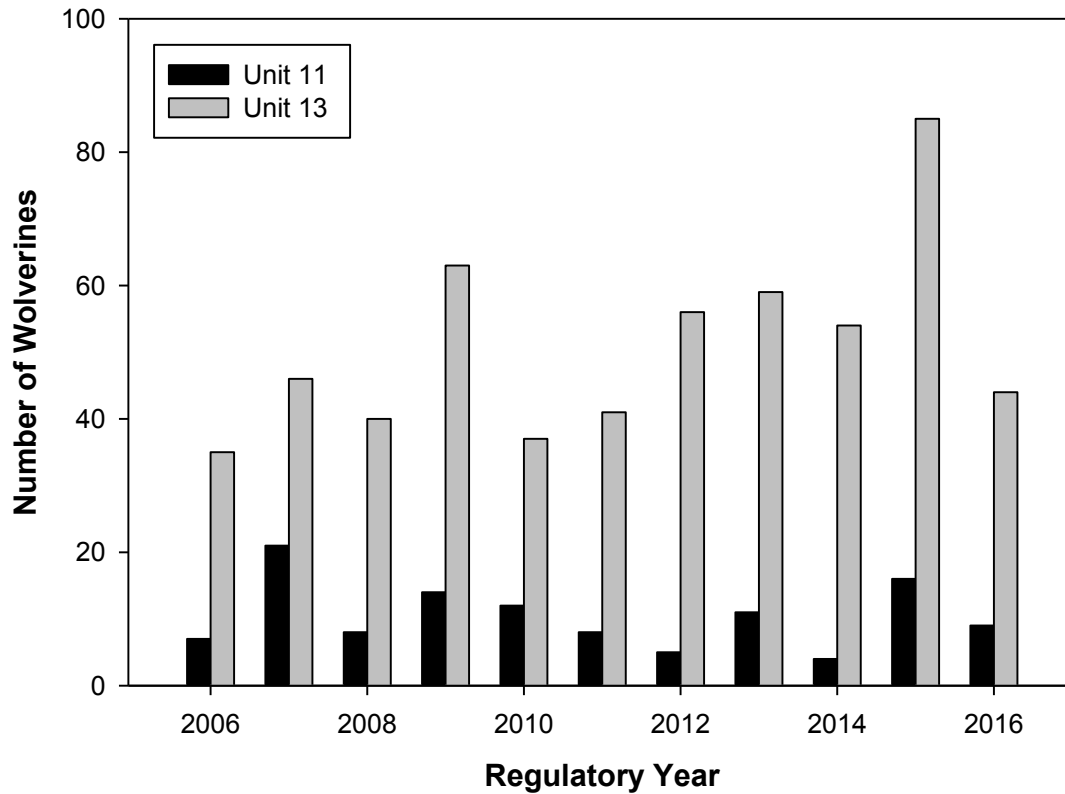


Figure 1. Wolverine harvest in Units 11 and 13, 2006-2016 (Schwanke 2010, Robbins 2013, ADF&G 2017)

Since male wolverines range widely over greater distances than females, males seem to be more susceptible to trapping and hunting. Hollis (2010) determined that if the percent of males harvested consistently falls below 50%, overharvesting may be occurring. The average percentage of males in the annual harvest in Units 11 and 13 from 2000/2001 and 2011/2012 was 65% and 60%, respectively (**Figures 2, 3**) (Schwanke 2010, Robbins 2013, Hatcher 2017 pers. comm.). Although most of the wolverines harvested from 2007-2011 in Units 11 and 13 were taken by trapping, up to 4 wolverines were shot each year in Unit 13. The high percentage of males in the harvest suggests that the wolverine populations in Units 11 and 13 are likely not being overharvested (**Figures 2, 3**) (Schwanke 2010, Robbins 2013, Hatcher 2017 pers. comm.).

In Unit 11, wolverine harvest occurred from November to February with the peak months being December through February during the period 2007-2011. In Unit 13 wolverine harvest occurred from September to February with the peak months being December and January during 2007-2011.

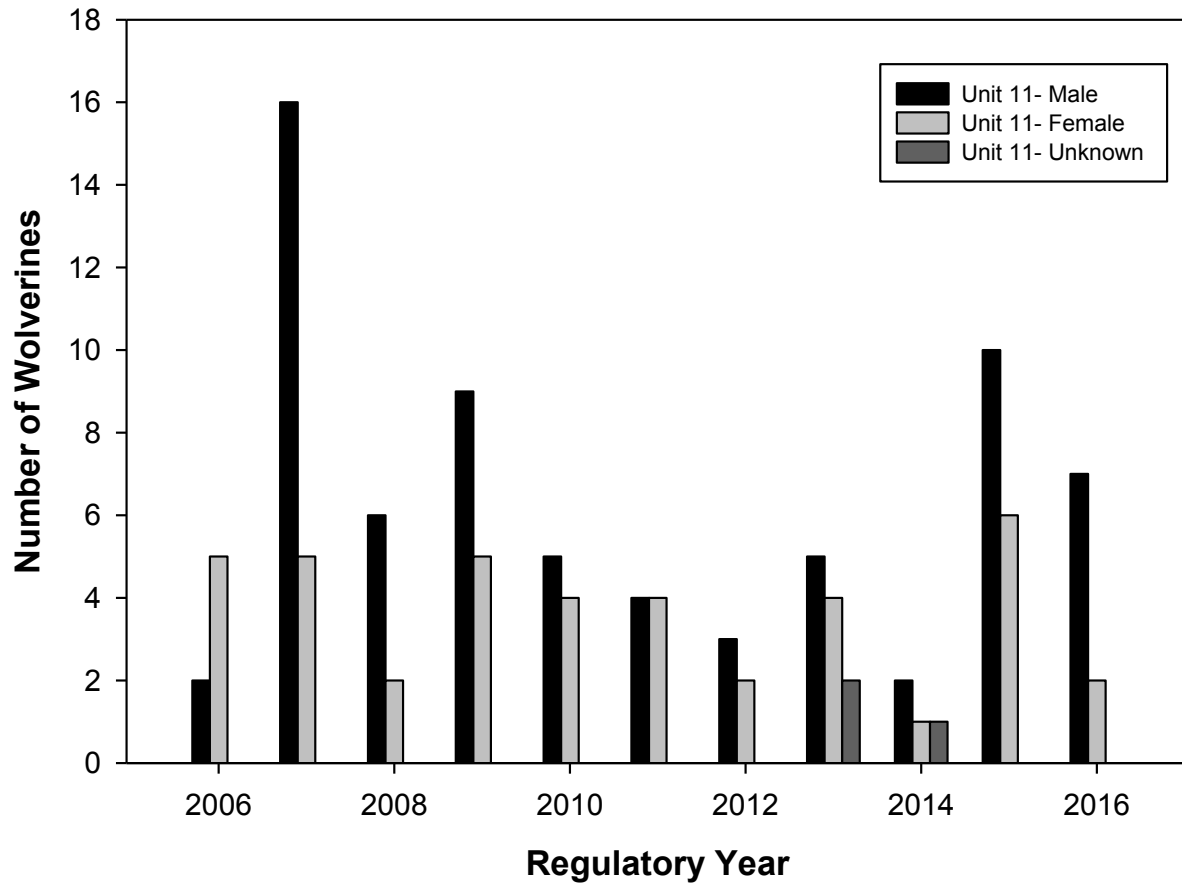


Figure 2. Unit 11 wolverine harvest by sex, 2006-2016 (Schwanke 2010, Robbins 2013, ADF&G 2017)

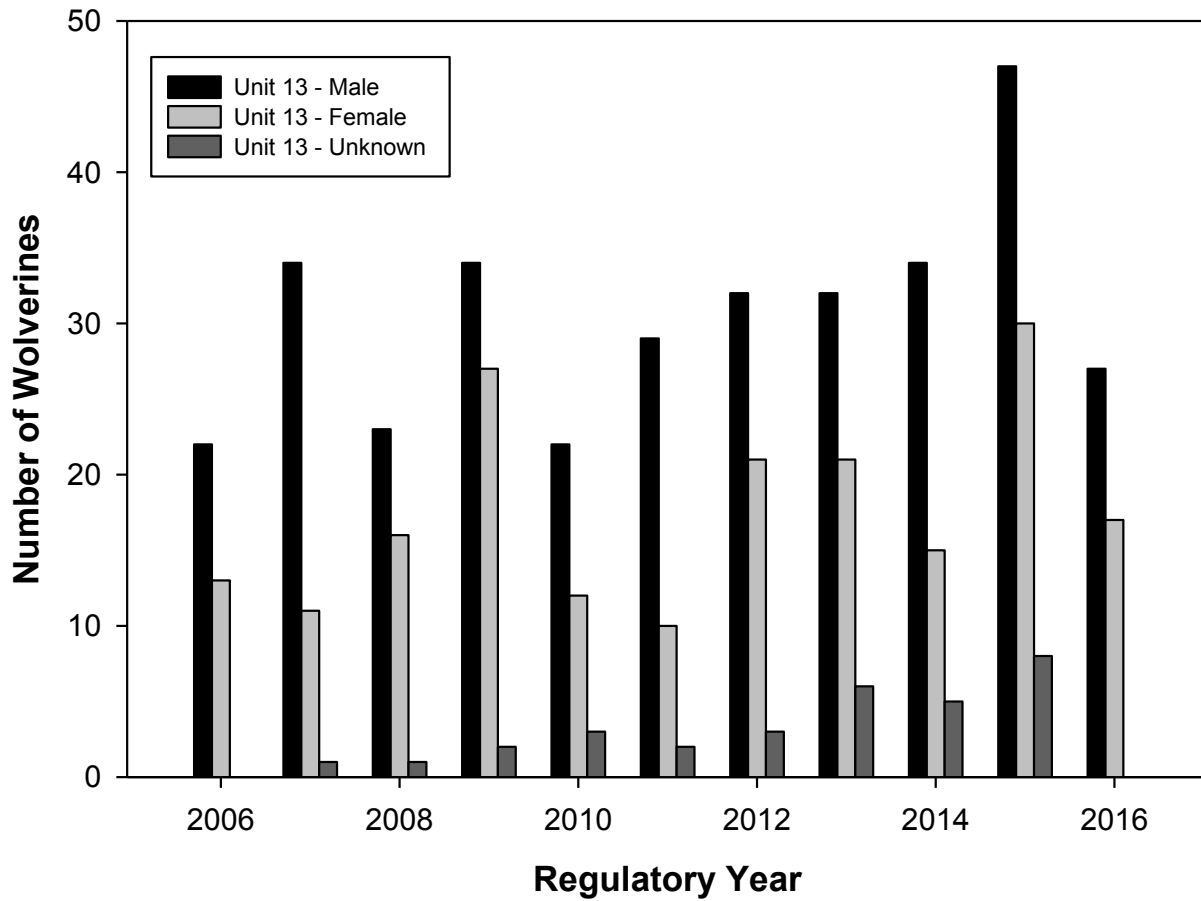


Figure 3. Unit 13 wolverine harvest by sex, 2006-2016 (Schwanke 2010, Robbins 2013, ADF&G 2017)

Other Alternatives Considered

One alternative considered was to extend the hunting season in Unit 11 and Unit 13 but not the trapping season in Unit 13 because of greater harvest rate and access in Unit 13 than Unit 11. In addition, the harvest opportunity is already being met in Unit 13 and seems to be currently sustainable with the hunting and trapping season closing on Jan 31. Combined with the lack of biological data on wolverine populations in Unit 13, it is difficult for managers to monitor the impacts from a trapping harvest season extension. In the past this was one of the factors why the wolverine season was a month shorter in Unit 13 than Unit 11. This alternative was not chosen because the original proposal provides more opportunity for FQSU.

Effects of the Proposal

If adopted, this proposal would add an additional 28 days to the wolverine hunting season in Units 11 and 13 and the hunting and trapping seasons in Unit 13. Extension of harvest and trapping seasons would allow more opportunities for Federally qualified subsistence users. It would also allow trappers to keep a wolverine incidentally caught in a lynx set.

If this proposal is adopted, the total annual harvest of wolverines in Units 11 and 13 is expected to increase. However, as only Federally qualified subsistence users would be able to hunt or trap during the extended season in February, trapping pressure may be less than during months when there are both Federal and State seasons. In addition, Federal public lands make up only 12% of Unit 13, so the proposed changes would be limited in scope if adopted.

Lynx and wolverines are often trapped in the same types of sets. If adopted, the Federal subsistence lynx and wolverine trapping seasons in Units 11 and 13 would be aligned, which would reduce incidental take issues (i.e. trapping a wolverine out of season when targeting lynx). However, incidental take is rarely reported, so it is difficult to determine how much incidental take actually occurs (Robbins 2015, pers. comm.). It is safe to assume, however, that such incidental take does occur with some regularity given the explanation provided by the proponent and previously-cited testimony of Ralph Lohse, former Chair of the Southcentral Alaska Subsistence Regional Advisory Council. Aligning the lynx and wolverine seasons may result in more accurate harvest reporting of wolverines and protect Federally qualified users from adverse law enforcement action for what is potentially unavoidable incidental take of wolverines during the lynx trapping season.

The biological impact of adopting this proposal to the wolverine population is uncertain. Wolverine populations are not known and they occur at low densities throughout Units 11 and 13 and thus are susceptible to overharvest. The best available information (trapper questionnaires) suggests that wolverine harvest in Unit 13 has been stable and appears sustainable. Changes in the harvest may or may not accurately reflect the effects of harvest pressure on the wolverine population dynamics. The extension of the trapping season in Unit 11 from January 31 to February 28 since 2008 has not resulted in a significant increase in the overall harvest (11 vs 10) when the harvest season was shorter. Accurate monitoring of the harvest is essential to determine the effects the extension to the harvest season would have on wolverines which occur in low densities in Units 11 and 13.

Adoption of this proposal would extend harvest into the denning period. While females likely only leave dens for short periods of time to access food caches or for other feeding opportunities, the risk of litter loss is slightly increased. In addition young wolverines would be more susceptible to being taken as they disperse.

OSM PRELIMINARY CONCLUSION

Support Proposal WP18-14.

Justification

Extending the wolverine trapping and hunting seasons on Federal public lands in Units 11 and 13 provides Federally qualified subsistence users with additional harvest opportunity and reduces the Federal regulatory complexity between the lynx and wolverine seasons. Aligning the lynx and wolverine seasons may result in more accurate harvest reporting of wolverines since they are occasionally caught in the same trap sets. Since the extended wolverine seasons are open only to Federally qualified subsistence users, and because Federal public lands in Unit 13 are limited, the increase in the harvest and trapping pressure should be minimal.

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Written Public Comments



Ahtna Intertribal Resource Commission

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July 26, 2017

Chairperson of Federal Subsistence
Board or his Designated Field Officer
Office of Subsistence Management
1011 E. Tudor Road, MS-121
Anchorage, Alaska 99503-6199

Dear Mr. Christensen or Designated Field Officer:

Enclosed are Ahtna Inter-Tribal Resource Commission's (AITRC) comments on 2018-2020 Federal Wildlife proposals. Please consider our viewpoint on wildlife proposals, when decisions are made on federal wildlife regulations.

Sincerely,

A handwritten signature in black ink that reads "Shirley Smelcer". The signature is written in a cursive, flowing style.

Shirley Smelcer, Chairperson of CRITR

Comments on 2018-2020 Federal Wildlife Proposals

Southcentral Subsistence Regional Advisory Council

WP18-14 Change season dates for wolverine hunting and trapping

We support Proposal WP18-14 to extending Unit 11 Wolverine hunting season to February 28th, and extending Unit 13 Wolverine hunting and trapping seasons to February 28th.

Wolverine population in Unit 11 and Unit 13 is considered to be healthy and abundant. There isn't a conservation concern for wolverine in these two game management units.

Other Federally qualified subsistence users and Ahtna People will be able to hunt and trap longer in these two GMUs, allowing more opportunity to harvest a wolverine for personal use or to sell for extra income.

Wolverine is commonly used for clothing, ruff, or for moccasins, coats or jackets. Wolverine fur is also sold to acquire extra income, which supplements cash, food cost and bills.

WP18-16 Extend winter season [Unit 11 moose]

We do not support WP18-16. See comments under WP18-17.

WP18-17 Extend season [Unit 11 moose] (CRITR)

We support Proposal WP18-17 to extend moose hunting season and to allow Ahtna Intertribal Resource Commission to distribute moose permits on federal public lands in Unit 11.

Moose population in Unit 11 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 11 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communities before moose permits are distributed to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AITRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capability to distribute Unit 11 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-18 Extend season [Unit 13 moose] (CRITR)

We support WP18-18 to extend moose season and to allow AITRC to distribute moose permits. Moose population in Unit 13 can sustain a moose hunt from August 1 to March 31. Moose population will not be depleted or over harvested by Ahtna tribal members who are federally qualified hunters. Bureau of Land Management Biologist reported in 2016 1,384 moose permits were distributed, 681 moose permits were used and 99 moose were harvested by federally qualified subsistence hunters. An increase of moose harvest on federal public lands will not occur with the newly established tribal moose hunt.

AITRC has management capability to distribute Unit 13 moose federal permits to Ahtna tribal members. A permitting system will be set up to allow proof of residency within the Copper Basin and Cantwell communities before moose permits are distributed to federally qualified tribal members. AITRC staff will monitor moose permit and hunting by tribal members. AITRC has a wildlife biologist on staff to help with moose hunt. AITRC has management capability to distribute Unit 13 moose permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since 2009. AITRC has experienced staff to distribute moose permits and ensure tribal hunters will return moose permits.

WP18-19 Caribou – Revise permitting system [Unit 13 caribou] (CRITR)

We support WP18-19 to allow AITRC to distribute Unit 13 Nelchina Caribou hunting permits to Ahtna tribal members, who are federally qualified customary and traditional use hunters.

AITRC has management capability to distribute Unit 13 Nelchina Caribou permits to tribal members. Ahtna, Inc. staff, who are on loan to AITRC has coordinated the Copper Basin Community Subsistence Hunt since the year 2009. AITRC has experienced staff to distribute Nelchina Caribou permits and ensure tribal hunters return caribou permits.

Eastern Interior Subsistence Regional Advisory Council

WP18-50 Extend season [Unit 11 moose]

We do not support WP18-50, we support WP18-17. See comments under WP18-17.

WP18-51 Statewide – Modify baiting restrictions to align State regulations

We support WP18-51 to modify bait regulations to align with State regulations. Federal regulations are more restrictive than State regulations. Adding skinned carcasses of furbearers and fur animals, small game, with the exception of the meat of birds, to bait bear regulations will align State and Federal regulations, provide more opportunities for federal subsistence hunters who use bait stations to harvest bears.

Traditional use of grease, parts of wild game, and other methods of harvesting bears at bait stations would occur, hunters who use bait stations would have an improved chance of harvesting a bear with more options to choose from to use as bait.

WP18-54 – Increase harvest limit and Delegate Authority to set harvest limit for [Unit 12 caribou] to be announced winter season

We do not support WP18-54 to change Unit 12 Caribou regulations to “up to 3 caribou” may be taken with a federal registration permit. This will increase the take of caribou beyond sustainable limits and will stress the herd in its winter range. We have seen overharvest of caribou in the past with liberal bag limit that has taken decades to recover. This is not a wise proposal and we oppose it..

WP18-55 Extend Winter and fall season [Unit 12 moose]

Unit 12 Moose

That portion within Tetlin National Wildlife Refuge Aug. ~~24~~ 20 - Sept. ~~29~~ 30

and those lands within the Wrangell-St. Elias National

Preserve north and east of a line formed by the

Pickeral Lake Winter Trail from the Canadian border

to Pickerel Lake – 1 antlered bull by Federal registration Nov. 1 - ~~Feb-28~~ Apr. 30

permit (FM1203)

We are neutral on WP18-55 to extend Unit 12 Moose season to allow longer hunting opportunity.

WP18–34 Executive Summary	
General Description	Proposal WP18–34 requests that the lynx trapping season in Unit 24A be lengthened from Nov. 1-Feb. 28 to Nov. 1-March 31. <i>Submitted by: Jack Reakoff of Wiseman.</i>
Proposed Regulation	<p>Units 19, 21, and 24—Lynx</p> <p><i>Units 19, 21, and 24 24B, 24C, and 24D—no limit</i> <i>Nov. 1-Feb. 28</i></p> <p><i>Units 24A—no limit</i> <i>Nov. 1-March 31</i></p>
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	

WP18–34 Executive Summary	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
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
WP18-34**

ISSUES

Proposal WP18-34, submitted by Jack Reakoff of Wiseman, requests that the lynx trapping season in Unit 24A be lengthened from Nov. 1-Feb. 28 to Nov. 1-March 31.

DISCUSSION

The proponent states that the lynx population is currently under-utilized in Unit 24A, and that snowshoe hare and lynx populations are rapidly increasing. The proponent also states that fur prices are low and that lengthening the trapping season for lynx would provide increase harvest opportunities for Federally qualified subsistence users. The proponent also mentions that this proposal would align the lynx trapping season with the wolverine trapping season in Unit 24A and with the lynx trapping season in Unit 25. The proponent claims that this would decrease user confusion and allow Federally qualified subsistence users to avoid incidental take of lynx while targeting wolves and wolverine.

Existing Federal Regulation**Unit 19, 21, and 24—Lynx**

Units 19, 21, and 24—no limit

Nov. 1-Feb. 28

Proposed Federal Regulation**Units 19, 21, and 24—Lynx**

Units 19, 21, ~~and 24~~ 24B, 24C, and 24D—no limit

Nov. 1-Feb. 28

Units 24A—no limit

Nov. 1-March 31

Existing State Regulation**Units 24, 25A, 25B, and 25D—Lynx**

Units 24, 25A, 25B, and 25D

No limit

Nov. 1 – Feb. 28

Extent of Federal Public Lands

Federal public lands comprise approximately 72% of Unit 24A, and consist of 59% Bureau of Land Management (BLM) managed lands, 11% National Park Service (NPS) managed lands, and 2% U.S. Fish and Wildlife Service (USFWS) managed lands (**Figure 1**).

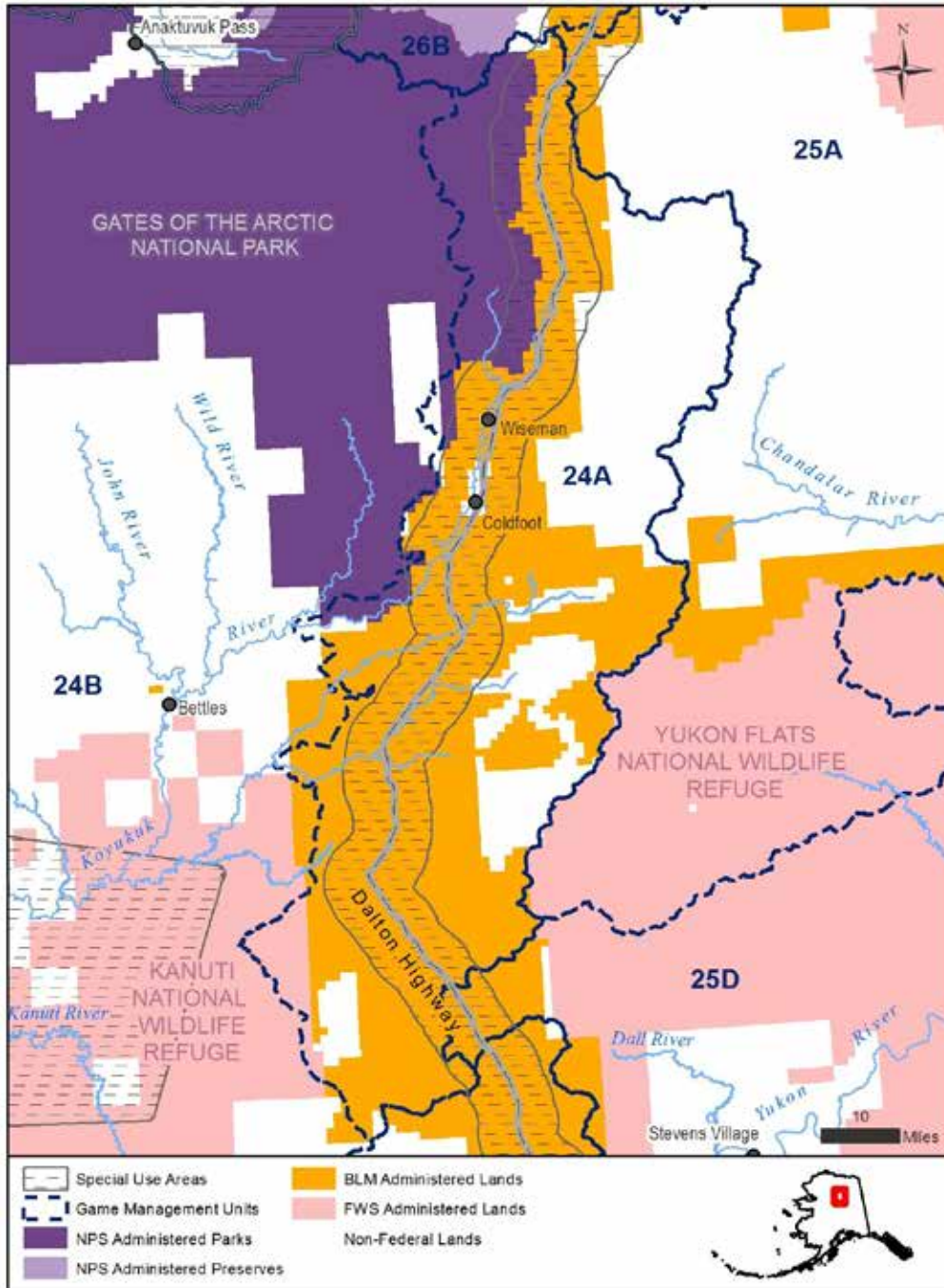


Figure 1. Federal public lands in Unit 24A.

Customary and Traditional Use Determinations

The Federal Subsistence Board (Board) has not made a customary and traditional use determination for lynx in Unit 24. Therefore, all Federally qualified subsistence users may harvest this species in this unit.

Regulatory History

In 1987, the Alaska Board of Game (BOG) adopted a “tracking harvest strategy” to manage lynx trapping seasons in the road-connected game management units of Interior and Southcentral Alaska. Under this strategy, lynx seasons were reduced and liberalized in response to cyclical fluctuations in lynx populations via emergency orders (Hollis 2010). In 1995, the Board endorsed the harvest tracking concept and temporarily adjusted the lynx trapping season via Special Action WSA95-05 to match the Emergency Order (6/30/95) put in place by the State.

In 2001, the Board adopted Statewide Proposal WP01-44, and issued a Delegation of Authority Letter allowing the Assistant Regional Director for the Office of Subsistence Management (OSM) to adjust lynx trapping regulations through the use of the Alaska Department of Fish and Game (ADF&G) tracking harvest strategy. This delegated authority required coordination with ADF&G and consultation with appropriate Federal land management agencies.

Both the State and Federal lynx trapping seasons in Unit 24 have remained unchanged for over a decade, with the exception of a slight modification in 2010 to include Feb. 29 in the State regulations to address user confusion related to leap years (Pamperin 2013).

Biological Background

State management goals for lynx in Unit 24A include to “protect, maintain, and enhance the furbearer populations and their habitats in concert with other components of the ecosystems” and to “provide for continued use of furbearers by local Alaska residents who have customarily and traditionally depended on these populations” (Pamperin 2013). Similarly, the State’s management objectives and activities are to “manage furbearer populations to maintain populations at levels sufficient to provide for sustained consumptive and nonconsumptive uses”, “to monitor harvest through fur sealing records and trapper questionnaires”, and to “monitor furbearer populations by reconnaissance surveys, trapper questionnaires, and trapper interviews” (Pamperin 2013).

Lynx are common in Alaska (USFWS 2013, Yom-Tov et al. 2007). Snowshoe hare are the predominant prey of lynx and are believed to comprise up to 83% of the species’ diet (Mowat and Slough 2003, O’Donoghue et al. 1997, USFWS 2013, 2017a, b; Yom-Tov et al. 2007). As a result, lynx populations fluctuate in direct response to changes in hare abundance (Yom-Tov et al. 2007). Snowshoe hare have a cyclical population trend that lasts from 8-11 years and lynx population numbers fluctuate in tandem with this trend with a lag of 1-2 years (O’Donoghue et al. 1997, USFWS 2013, 2017b; Yom-Tov et al. 2007).

Lynx populations in Unit 24 peaked in 2000 and reached a low in 2005, with the population beginning to increase again in 2006 (Hollis 2010). Continuation of this cycle would mean that lynx populations most

likely reached their peak again in 2010, reached their low around 2015, and began to increase in numbers around 2016 with the next population peak expected around 2020. This pattern was confirmed in an NPS study that found that snowshoe hare populations in the Wiseman area reached a peak between 2009-2011 (DiFolco et al. 2017). Work in the Wiseman area showed that snowshoe hares have what is known as a “super peak”, or abnormally high population spike, every other peak cycle (Churchwell 2017, pers. comm., DiFolco et al. 2017). Due to lynx populations typically following the snowshoe hare population cycle, it is expected that lynx also have modest population peaks between “super peak” cycles (Churchwell 2017, pers. comm., DiFolco et al. 2017). According to data in the Wiseman area, snowshoe hare populations are currently rebounding, and the region is approaching a “super peak” cycle (Churchwell 2017, pers. comm., DiFolco et al. 2017). The snowshoe hare population is expected to crash within the next 2-3 years, which will be followed by a crash in the lynx population in the area as well (Churchwell 2017, pers. comm., USFWS 2017b).

Lynx typically breed in March and April (USFWS 2013). Kittens are born from late April to mid-June, with litter sizes ranging from 1 to 6 kittens (USFWS 2013). Typically, females produce one litter per year, but may breed a second time if the litter is lost shortly after birth. Both male and female lynx are reproductively capable in their first year, though they rarely breed at that age. If yearling females do breed, they consistently produce smaller litters than older females. Reproductive output slows during the low phase of the hare cycle and there is some evidence that females may not produce a litter every year when hares are scarce (O’Donoghue et al. 1997, USFWS 2013).

Currently, the USFWS is conducting lynx capture operations and working with partners to monitor population fluctuations, habitat use, and movements at Tetlin National Wildlife Refuge (NWR), Koyukuk/Nowitna/Innoko NWRs, Yukon Flats NWR, Fairbanks, Wiseman, and Kluane National Park and Preserve (Bertram 2017, USFWS 2017a, b). This study is also meant to determine if trapping of lynx is additive or compensatory to provide a basis for future lynx management strategies and recommendations (USFWS 2017a, b). Snowshoe hare population monitoring has taken place in Gates of the Arctic National Park since 1997 (DiFolco et al. 2017) and the lynx trapping and collaring portion of this study was initiated in 2008 and then extended to Tetlin NWR, Kanuti NWR, Koyukuk NWR, and Yukon Flats NWRs in 2014 (USFWS 2017b).

Habitat

Lynx inhabit areas that are suitable for high density snowshoe hare survival (USFWS 2013). Lynx and hares typically inhabit boreal forest areas with gently rolling terrain and dense understory vegetation and persistent powdery snow (USFWS 2013). Mowat and Slough (2003) found that lynx in southern Yukon preferred regenerating habitats over mature spruce stands. This could suggest that previously burned areas provide favored habitat for lynx. Wildfire (the primary driver of boreal forest succession and habitat heterogeneity) frequency is forecast to increase as the Arctic climate warms (Joly et al. 2012), which could lead to more lynx and hare habitat in the region.

Cultural Knowledge and Traditional Practices

Unit 24A is situated primarily within the traditional boundaries of the Koyukon Athabascan cultural group. Among Koyukon Athabascans, lynx are called *kaazina* meaning “black tail” in English (Jones 1978, Nelson 1983). This species is considered to have a great spirit power, and women are taught that they must speak indirectly of them using the term *nodooya* meaning “something going around” (Jones 1978, Nelson 1983). The Koyukon considered lynx an excellent food source, but women were strictly forbidden from eating it as it was thought that they would lose one or more living children or experience a miscarriage.

Lynx are not considered a relative of any other animal and are said to have a type of spirit called *biyeega hoolaanh* meaning “they are shadows” (Jones 1978, Nelson 1983). This spirit is thought to be rivaled only by those of wolverine, bear, and wolves. If lynx are disrespected in any way, it was thought that the antagonist would either become ill or never be able to harvest another lynx. A short story reiterates this belief (Nelson 1983):

In the Distant Time, the bear and lynx were talking. The bear said that when humans began hunting him they would have to treat him right. If he was mistreated by someone, that person would get no bears until he had gray hairs on his head. But the lynx said that people who mistreated him would never get a lynx again in their lives.

Koyukon trappers generally consider lynx fairly easy to catch using steel snares or traps (Nelson 1983). Traditionally trappers would use small wooden dolls on each side of a baited snare to represent two women that were killed in a cultural legend pertaining to this species. Trappers also often draw a face on a tree near the traps. Use of lynx pelts among the Koyukon was limited since only men were permitted to wear clothes made from it. Koyukon stories tell of ancient lynx that suffered from stiff joints; if boys were allowed to wear lynx boots they were thought to later develop arthritis. Upon skinning a lynx, the leg joints would be partially severed and the carcass (including organs that were not typically eaten) was taken to a remote place and burned.

Today, Unit 24 is transected along its length by the James W. Dalton Highway (Dalton Highway) and encompasses two communities, Wiseman and Coldfoot, though some residents of the unit reside in outlying areas. Construction of the Dalton Highway was completed in 1974 but was not open to the general public until December of 1994 (ADCCEA 2017). Coldfoot was established in the late 1890s as the result of nearby discoveries of gold (Holen et al. 2012). The community was originally named Slate Creek but was changed to Coldfoot in 1900, reportedly as a result of prospectors getting cold feet and returning home (Holen et al. 2012). The population of the area was recorded as 20 in 1900 and peaked at 350 between 1902 and 1904 (Holen et al. 2012). The community was completely abandoned by 1930. There were few intermittent residents following the abandonment but it was re-established in the 1970s as a result of the construction of the Dalton Highway and the Trans-Alaska Pipeline. As of 2010 there were 10 reported full-time residents of Coldfoot (ADCCEA 2017).

The original village site of Wiseman was established at the confluence of Wiseman Creek and Middle Fork Koyukuk River in 1908 and was formerly known as Wright’s City and Nolan (Holen et al 2012, ADCCEA 2017). At the beginning of the 20th century gold production near Coldfoot was in decline and gold was

found at Nolan Creek in 1907; this shifted mining activity to the Wiseman area (Holen et al 2012, ADCCEA 2017). Wiseman’s population was 320 in 1916 but following a decline in gold mining, the population declined to 53 by 1939 and to 14 by 2010 (Holen et al. 2012, ADCCEA 2017).

ADF&G’s Division of Subsistence conducted comprehensive household subsistence surveys in both Coldfoot and Wiseman in 2011 (Holen et al. 2012). While no households in Coldfoot reported use of small land mammals in the study year, approximately 60% of Wiseman households reported use of one or more of these species. Approximately 60% of households reported using and harvesting lynx specifically and approximately 13 individual lynx were harvested by Wiseman residents in 2011. Lynx were included in the top 10 resources used by Wiseman residents. Timing of small land mammal harvest is variable and dependent on snow depth.

Holen et al. (2012) reported that small land mammals and furbearers are very important to Wiseman residents for both personal use and as a source of income. Most of these animals were harvested for furs, but one key respondent noted that some residents consume lynx for food. The harvest of small land mammals for food consumption was less than 1% of the total harvest in 2011. Harvest of these species occurred in the study year along the Middle Fork Koyukuk River south of Coldfoot to the vicinity of Dietrich Camp landing strip, in an area east of Coldfoot toward South Fork Flats, and in an area northeast of Wiseman near Bob Johnson Lake.

Harvest History

In 2016, lynx were ranked as the third most important species by trappers in State Region III (Interior) and fur quality was reported as prime (Parr 2016). In Unit 24, harvest of lynx fluctuated with the lynx population cycle over the years (**Figure 2**; Pamperin 2013). During the “super peak” in 2000, harvest (based on lynx sealing records) was reported as 286 individuals, whereas the harvest dropped to 10 individuals during the population low in 2005 and reached 93 during the moderate peak in 2008 (Pamperin 2013). A majority of harvest consisted of adult lynx (**Table 1**; Pamperin 2013, Stout 2017 pers. comm.). Harvest was low between 2012 and 2016, corresponding to a low in the lynx population cycle during this time and lower trapper participation in recent years (Stout 2017, pers. comm.).

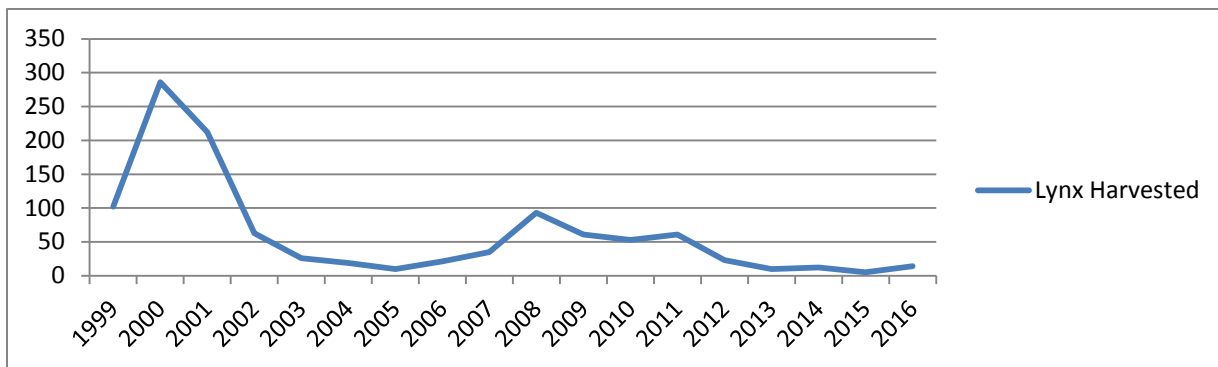


Figure 2. Lynx harvest in Unit 24 based on lynx sealing records provided to the State (Pamperin 2013, Stout 2017, pers. comm.). Data for 2016 is still being submitted, so 2016 data shown on this graph is preliminary and subject to change (Stout 2017, pers. comm.).

Table 1. Lynx harvest in Unit 24 based on lynx sealing records provided to the State (Pamperin 2013, Stout 2017, pers. comm.). Data for 2016 is still being submitted, so 2016 data shown in this table is preliminary and subject to change (Stout 2017, pers. comm.).

Unit 24 Reported Harvest of Sealed Lynx				
Year	Lynx Harvested	Adults Harvested	Juveniles Harvested	Unknown Harvested
1999	102	101	0	1
2000	286	244	24	18
2001	212	184	25	3
2002	63	60	2	1
2003	26	25	1	0
2004	19	19	0	0
2005	10	10	0	0
2006	21	18	1	2
2007	35	31	4	0
2008	93	86	6	1
2009	61	51	6	4
2010	53	50	1	2
2011	61	55	3	2
2012	23	22	0	1
2013	10	9	0	1
2014	12	9	0	3
2015	5	5	0	0
2016	15	14	1	0

Effects of the Proposal

If adopted, this proposal would add an additional 31 days to the Federal lynx trapping season in Unit 24A, providing Federally qualified subsistence users with additional harvest opportunities.

This proposal would align the lynx trapping season with the wolverine trapping season in all of Unit 24A, which would simplify Federal subsistence regulations. Lynx and wolverine are often trapped in the same types of sets (Parr 2016). This would allow Federally qualified subsistence users to harvest lynx and wolverines in the same trap line and would reduce the potential of incidental take of lynx out of season while targeting wolverine.

Some data shows that trapping could harvest a large portion of the lynx population (USFWS 2017b). One recent study reported that 100% of lynx fitted with radio collars near Fairbanks were trapped within a year (USFWS 2017b). It is currently unknown if trapping of lynx in Unit 24A represents additive (i.e. in addition to natural mortality) or compensatory (i.e. does not add to what would have died naturally during that year) mortality. It is also difficult to determine a population estimate for lynx due to the cyclical

nature of the population, although currently there are no indications of any biological concerns (Stout 2017, pers. comm., USFWS 2017b).

OSM PRELIMINARY CONCLUSION

Support Proposal WP18-34.

Justification

Aligning the wolverine and lynx seasons in Unit 24A, as requested by the proponent, would provide more opportunity for Federally qualified subsistence users and would decrease regulatory complexity. This would also decrease the potential of illegal incidental take for trappers who use the same style trap for both species, who may incidentally take lynx whether or not the regulations are modified.

The State (Stout 2017, pers. comm.) expressed that there is currently no biological concern pertaining to lynx in Unit 24A. Harvest and trapper effort varies with the lynx cycle. This proposal will allow trappers to harvest more lynx during the highs in the population cycle, which may help compensate for trapping years when the lynx population is low or declining.

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FISHERIES RESOURCE MONITORING PROGRAM

BACKGROUND

Beginning in 1999, the Federal government assumed expanded management responsibility for subsistence fisheries on Federal public lands in Alaska under the authority of Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA). Expanded subsistence fisheries management introduced substantial new informational needs for the Federal system. Section 812 of ANILCA directs the Departments of the Interior (DOI) and Agriculture (USDA), cooperating with the State of Alaska and other Federal agencies, to undertake research on fish and wildlife and subsistence uses on Federal public lands. To increase the quantity and quality of information available for management of subsistence fisheries, the Fisheries Resource Monitoring Program (Monitoring Program) was established within the Office of Subsistence Management (OSM). The Monitoring Program was envisioned as a collaborative interagency, interdisciplinary approach to enhance existing fisheries research, and effectively communicate information needed for subsistence fisheries management on Federal public lands.

Biennially, OSM announces a funding opportunity for investigation plans addressing subsistence fisheries on Federal public lands. The 2018 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 in **Figure 1**.

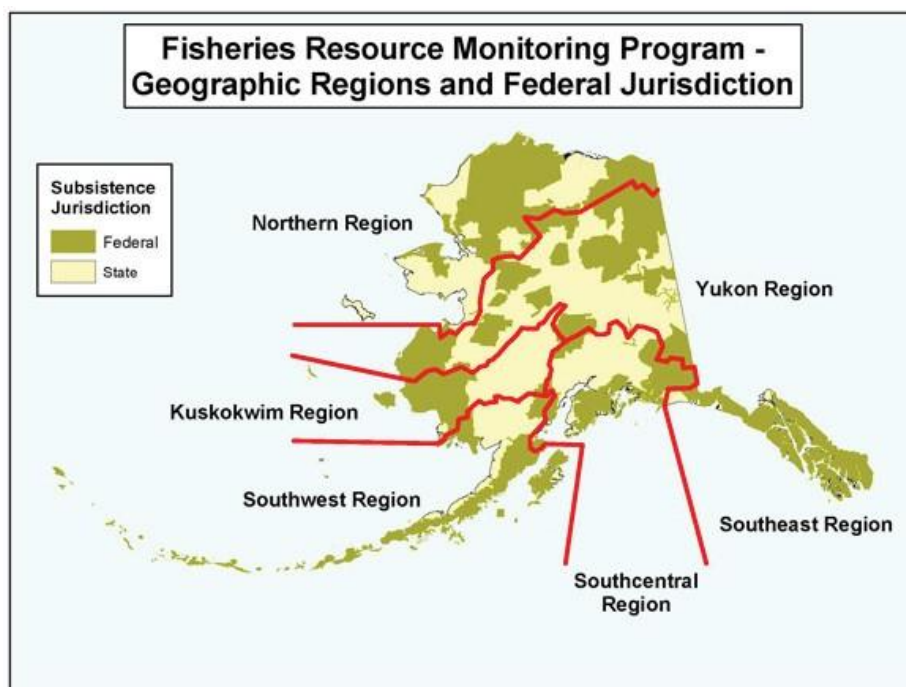


Figure 1. Geographic Regions for the Fisheries Resource Monitoring Program.

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. These plans identify prioritized information needs for each major subsistence fishery and are available for viewing on the Federal Subsistence Management Program website (<https://www.doi.gov/subsistence/frmp/funding>). Individual copies of plans are available by placing a request to OSM. Independent strategic plans were completed for the Yukon and Kuskokwim regions for salmon in 2005. For the Northern Region and the Cook Inlet Area, assessments of priority information needs were developed from regional working groups and experts on the Subsistence Regional Advisory Councils, the Technical Review Committee (a committee comprised of representatives from each of the five Federal agencies involved with subsistence management, and relevant experts from the Alaska Department of Fish and Game), and Federal and State managers, with technical assistance from OSM staff. Finally, a strategic plan specifically for research on whitefish species in the Yukon and Kuskokwim River drainages was completed in spring 2011 as a result of efforts supported through Monitoring Program project 08-206 (Yukon and Kuskokwim Coregonid Strategic Plan).

Investigation plans are reviewed and evaluated by OSM and Forest Service staff, and then 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 these five criteria: strategic priority; technical and scientific merit; investigator ability and resources; partnership and capacity building; and cost benefit.

Project abstracts and associated Technical Review Committee proposal scores are assembled into a draft 2018 Fisheries Resources Monitoring Plan. The draft plan is distributed for public review and comment through Subsistence Regional Advisory Council meetings, beginning in August 2017. The Federal Subsistence Board will review the draft plan and will accept written and oral comments at its January 2018 meeting. The Federal Subsistence Board takes into consideration recommendations and comments from the process, and forwards their comments to the Assistant Regional Director of OSM. Final funding approval lies with the Assistant Regional Director of OSM. Investigators will subsequently be 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 2001, a total of \$117.2 million has been allocated for the Monitoring Program to fund a total of 452 projects (**Figure 2; Figure 3**).

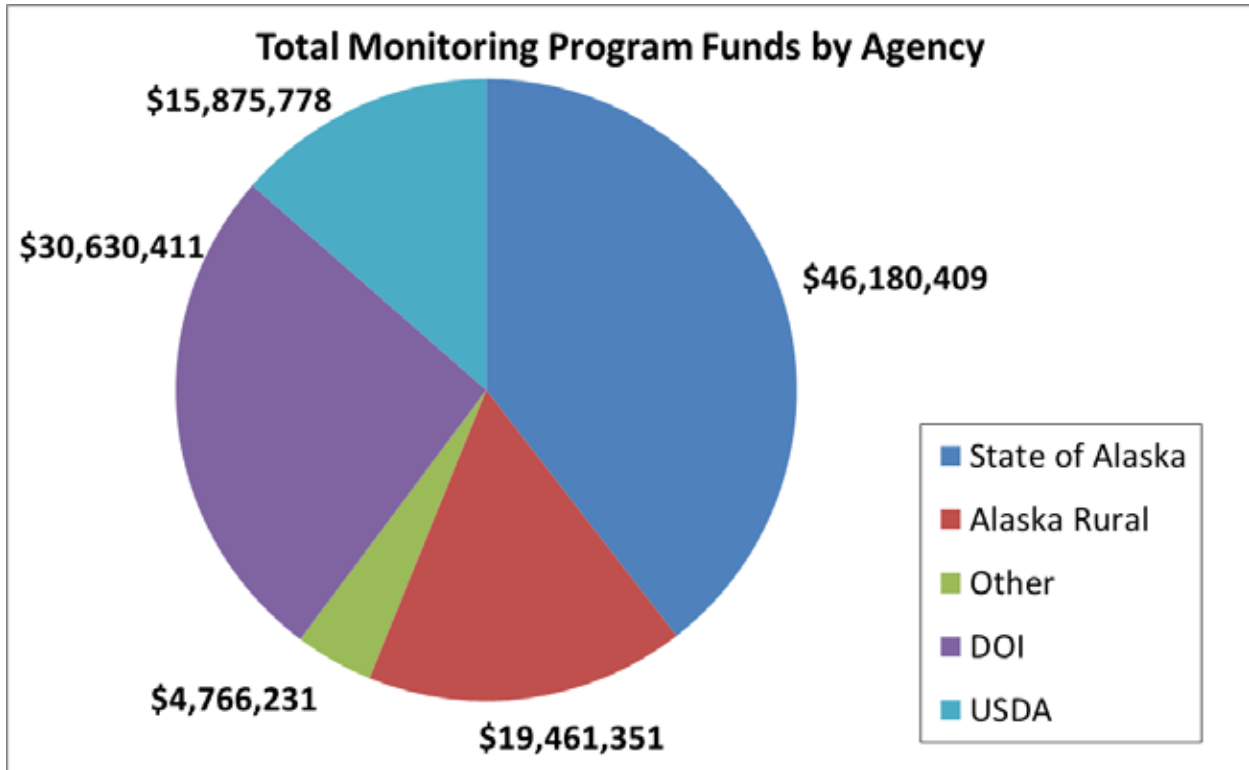


Figure 2. Total Project funds through the Monitoring Program from 2000 through 2016 listed by the organization of the Principal Investigator for projects funded. The funds listed are the total approved funds from 2000 to 2016. DOI = Department of Interior and USDA = U.S. Department of Agriculture.

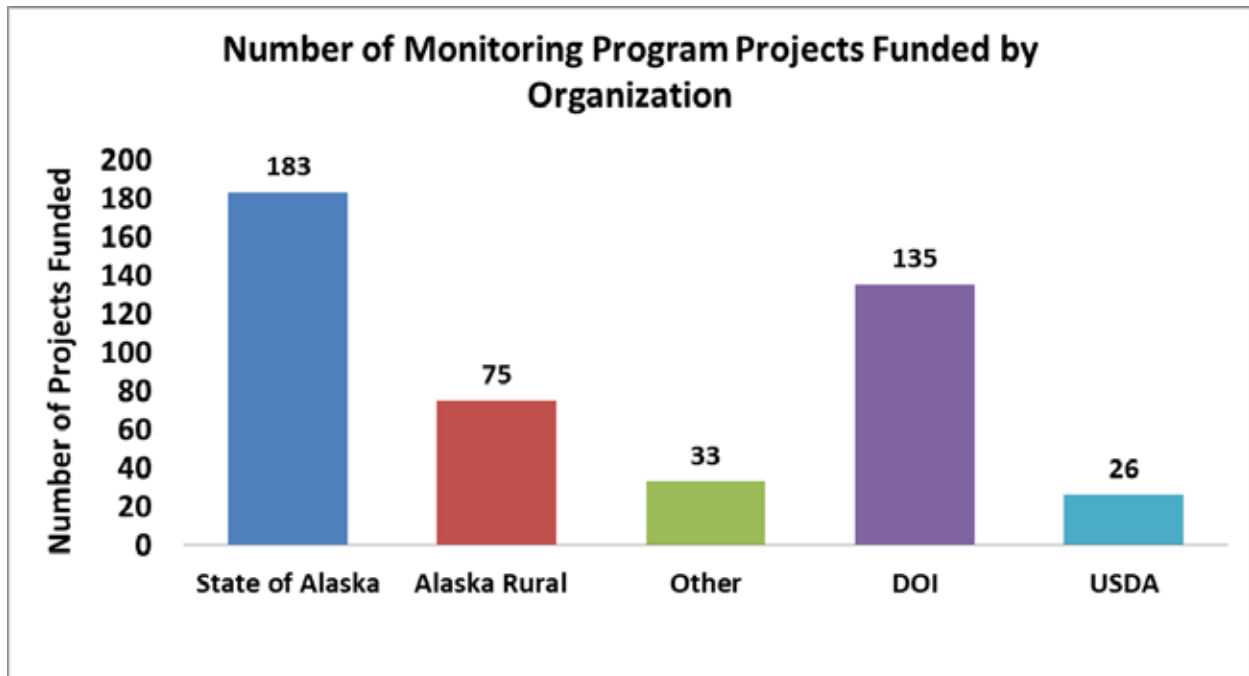


Figure 3. The total number of projects funded through the Monitoring Program from 2000 through 2016 listed by the organization of Principal Investigator. DOI = Department of Interior and USDA = U.S. Department of Agriculture.

During each biennial 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**) and data type. 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 with subsistence harvest. Budget guidelines provide an initial target for planning; however they are not final allocations and will be adjusted annually as needed (**Figure 4; Figure 5**).

Table 1. Regional allocation guideline for Fisheries Resource Monitoring Funds.

Region	Department of Interior Funds	U.S. Department of Agriculture Funds
Northern	17%	0%
Yukon	29%	0%
Kuskokwim	29%	0%
Southwest	15%	0%
Southcentral	5%	33%
Southeast	0%	67%
Multi-Regional	5%	0%

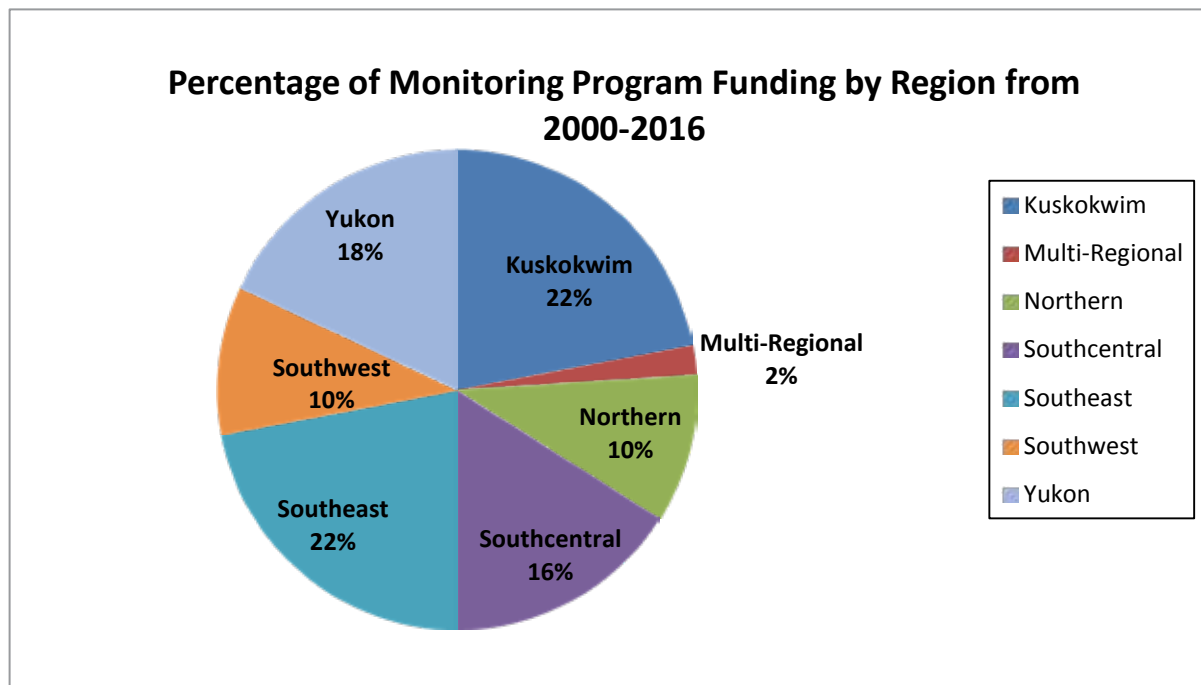


Figure 4. Total Project Funding by Geographic Region from 2000 through 2016.

Two primary types of research projects are solicited for the Monitoring Program including Harvest Monitoring/Traditional Ecological Knowledge (HMTEK) and Stock, Status and Trends (SST), although projects that combine these approaches are also encouraged. Project funding by type is shown in **Figure 5**.

Definitions of the two project types are listed below:

Harvest Monitoring and Traditional Ecological Knowledge (HMTEK) -These projects address assessment of subsistence fisheries including quantification of harvest and effort, and description and assessment of fishing and use patterns.

Stock Status and Trends Studies (SST) - These projects address abundance, composition, timing, behavior, or status of fish populations that sustain subsistence fisheries with linkage to Federal public lands.

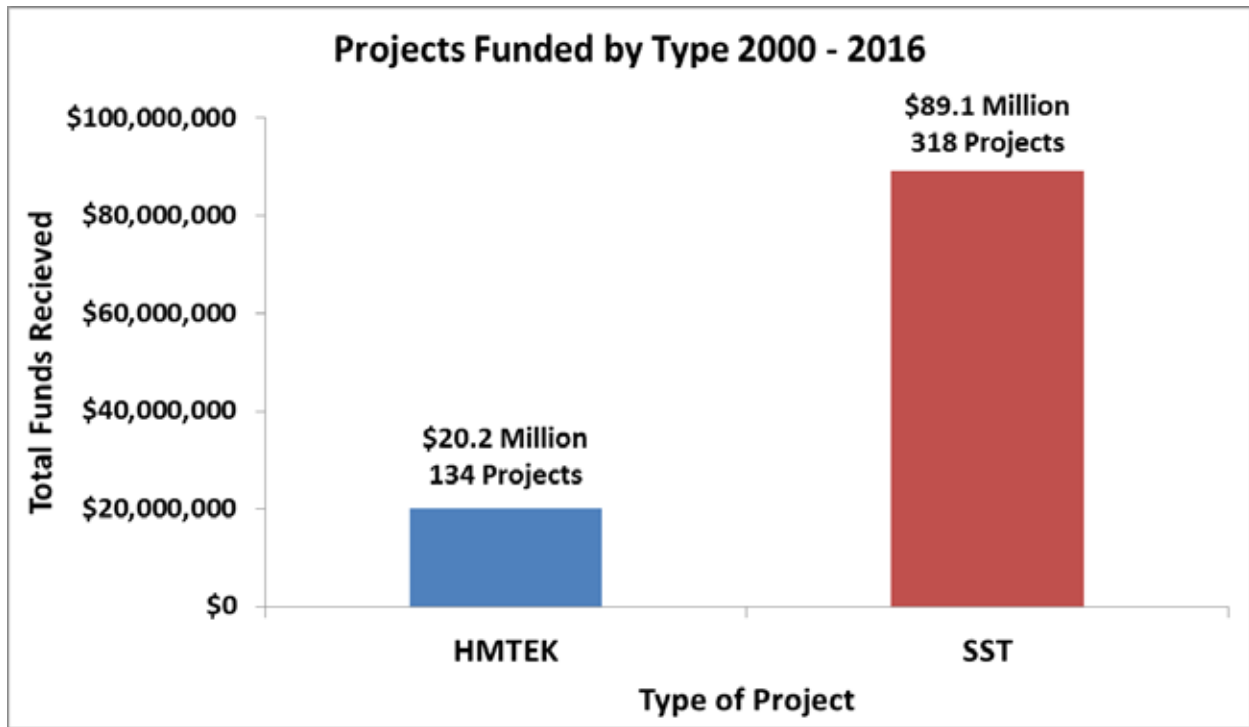


Figure 5. Total Project funding by type from 2000 through 2016. HMTEK = Harvest Monitoring/ Traditional Ecological Knowledge and SST = Stock, Status and Trends.

PROJECT EVALUATION PROCESS

In the current climate of increasing conservation concerns and subsistence needs, it is imperative that the Monitoring Program prioritizes high quality projects that address critical subsistence questions. 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 Program, technically sound, administratively competent, promote partnerships and capacity building, and are cost effective. Projects are evaluated by a panel called the TRC. This committee is a standing interagency committee of senior technical experts that is foundational to the credibility and scientific integrity of the evaluation process for projects funded by the Monitoring Program. The TRC reviews, evaluates, and make recommendations about proposed projects, consistent with the mission of the Monitoring Program. Fisheries and Anthropology staff from

the OSM provide support for the TRC. Recommendations from the TRC provide the basis for further comments from Subsistence Regional Advisory Councils, the public, the Interagency Staff Committee (ISC), and the Federal Subsistence Board, with final approval of the Monitoring Plan by the Assistant Regional Director of OSM.

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. Complete project packages need to be submitted on time and must address five specific criteria (see below) to be considered a high quality project. Five criteria are used to evaluate project proposals:

1. ***Strategic Priorities*** – Studies should be responsive to information needs identified in the *2018 Priority Information Needs* <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,**
 - **Conservation mandate,**
 - **Potential impacts on the subsistence priority,**
 - **Role of the resource, and**
 - **Local concern.**
2. ***Technical-Scientific Merit*** – Technical quality of the study design must meet accepted standards for information collection, compilation, analysis, and reporting. Studies must have clear objectives, appropriate sampling design, correct analytical procedures, and specified progress, annual, and final reports.
3. ***Investigator Ability and Resources*** – Investigators must show they are capable of successfully completing the proposed study by providing information on the ability (training, education, and experience) and resources (technical and administrative) they possess to conduct the work. Applicants that have received funding in the past will be evaluated and ranked on their past performance, including fulfillment of meeting deliverable 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*** – Collaborative partnerships and capacity building are priorities of the Monitoring Program. ANILCA Title VIII mandates that rural residents be afforded a meaningful role in the management of subsistence fisheries, and the Monitoring

Program offers opportunities for partnerships and participation of local residents in monitoring and research. Investigators must not only inform communities and regional organizations in the area where work is to be conducted about their project plans, but must also consult and communicate with local communities to ensure that local knowledge is utilized and concerns are addressed. Letters of support from local communities or organizations that will collaborate on the proposed project add to the strength of a proposal. Investigators and their organizations must 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.

Investigators are encouraged to develop the highest level of community and regional collaboration that is practical. 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. 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) must be clearly demonstrated in proposals.

5. *Cost Benefit*

Cost/Price Factors – An applicant’s cost/price proposal will be evaluated for reasonableness. For a price to be reasonable, it must represent a price to the government that a prudent person would pay when consideration is given to prices in the market. Normally, price reasonableness is established through adequate price competition, but may also be determined through cost and price analysis techniques.

Selection for Award – Applicant 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, taking into consideration the technical factors listed above and the total proposed price across all agreement periods.

POLICY AND FUNDING GUIDELINES

Several policies have been developed to aid in implementing funding. These policies include:

1. Projects of up to four years duration may be considered in any year’s monitoring plan.
2. Studies must not duplicate existing projects.
3. A majority of Monitoring Program funding will be dedicated to non-Federal agencies.

4. Long term projects will be considered on a case by case basis.
5. Capacity building is considered a critical component of all projects, and all investigators are expected to incorporate capacity building and partnerships within their projects.
6. Activities that are not eligible for funding include:
 - a) habitat protection, mitigation, restoration, and enhancement;
 - b) hatchery propagation, restoration, enhancement, and supplementation;
 - c) contaminant assessment, evaluation, and monitoring; and
 - d) 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.

2018 FISHERIES RESOURCE MONITORING PLAN

For 2018, a total of 53 investigation plans were received and 53 are considered eligible for funding. Of the projects that are considered for funding, 40 are SST projects and 13 are HMTEK projects.

For 2018, the Department of the Interior, through the U.S. Fish and Wildlife Service, will provide an anticipated \$1.0 to \$1.5 million in funding for new projects and up to \$1.6 million for ongoing projects that were initially funded in 2016. The U.S. Department of Agriculture, through the U.S. Forest Service, has historically provided \$1.8 million annually. The amount of U.S. Department of Agriculture funding available for 2018 projects is uncertain.

FISHERIES RESOURCE MONITORING PROGRAM YUKON REGION OVERVIEW

Since the inception of the Monitoring Program in 2000, 114 projects have been undertaken in the Yukon Region for a total of \$20.6 million (**Figure 1**). Of these, the State of Alaska conducted 26 projects, the Department of the Interior conducted 49 projects, Alaska Rural organizations conducted 19 projects, and other organizations conducted 20 projects (**Figure 2**). Eighty-six projects were Stock, Status, and Trends (SST), and 28 projects were Harvest Monitoring and Traditional Ecological Knowledge (HMTEK). A list of all Yukon Region Monitoring Program projects from 2000 to 2016 is provided in **Appendix A**.

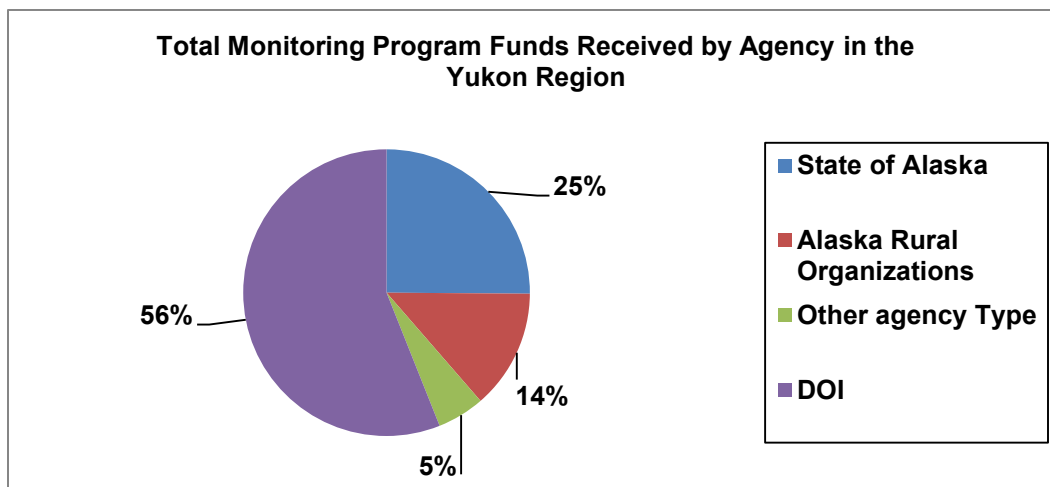


Figure 1. Monitoring Program funds received by agencies for projects in the Yukon Region. The funds listed are the total approved funds from 2000 to 2016. DOI = Department of the Interior.

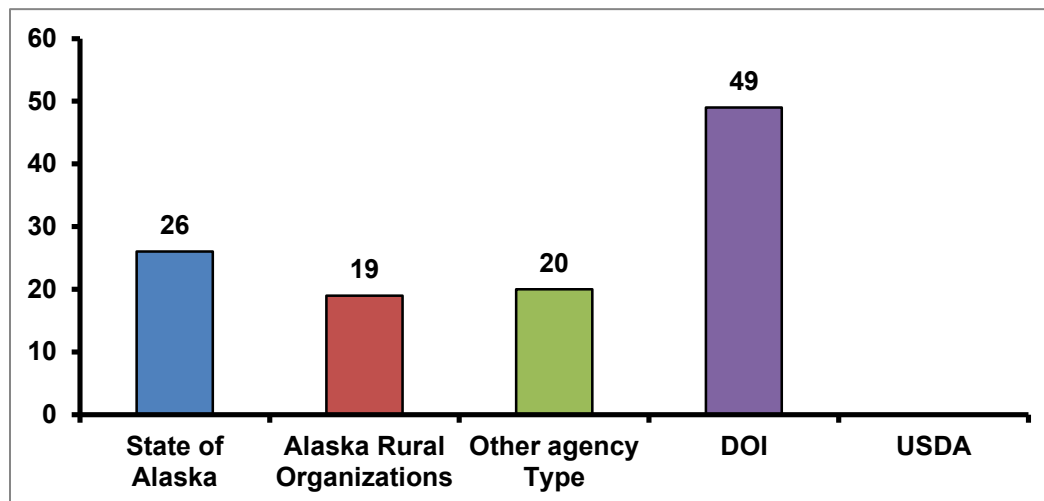


Figure 2. Total number of Monitoring Program projects funded, by agency, in the Yukon Region from 2000 to 2016. DOI = Department of Interior and USDA = U.S. Department of Agriculture.

2018 DRAFT YUKON REGION FISHERIES RESOURCE MONITORING PLAN

OVERVIEW

Priority Information Needs

The 2018 Notice of Funding Opportunity for the Yukon Region identified ten priority information needs:

- Reliable qualitative and/or quantitative estimates of salmon escapements and/or harvests.
- Salmon run timing and run strength from Yukon River District 5.
- Geographic distribution of salmon and whitefish species based on traditional ecological knowledge or other knowledge, and incorporation of anadromous information into the Anadromous Waters Catalog.
- A spatially robust indexing method for estimating species-specific whitefish harvest on an annual basis for the Yukon drainage.
- Methods for including “quality of escapement” measures (for example, potential egg deposition, sex and size composition of spawners, or spawning habitat utilization) in establishing Chinook Salmon spawning goals and determining the reproductive potential and genetic diversity of spawning escapements.
- A review of escapement data collection methods throughout the Yukon drainage to ensure that test fisheries are accurately accounting for size distribution and abundance of fishes (for example, are smaller Chinook Salmon being counted accurately).
- Assessment of incidental mortality with gillnets, with particular consideration for delayed mortality from entanglement or direct mortality from drop-outs (for example, loss of Chinook Salmon from 6-inch mesh net Chum Salmon fisheries).
- Harvest and spawning escapement changes through time in relation to changes in gillnet construction and use (for example, set versus drift fishing, mesh size changes) for Chinook Salmon subsistence harvests in the mainstem Yukon River.
- Incorporation of traditional ecological knowledge into fishery management processes.
- The effects of beaver dams on salmon spawning.

Available Funds

Federal Subsistence Board guidelines direct initial distribution of funds among regions and data types. Regional budget guidelines provide an initial target for planning. For 2018, the Department of the Interior through the U.S. Fish and Wildlife Service, will provide an anticipated \$1.0 to \$1.5 million in funding for new projects and up to \$1.6 million for ongoing projects that were initially funded in 2016. The U.S. Department of Agriculture, through the U.S. Forest Service, has historically provided up to \$1.8 million annually. The amount of U.S. Department of Agriculture funding available for 2018 projects is uncertain.

Technical Review Committee Proposal Score

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 (TRC) to develop the strongest possible Monitoring Plan for each region and across the entire state.

For the 2018 Monitoring Program, nine proposals were submitted for the Yukon Region. The TRC 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**, 1= first place, 2=second place, etc.). Projects that rank higher comprise a strong Monitoring Plan for the region by addressing strategically important information needs based on sound science and promote cooperative partnerships and capacity building. The projects listed are currently being considered for funding in the 2018 Fisheries Resource Monitoring Program. Projects which were not eligible due to the nature of the activity are not included. For more information on projects submitted to the 2018 Fisheries Resource Monitoring Program please see the abstracts in **Appendix B**.

Table 1. Technical Review Committee (TRC) score for projects in the Yukon Region. Projects are listed by TRC score and include the total funds requested and the average annual request for each project submitted to the 2018 Monitoring Program within the Yukon Region (1 = first place, 2 = second place, etc.). The projects listed are currently being considered for Funding in the 2018 Fisheries Resource Monitoring Program. Projects which were not eligible due to the nature of the activity are not included.

TRC Score	Project Number	Title	Total Project Request	Average Annual Request
1	18-251	Traditional knowledge of anadromous fish in the Yukon Flats with a focus on the Draanjik Basin	\$190,086	\$63,362
2	18-250	Documentation of salmon spawning and rearing in the upper Tanana River drainage	\$160,584	\$53,528
3	18-252	Subsistence salmon networks in Yukon River communities	\$331,742	\$110,581
4	18-202	Gisasa River Chinook and summer Chum Salmon abundance and run timing assessment, Koyukuk National Wildlife Refuge, Alaska.	\$583,676	\$145,919
5(tied)*	18-203	Application of mixed-stock analysis for Yukon River Chum Salmon	\$501,212	\$125,303
5 (tied)*	18-205	Yukon River Coho Salmon radio telemetry	\$429,910	\$214,955
5 (tied)*	18-201	East Fork Andreafsky River Chinook and summer Chum Salmon abundance and run timing, Yukon Delta National Wildlife Refuge, Alaska	\$678,485	\$169,621
6	18-204	Yukon River Coho Salmon mixed-stock analysis	\$96,000	\$24,000
7	18-200	Identification and protection of habitat for Chena River Chinook Salmon	\$46,661	\$15,554
Total			\$3,018,356	\$922,823

* Proposals with identical scores during the rating process may be further assessed by comparing the average annual cost. Proposals with a lower average annual cost may be ranked above a similar rated proposal that has a higher annual average cost

TECHNICAL REVIEW COMMITTEE JUSTIFICATION FOR PROJECT SCORE

TRC Score: 1
Project Number: 18-251
Project Title: Traditional knowledge of anadromous fish in the Yukon Flats with a focus on the Draanjik Basin

TRC Justification: This project seeks to identify and verify the salmon and whitefish species present in the Draanjik (Black River) drainage for the purpose of making nominations to Alaska's Anadromous Waters Catalog. Proposed methods include the use of traditional ecological knowledge, environmental DNA (eDNA), minnow traps and aerial surveys to document anadromous waters used for spawning and rearing of salmon and whitefish. The principal investigators will use their findings to submit nominations to the Anadromous Waters Catalog for all waterbodies in which salmon and whitefish were documented in this drainage.

This project contains a linkage to Federal public lands/waters for subsistence use as the Draanjik (Black River) flows within and adjacent to the Yukon Flats National Wildlife Refuge. Salmon and whitefish in this drainage are harvested by residents of the proximal communities of Fort Yukon and Chalkytsik, both of which have customary and traditional use determinations for salmon. This proposal directly addresses the priority information need submitted by the Eastern Interior Subsistence Regional Advisory Council: *documentation of the geographic distribution of salmon and whitefish species based on traditional ecological knowledge or other knowledge, and incorporation of anadromous information into the Anadromous Waters Catalog.*

The results of the project will assist managers in understanding fish distribution within the watershed. Inclusion in the Anadromous Waters Catalog enables fisheries managers and biologists to better understand and evaluate sustainable harvest levels, protect habitats necessary for spawning, rearing, and migrating of anadromous fishes. The results would have wide geographic implications considering that management implications of inclusion in the Anadromous Waters Catalog would protect several anadromous species that utilize waters outside of the drainage in various stages of their life history.

The project will use ethnographic and biological methods to document fish presence and life history characteristics. The researchers propose following a rigorous sampling and research design, both in the traditional ecological knowledge components of the work and in the biological sampling of fish and eDNA. The proposal also suggests that important partnerships and capacity building with local residents and tribal organizations will be possible. Tribal governments will select the local research assistants to assist with the project. Local research assistants will be trained to carry out several aspects of the fieldwork and associated logistics and will also be trained to utilize biological sampling equipment. The Tribal Councils will be consulted in the development of project design and timing of field work. Letters of support were provided by the Chalkitsik Village Council, the Gwichyaa Zhee Gwich'in Tribal Government, the Venetie Village Council, the Yukon Flats National Wildlife Refuge and the Alaska Department of Fish and Game. The average annual cost of the project is \$60,209.

TRC Score: 2
Project Number: 18-250
Project Title: Documentation of salmon spawning and rearing in the upper Tanana River drainage

TRC Justification: This study addresses the Yukon Region priority information need identified in the 2018 Notice of Funding Opportunity, “*Geographic distribution of salmon and whitefish species based on traditional ecological knowledge or other knowledge, and incorporation of anadromous information into the Anadromous Waters Catalog.*” Evidence strongly suggests a much wider distribution of salmon in the Chisana and Nabesna drainages than is documented in the Anadromous Waters Catalog. The two largest tributaries of the upper Tanana River are the Chisana and Nabesna Rivers. Both drainages are almost entirely encompassed within Tetlin National Wildlife Refuge and Wrangell St. Elias National Preserve. While residents in the upper reaches of the Tanana River harvest the majority of their salmon from the Copper River or in the Yukon River near Eagle, they do harvest some salmon in the Tanana River. The proposal did not adequately address why the information is needed in this area at this time.

This project will utilize a combination of social and biological science methods. Documentation and verification of salmon spawning and rearing areas will be conducted over two open water seasons (2018 and 2019). Sampling during the first season will include minnow trapping and water sampling to test for environmental DNA (eDNA) in areas of the Chisana and Nabesna drainages previously identified as potential salmon spawning or rearing areas. Sampling during the second season will include minnow trapping in any areas identified during interviews with local knowledgeable residents and additional tributaries with positive eDNA results. All verified waters used by salmon will be submitted for listing in the Anadromous Waters Catalog. The investigation plan lacks a complete explanation of ethnographic methods and how the information will be used. The sampling protocol describes one eDNA sample event per site, which is not considered adequate for accurately determining the presence of fish species within a waterbody. Finding juveniles through trapping methods can be difficult, and widespread use of electrofishing should be considered to verify eDNA findings.

This project is designed in partnership with Yukon River Drainage Fisheries Association and Tanana Chiefs Conference. In separate proposals, they are focusing on Yukon Flats (18-251) while this proposal focuses on the upper Tanana River drainage. The proposals each stand-alone but, if funded, will collaborate through mirrored methodology and consultation during the analysis phase. By forming this partnership investigators are incorporating an inter-regional initiative to expand the information in the Anadromous Waters Catalog and to assist with capacity building efforts with a new sampling technique.

Investigators are qualified to conduct the research and provided resumes. Investigators provided multiple letters they received supporting the project. The average annual cost of the project is \$53,528. The cost is reasonable for the work being proposed. The Alaska Department of Fish and Game is contributing \$27,712 (\$6,928 per year) in matching funds.

TRC Score: 3
Project Number: 18-252
Project Title: Subsistence salmon networks in Yukon River communities

TRC Justification: This project proposes to describe how salmon are shared within, between, and beyond the communities of Pilot Station, Nualto, and Beaver using social network analysis. The specific goal of this project is to provide information on how social networks “function in the allocation and management of subsistence resources... and how such a model might be applied and utilized in Federal subsistence management.” The project generally addresses a Yukon Region priority information need requesting “incorporation of traditional ecological knowledge into fisheries management processes.” The technical and scientific merits are strong, as is investigator capacity, and the cost of the project is reasonable for the research proposed.

This project addresses an immediate subsistence concern; it would highlight and advance understanding of harvesting, processing, and sharing Chinook Salmon on the Yukon River, cultural practices that are currently at risk.

There is no rural, Alaska Native, or Tribal organization involved as a meaningful partner and no letters of support were included with the proposal. Investigators claim building local capacity as a project objective, however, capacity building as described by this objective and indicated throughout the investigation plan is simply standard practice for the Division of Subsistence. One local research assistant from each project community will be hired to assist with the administration of the survey and local logistics. Resolutions of support are being sought from participating communities. The principal investigator has a track record of maintaining relationships and working closely with rural organizations. A similar project with Dr. Gerkey is currently under way in Southwest Alaska for Monitoring Program project 16-451. The average annual cost of the project is \$110,000.

TRC Score: 4
Project Number: 18-202
Project Title: Gisasa River Chinook and summer Chum Salmon abundance and run timing assessment, Koyukuk National Wildlife Refuge, Alaska

TRC Justification: The Gisasa River weir is an established Monitoring Program project, operating since 1994. This project provides important in-season information on tributary run strength, run timing, and quality of escapement for management decisions. This project is located within the Koyukuk National Wildlife Refuge boundaries, and addresses Chinook and Chum Salmon populations that are harvested by Federally qualified subsistence users from the mouth of the Yukon River and into the Koyukuk River. Gisasa River stocks contribute an unknown amount to subsistence harvests in villages of the lower Yukon River, which have harvested approximately 19,000 Chinook Salmon, and 51,500 summer Chum Salmon annually (2002 – 2011 average). Currently the project uses video technology to count fish as they pass the weir. Also, the investigator is proposing to use video data to collect length frequencies on all adult Chinook and Chum Salmon, particularly during periods of high water levels or high water temperatures, which can reduce stress on fish and allow crews to collect data when they typically couldn’t in the past.

The majority of the methods used have a proven track record to achieve the results, and have gone through rigorous sampling design review. The systematic sampling used at the weir was designed

according to the recommendations of Cochran (1977); these data have been evaluated for performance, and are among the most reliable types of data collected for migratory salmon. The project answers immediate conservation concerns by providing vital data to in-season fisheries managers about fish stocks in the lower Koyukuk River. Primary investigator lays out a complete plan to show when progress, annual, and final reports will be submitted. This project addresses the following Priority Information Needs presented in the 2018 FMRP Notice of Funding Opportunity: *reliable qualitative and/or quantitative estimates of Chinook Salmon and Chum Salmon escapements, methods for including “quality of escapement” measures (e.g., egg deposition, sex and size composition of spawners, or spawning habitat utilization) in establishing Chinook Salmon spawning goals and determining the reproductive potential and genetic diversity of spawning escapements, and harvest and spawning escapement changes through time in relation to changes in gillnet construction and use (e.g., set versus drift fishing, mesh size changes) for Chinook Salmon subsistence harvests in the mainstem Yukon River.*

The investigators have supplied a resume and have participated in several Fisheries Resource Management Program funded projects on the Gisasa River weir. They have experience building, installing, and repairing resistance board weirs, and had a major role in incorporating video monitoring into the Gisasa and Andreafsky weirs. The investigators have received two letters of support, from the Alaska Department of Fish and Game and from Tanana Chiefs Conference. The proposal does include hiring either locally or a student from the Alaska Native Science and Engineering Program (ANSEP). The total cost of the project is \$859,825 for the four years of the project, of which \$276,149 is match from the Fairbanks Fish and Wildlife Field Office. The average annual cost to the monitoring program is \$145,919, which is reasonable throughout the agreement periods and is reasonable for the work being proposed.

TRC Score: 5 (tied)
Project Number: 18-203
Project Title: Application of mixed-stock analysis for Yukon River Chum Salmon

TRC Justification: The investigators seek funding to continue in-season mixed stock genetic analysis of Yukon River summer and fall Chum Salmon. The samples, collected at the Pilot Station sonar run by the Alaska Department of Fish and Game, are shipped to the United States Fish and Wildlife Genetics Conservation Lab in Anchorage for analysis. Stock composition estimates will be available to fisheries managers within 24-48 hours, supporting the in-season management of Chum Salmon as these stocks progress up the Yukon River. This proposal will estimate stock composition of both summer run and fall run Chum Salmon as they pass through the lower Yukon River, are harvested in, or spawn in the Yukon Delta, Innoko, Koyukuk, Nowitna, Yukon Flats, Arctic, Kanuti, and Tetlin NWR's, along with the White Mountain National Recreation Area, Steese National Conservation Area, Yukon Charley Rivers National Preserve, and Denali National Park. Federally qualified subsistence users harvested an average of 73,959 summer and 81,639 fall Chum Salmon annually from 2006-2010, making these stocks very important to subsistence users of the region.

The application of mixed-stock analysis for Yukon River Chum Salmon has wide geographic implications, affecting the in-season management of summer and fall run Chum Salmon throughout the

drainage. The data from this project, along with the sonar estimates, are used by Alaska Department of Fish and Game and United States Fish and Wildlife to estimate stock abundance in the lower Yukon River which facilitates the management of the fishery. Stock identification as fish enter the lower river allows fisheries managers to time fishing opportunities, potentially minimizing harvest on weak stocks as they travel up the river. The study design is sound and relatively uncomplicated and is greatly benefitted by data inputs that are based on several decades of genetic stock biology and sonar enumeration research and application. The project addresses the priority information need: *Reliable qualitative and/or quantitative estimates of salmon escapements and/or harvests.*

The investigators have extensive experience with this type of project and the principal investigator has been the lead investigator on this project since its inception in 2004. The project plans to partner with the Association of Village Council Presidents to employ a local hire for collecting genetics samples at Pilot Station. The investigator's plan to cooperate with Alaska Department of Fish and Game with sample collections and will share data with them for in-season management. The average requested amount is \$125,303, which represents a decrease from the 2014 funding amount from the Fisheries Resource Monitoring Plan.

TRC Score: 5 (tied)
Project Number: 18-205
Project Title: Yukon River Coho Salmon Radio Telemetry

TRC Justification: The investigators seek funding to conduct radio telemetry on Coho Salmon in the Yukon River Drainage. A total of 300 Coho Salmon will receive esophageal radio tags with uniquely numbered external spaghetti tags. Capture will occur near Russian Mission on the Lower Yukon and tracking would occur in the mainstem Yukon River up to the oil pipeline crossing, including tributaries such as the Koyukuk and Tanana Rivers. This is a two year project that is broken into two parts: the first year is spent setting up telemetry sites and purchasing equipment, and the second year will involve tagging and tracking Coho Salmon. The results of this project will give managers a better understanding of migratory distribution patterns, run timing and spawning areas of Coho Salmon in the Yukon River Drainage. This proposal aims to gain baseline information on the Coho Salmon stocks within the Yukon River and that migrate through, are harvested in, or spawn in the many Federal public waters located on the Yukon Delta, Innoko, Koyukuk, Nowitna, Yukon Flats, Arctic, Kanuti, and Tetlin National Wildlife Refuges, along with the White Mountain National Recreation Area, Steese National Conservation Area, Yukon Charley Rivers National Preserve, and Denali National Park.

This project addresses a subsistence resource used throughout the drainage that has seen increased exploitation in the last 5 years. However, the majority of this increase in harvest is taken coincidentally in the commercial fishery while targeting fall Chun Salmon below the Alaska Department of Fish and Game Sonar located in Pilot Station. The project addresses the priority information need: *geographic distribution of salmon and whitefish species based on traditional knowledge or other knowledge, and incorporation of anadromous information into the Anadromous Waters Catalog.*

The investigators have the abilities and resources to fully accomplish a project of this magnitude. They have support from Tanana Chiefs Conference, The Iqurmiut Traditional Council, United States Fish and Wildlife Service Fairbanks Field Office, and Bureau of Land Management. The proposal included both the budget justification and budget tables and the average annual cost to the monitoring program would be \$214,955. Telemetry projects are expensive to operate and require a large amount of equipment costs up front. The long distances and difficulty involved with accessing a project of this magnitude increase the helicopter and airplane costs over what may be seen in smaller systems. For example, radio tags in year one exhausts about 26% of the requested budget, and helicopter time to maintain radio telemetry sites uses another 30%. The investment into a project with high costs that only collects data for one year is hazardous, as many situations can arise during the one year that may affect the outcome of the project. The costs, while high, are in line with a project of this magnitude. The Technical Review Committee suggests collecting Coho Salmon genetic samples while capturing fish to add value to the project.

TRC Score: 5 (tied)
Project Number: 18-201
Project Title: East Fork Andreafsky River Chinook and summer Chum Salmon abundance and run timing, Yukon Delta National Wildlife Refuge, Alaska

TRC Justification: The East Fork Andreafsky River weir is an established monitoring project, operating since 1994. This project provides important information on tributary run strength and quality of escapement for in-season management decisions, especially during years with low returns as it is one of the few escapement projects that monitor populations down river of the majority of the subsistence harvest on the Yukon River. Additionally, the East Fork of the Andreafsky River is one of only two on the U.S. portion of the Yukon River to have escapement goals for both Chinook and Chum Salmon. This project is located within the Yukon Delta National Wildlife Refuge boundaries, and addresses Chinook and Chum Salmon populations that are harvested by Federally qualified subsistence users from the mouth of the Yukon River upstream to the village of St. Mary's. Stocks headed for the Andreafsky River contribute to the approximately 11,000 Chinook Salmon, 60,000 summer Chum Salmon, 4,500 Pink Salmon, and 2,500 Coho Salmon annually harvested below the Andreafsky River by Federally qualified subsistence users. Currently the project uses video technology to count fish as they pass the weir. Additionally, the investigator is proposing to use video data to collect length frequencies on adult Chinook and Chum Salmon during periods of high water levels or high water temperatures, which can reduce stress on fish and allow crews to collect data when they typically couldn't in the past.

The majority of the methods used have a proven track record to achieve the results, and have gone through rigorous sampling design review. These methods are standardized throughout the region, as is the analysis and reporting procedures. The project answers immediate conservation concerns by providing vital data to in-season fisheries managers about fish stocks downstream of the Pilot Station sonar. The principal investigator lays out a complete plan to show when progress, annual, and final reports will be submitted. This project addresses the following Priority Information Needs presented in the 2018 Fisheries Management Resource Program Notice of Funding Opportunity: *reliable qualitative and/or quantitative estimates of Chinook Salmon and Chum Salmon escapements, methods for including "quality of escapement" measures (e.g., egg deposition, sex and size composition of spawners, or*

spawning habitat utilization) in establishing Chinook Salmon spawning goals and determining the reproductive potential and genetic diversity of spawning escapements, and harvest and spawning escapement changes through time in relation to changes in gillnet construction and use (e.g., set versus drift fishing, mesh size changes) for Chinook Salmon subsistence harvests in the mainstem Yukon River.

The principal investigator has supplied a resume and has participated in several Fisheries Resource Management Program funded projects on the Gisasa River weir. He has experience building, installing, and repairing resistance board weirs, and had a major role in incorporating video monitoring into the Gisasa and Andreafsky weirs. The investigator has received two letters of support, from the Alaska Department of Fish and Game and from Association of Village Council Presidents. The investigator intends on hiring locally or hiring a student from the Alaska Native Science and Engineering Program (ANSEP) In the future, it is suggested that the investigator obtains a letter of support from ANSEP to show how serious they are in pursuing a student from this program. The total cost of the project is \$968,856 for the four years of the project, of which \$290,371 is match from the Fairbanks Fish and Wildlife Field Office. The average annual cost to the monitoring program is \$169,621, which is reasonable throughout the agreement periods and is reasonable for the work being proposed.

TRC Score: 6
Project Number: 18-204
Project Title: Yukon River Coho Salmon mixed-stock analysis

TRC Justification: The investigators seek funding to conduct mixed stock genetic analysis of Yukon River Coho Salmon, building upon the genetic baseline created in the Fisheries Resource and Monitoring Program funded project 14-206. The samples, collected at the Pilot Station sonar run by the Alaska Department of Fish and Game, are shipped to the United States Fish and Wildlife Service Genetics Conservation Lab in Anchorage for analysis. Stock composition estimates will be derived by combining the sonar passage estimates with the stock composition estimates. Also, the investigators will be testing the samples against the baseline to estimate the probability of a missing baseline stock group. The project addresses the priority information need: *Reliable qualitative and/or quantitative estimates of salmon escapements and/or harvests.*

Application of mixed-stock analysis for Yukon River Coho Salmon has wide geographic implications as these stocks migrate through, are harvested in, or spawn in the many Federal public waters located on the Yukon Delta, Innoko, Koyukuk, Nowitna, Yukon Flats, Arctic, Kanuti, and Tetlin National Wildlife Refuges, along with the White Mountain National Recreation Area, Steese National Conservation Area, Yukon Charley Rivers National Preserve, and Denali National Park. The study design is sound and relatively uncomplicated and is greatly benefitted by data inputs that are based upon results of previously funded project 14-206.

The investigators have extensive experience with this type of project and the principal investigator has been the lead investigator on similar projects since its inception in 2004. The investigator's plan to cooperate with Alaska Department of Fish and Game with sample collections and will share data once it has been analyzed. The project does not mention any capacity building, but plans to consult with the

appropriate Regional Advisory Councils. However, in the future, it is recommended that the investigator consults with Regional Advisory Councils prior to the proposal to elicit support for the project, and documenting when and if this has happened. The average requested amount is \$24,000, which is a decrease in the amount requested from the Fisheries Resource Monitoring Plan to develop the genetic baseline for Yukon River Coho Salmon during the 2014 funding cycle.

TRC Score: 7
Project Number: 18-200
Project Title: Identification and Protection of Habitat for Chena River Chinook Salmon

TRC Justification: The Chena River hosts one of the largest Chinook Salmon returns in the U.S. portions of the Yukon River. Although the Chena Rivers hosts large returns, the watershed has seen increased development within the last decade with new housing and roads being built. The surge in human population increases the potential for degradation of the watershed, much of which hasn't been fully sampled for anadromous fish populations. Chinook Salmon from the Chena River are harvested by many Federally qualified subsistence users throughout the drainage as they pass by 21 communities of which 16 are within and adjacent to the Yukon Delta, Innoko, Koyukuk, or Nowitna National Wildlife Refuges. This project fully addresses the following Priority Information Needs: Geographic distribution of salmon and whitefish species based on traditional ecological knowledge or other knowledge, and incorporation of anadromous information into the Anadromous Waters Catalog.

The investigators request three years of funding to assess the waters in the Chena River drainage for the presence of anadromous fish species, of particular interest is Chinook Salmon. Sampling methods include minnow traps, electrofishing, and seines to capture fish, and collect species ID, sex (where applicable) and length data throughout the drainage. This project uses proven science and logistics to produce objectives that are clear, measurable and achievable. The methods are standard for a project of this nature, and the investigators are able build upon recent work performed by the University of Alaska. All newly identified anadromous waterways will be added to the Anadromous Waters Catalog and researchers will identify the life stage encountered at the sampling site.

The investigators work for the United States Fish and Wildlife Service at the Fairbanks Fish and Wildlife Field Office, with extensive experience in field projects throughout the Yukon River and Northern Alaska. The project does not build capacity at this time due to previous commitments of Tanana Chiefs Conference Fisheries Department. All efforts will be made to include them when conditions warrant. Tanana Valley Watershed Association, a local non-profit, has agreed to facilitate public outreach. The average annual amount requested is \$15,554, with this amount used to cover seasonal employee salary. Budget tables and justification were provided, and the cost of the proposal is reasonable across all agreement periods. The cost is reasonable for the work being proposed.

APPENDIX A

Table A.1. Fisheries Resource Monitoring Program projects funded in the Yukon Region from 2000 to 2016.

Project Number	Project Title	Investigators
Yukon River Salmon Projects		
00-003	Effects of <i>Ichthyophonus</i> on Chinook Salmon	UW
00-005	Tanana Upper Kantishna River Fish Wheel	NPS
00-018	Pilot Station Sonar Upgrade	ADF&G
00-022	Hooper Bay Test Fishing	ADF&G, NVHB
00-024	Pilot Station Sonar Technician Support	AVCP
00-025	Henshaw Creek Salmon Weir	USFWS
00-026	Circle and Eagle Salmon and Other Fish TEK	NVE
01-014	Yukon River Salmon Management Teleconferences	YRDFA
01-015	Yukon River Salmon TEK	YRDFA
01-018	Pilot Station Sonar Technician Support	AVCP
01-026	East Fork Andreafski River Salmon Weir	BSFA
01-029	Nulato River Salmon Weir	BSFA
01-032	Rampart Rapids Tagging Study	USFWS
01-038	Kateel River Salmon Weir	USFWS
01-048	Innoko River Drainage Weir Survey	USFWS
01-050	Kaltag Chinook Salmon Age-Sex-Length Sampling	COK
01-058	East Fork Andreafsky Weir Panel Replacement	USFWS
01-122	Lower Yukon River Salmon Drift Test Fishing	ADF&G, EMV
01-141	Holitna River Chinook, Chum and Coho Telemetry	ADF&G
01-177	Rampart Rapids Extension	USFWS
01-197	Rampart Rapids Summer CPUE Video	SZ
01-199	Tanana Fisheries Conservation Outreach	TTC
01-200	Effects of <i>Ichthyophonus</i> on Chinook Salmon	USGS
01-211	Upper Yukon, Porcupine, & Black River Salmon TEK	CATG
02-009	Pilot Station Sonar Technician Support	AVCP
02-011	Rampart Rapids Fall Chum Handling/mortality	USFWS
02-097	Kuskokwim & Yukon Rivers Sex-ratios of Juvenile & Adult Chinook	USFWS
02-121	Yukon River Chinook Salmon Genetics	USFWS, ADF&G, DFO
02-122	Yukon River Chinook & Chum Salmon In-season Subsistence	USFWS
03-009	Tozitna River Salmon Weir	BLM
03-013	Gisasa River Salmon Weir	USFWS
03-015	Phenotypic Characterization of Chinook Salmon Subsistence Harvests	YRDFA, USFWS

Continued on next page

Table A.1 continued

Project Number	Project Title	Investigators
<i>Yukon River Salmon Projects (continued)</i>		
03-034	East Fork Andreafsky River Salmon Weir	USFWS
03-038	Yukon River Sub-district 5-A Test Fishwheel	BF
04-206	Tozitna River Salmon Weir	BLM
04-208	East Fork Andreafsky River Salmon Weir	USFWS
04-209	Gisasa River Salmon Weir	USFWS
04-211	Henshaw Creek Salmon Weir	USFWS
04-217	Rampart Rapids Fall Chum Salmon Abundance	USFWS
04-228	Yukon River Chum Salmon Genetic Stock Identification	USFWS
04-229	Lower Yukon River Salmon Drift Test Fishing	ADF&G
04-231	Yukon River Chinook Salmon Telemetry	ADF&G
04-234	Kaltag Chinook Salmon Age-Sex-Length Sampling	COK
04-251	Fort Yukon Traditional Ecological Knowledge Camp	TCC,CATG, ADF&G
04-255	Yukon River Salmon Fishery Traditional Ecological Knowledge	NPS
04-256	Tanana Conservation Outreach	TTC, USFWS
04-263	Yukon River Salmon Management Teleconferences	YRDFA
04-265	Yukon River TEK of Customary Trade of Subsistence Fish	YRDFA
04-268	Hooper Bay Subsistence Monitoring	ADF&G, HBTC
05-203	Yukon River Coho Salmon Genetics	USFWS
05-208	Anvik River Salmon Sonar Enumeration	ADF&G
05-210	Tanana River Fall Chum Salmon Abundance	ADF&G
05-211	Henshaw Creek Salmon Weir	TCC, USFWS
05-254	Yukon River Salmon Inseason Subsistence Harvest Monitoring	USFWS
06-205	Yukon River Chum Salmon Mixed Stock Analysis	USFWS
07-202	East Fork Andreafsky River Salmon Weir	USFWS
07-204	Lower Yukon River Salmon Drift Test Fishing	ADF&G
07-207	Gisasa River Salmon Weir	USFWS
07-208	Tozitna River Salmon Weir	BLM
07-209	Yukon River Salmon Management Teleconferences	YRDFA
07-210	Validation of DNA Gender Test Chinook Salmon	USFWS
07-211	Kaltag Chinook Salmon Age-Sex-Length Sampling	COK
07-253	Yukon River Salmon Harvest Patterns	RWA, AC
08-200	Kaltag Chinook Salmon Age-Sex-Length Sampling	COK
08-201	Henshaw Creek Salmon Weir	TCC

Continued on next page

Table A.1 continued

Project Number	Project Title	Investigators
Yukon River Salmon Projects (continued)		
08-202	Anvik River Chum Salmon Sonar Enumeration	ADF&G
08-253	Yukon River Teleconferences and Inseason Management	YRDFA
10-200	Yukon River Chinook Salmon Run Reconstruction	BUE
10-205	Yukon River Chum Salmon Mixed-stock Analysis	USFWS
10-206	Nulato River Salmon Assessment	TCC
10-207	Gisasa River Chinook and Summer Chum Salmon Assessment	USFWS
12-202	Henshaw Creek Abundance and run timing of adult salmon	TCC
12-204	Anvik River Sonar Project	ADF&G
12-205	Kaltag Chinook Salmon Sampling Project	KAL
12-251	In-season Salmon Teleconferences and Interviews	YRDFA
14-201	Gisasa R Salmon Video	USFWS
14-202 ^a	E Fork Andreafsky Salmon	USFWS
14-203 ^a	Gisasa R Salmon	USFWS
14-206 ^a	Yukon R Coho Salmon	USFWS
14-207 ^a	Yukon R Chum Salmon	USFWS
14-208 ^a	Koyukuk R Chum Salmon	USFWS
14-209 ^a	Henshaw Crk Salmon	TCC
16-204 ^b	Henshaw Creek Abundance and run timing of adult salmon.	TCC
16-251 ^b	Seasonal habitats, migratory timing and spawning populations of mainstem Yukon River Burbot and their subsistence use in the communities of Pilot Station, Galena and Fort Yukon Alaska	ADF&G
16-255 ^b	Yukon River In-Season Community Surveyor Program	YRDFA, USFWS
16-256 ^b	In Season Salmon Management Teleconferences	YRDFA
Yukon River Non-Salmon Projects		
00-004	Humpback Whitefish/Beaver Interactions	USFWS, CATG
00-006	Traditional Ecological Knowledge Beaver/Whitefish Interactions	ADF&G, CATG
00-021	Dall River Northern Pike	ADF&G, SV
00-023	Upper Tanana River Humpback Whitefish	USFWS
01-003	Old John Lake TEK of Subsistence Harvests and Fish	ADF&G, AV, USFWS
01-011	Arctic Village Freshwater Fish Subsistence Survey	ADF&G, AV, USFWS
01-100	Koyukuk Non-salmon Fish TEK and Subsistence Uses	ADF&G, TCC
01-140	Yukon Flats Northern Pike	ADF&G, SV
01-238	GASH Working Group	USFWS
02-006	Arctic Village Freshwater Fish Subsistence	ADF&G, NVV
02-037	Lower Yukon River Non-salmon Harvest Monitoring	ADF&G, TCC
02-084	Old John Lake Oral History and TEK of Subsistence	USFWS, AV, ADF&G

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Table A.1 continued

Project Number	Project Title	Investigators
Yukon River Non-Salmon Projects (continued)		
04-253	Upper Tanana Subsistence Fisheries Traditional Ecological Knowledge	USFWS,UAF, ADF&G
04-269	Kanuti NWR Whitefish TEK and Radio Telemetry	USFWS, RN
06-252	Yukon Flats Non-salmon Traditional Ecological Knowledge	ADF&G, BLM, USFWS, CATG
06-253	Middle Yukon River Non-salmon TEK and Harvest	ADF&G, LTC
07-206	Innoko River Inconnu Radio Telemetry	USFWS, ADF&G
08-206	Yukon and Kuskokwim Coregonid Strategic Plan	USFWS, ADF&G
08-250	Use of Subsistence Fish to Feed Sled Dogs	RN, AC
08-300	Aniak River Rainbow Trout Seasonal Distribution	ADF&G
10-209	Yukon Delta Bering Cisco Mixed-stock Analysis	USFWS
10-250	Yukon Climate Change Impacts on Subsistence Fisheries	RN
12-200	Alatna River Inconnu Population Structure	USFWS
12-207	Yukon Bering Cisco Spawning Origins Telemetry	USFWS
14-252 ^a	Lower Yukon Whitefish	ADF&G
14-253	Upper Yukon Customary Trade	YRDFA
16-203 ^b	Bering Cisco Spawning Abundance in the Upper Yukon Flats, 2016-2017	ADF&G, USFWS
16-205 ^b	Burbot Population Assessments in lakes of the Upper Tanana and Upper Yukon River Drainages	NPS

^a = Final Report in Preparation.

^b = On-going projects during 2018.

Abbreviations: **AC** = Alaskan Connections, **ADF&G** = Alaska Department of Fish and Game, **AVCP** = Association of Village Council Presidents, **AV** = Arctic Village, **BF** = Bill Fliris, **BUE** = Bue Consulting, **BLM** = Bureau of Land Management, **BSFA** = Bering Sea Fisherman's Association, **CATG** = Council of Athabascan Tribal Governments, **COK** = City of Kaltag, **DFO** = Department of Fisheries and Oceans, **EMV** = Emmonak Village Council, **KAL** = City of Kaltag, **NPS** = National Park Service, **LTC** = Louden Tribal Council, **NVE** = Native Village of Eagle, **NVHB** = Native Village of Hooper Bay, **NVV** = Native Village of Venetie, **RN** = Research North, **RW** = Robert Wolfe and Associates, **SVNRC** = Stevens Village, **SZ**=Stan Zuray, **TCC** = Tanana Chiefs Conference, **TTC** = Tanana Tribal Council, **UAF** = University of Alaska Fairbanks, **USFWS** = U.S. Fish and Wildlife Service, **USGS** = U.S. Geological Survey, **UW** = University of Washington, and **YRDFA** = Yukon River Drainage Fisheries Association.

APPENDIX B

The following abstracts were written by the Principal Investigators and submitted to the Office of Subsistence Management as part of the proposal package. The statements and information contained in the Executive Summaries were not altered and they may not reflect the opinions of the Office of Subsistence Management or the Technical Review Committee.

Project Number: 18-200
Title: Identification and Protection of Habitat for Chena River Chinook Salmon
Principal Investigator: Ray Hander, U.S. Fish and Wildlife Service
Co-investigator: Jimmy Fox, U.S. Fish and Wildlife Service

Project Cost by Year:

Project Cost:	2018: \$15,322	2019: \$15,553	2020: \$15,786	2021: \$0
Total Cost: \$46,661				

Issue:

The Chena River supports the second-largest run of Chinook Salmon *Oncorhynchus tshawytscha* within the Alaska portion of the Yukon River drainage. Federally qualified rural residents from 21 villages may harvest Chinook Salmon returning to spawn in the Chena River. However, the lower Chena River and two major sloughs are considered impaired by Clean Water Act standards. In addition, historical and current anthropogenic instream and riparian habitat degradation and destruction results from housing, roads and commercial development such as mining, forestry, dredging, and wetland filling. Major tributaries and associated streams in the Chena River drainage lack adequate habitat protection from an absence of evidence of anadromous fish use (spawning, rearing or migration). These tributaries and streams are not listed in the State of Alaska Anadromous Waters Catalog (AWC), thus not protected by the State of Alaska Anadromous Fish Act. This project will sample for juvenile Chinook Salmon and other anadromous fish in Chena River tributaries not listed in the AWC, and nominate waters that meet AWC requirements.

Objectives:

1. Determine the presence of juvenile Chinook Salmon and other anadromous fish species in Chena River tributaries not listed in the AWC;
2. Describe life history stages of Chinook Salmon in tributaries of the Chena River;
3. Publish fish species information in the AWC for all waters that satisfy AWC requirements.

Methods: We will conduct juvenile fish capture operations on selected tributaries to the Chena River. The tributaries have been chosen where habitat disturbance is most likely to occur and where positive results from environmental DNA sampling are located. Sampling will occur in three periods in 2018, 2019 and 2020: 1) late May to early June; 2) late July to early August; and 3) late August to early September to detect the presence of juvenile or adult salmon. This temporal sampling approach increases the opportunity of encountering juvenile or adult salmon based on the differential migration timing.

Sampling methods will include: baited minnow traps, electrofishing, small mesh beach seines, dip nets, and visual observation (adult salmonids). All anadromous fish captured will be identified and nominations to the AWC will be submitted where applicable and a comprehensive report will be made at the project's completion.

Partnerships/Capacity Building:

Due to the proximity of the TCC headquarters within the project area, this project presents an excellent opportunity for TCC to develop capacity to document anadromous waters within or adjacent to tribal lands. TCC recruits local hires and has personnel trained to conduct fisheries work. Our office cooperates with TCC annually on operation of the Henshaw River weir. A fisheries biologist with the TCC was invited to be a cooperator for this project but declined on December 21, 2017 due to direct competition with a similar proposal. However, this representative agreed to be a partner on a similar 2017 pilot project. If TCC is unsuccessful, and this project is funded every effort will be made to involve TCC employees to build tribal capacity. In addition, partner Tanana Valley Watershed Association, a local non-profit, has agreed to facilitate public outreach.

Project Number: 18-201
Title: East Fork Andreafsky River Chinook and summer Chum Salmon abundance and run timing, Yukon Delta National Wildlife Refuge, Alaska.
Geographic Region(s): Yukon Region
Data Type: Stock Status and Trends
Principal Investigator: Jeff Melegari, U.S. Fish and Wildlife Service (USFWS), Fairbanks Fish and Wildlife Field Office (FFWFO)

Project Cost:	2018: \$158,551	2019: \$175,755	2020: \$169,265	2021: \$174,914
Total Cost: \$678,485				

Issue: Through Section 302 of the Alaska National Interest Lands Conservation Act, the USFWS has a responsibility to ensure that salmon populations within federal conservation units are conserved in their natural diversity, that international treaty agreements are met, and subsistence opportunities are maintained. The East Fork Andreafsky River provides important spawning and rearing habitat for Chinook and summer Chum Salmon that contribute to complex Yukon River mixed stock commercial and subsistence fisheries. The East Fork Andreafsky River's location below the Pilot Station Sonar project and the fact that it has established escapement goals for both Chinook and Chum Salmon make it an important project for management. This project will provide data that managers need to inform and evaluate in-season management decisions, build run reconstructions, and make future run predictions. These data will also help evaluate long term trends in species abundance and age, sex, and length composition.

Objectives:

1. Use video weir technology to enumerate daily passage of all fish species.

2. Estimate seasonal escapement of Chinook Salmon and summer Chum Salmon using Sethi and Bradley (2016) model, and characterize their run timing.
3. Estimate the weekly age, sex, and length composition of adult Chinook and summer Chum Salmon such that the simultaneous 90% confidence intervals have a maximum width of 0.20.
4. Evaluate the use of VidSync software with a stereo camera system to measure lengths of Chinook Salmon and Chum Salmon via video (this will begin in 2017).
5. Continue to build a more robust Sockeye Salmon ASL data set on the recently observed spawning aggregation upriver of the East Fork Andreafsky River weir.

Methods: A resistance board weir will be installed and operated on the East Fork Andreafsky River from mid-June through early to mid-August during each year. A trap equipped with a video counting chute will allow all fish passing through the weir to be identified to species and counted. Count data will be provided to managers and other interested parties daily. Age (scales), sex, and length data will be collected from Chinook, and Chum Salmon following a stratified random sampling design, and collected opportunistically for Sockeye Salmon. Scales will be sent to Alaska Department of Fish and Game for aging.

Partnerships/Capacity Building: The FFWFO has strived for local involvement and capacity building with the project and is committed to continually promoting capacity building by describing project opportunities at RAC, YRDFA, and Refuge coordination meetings. In the past the project has served as a platform to host a science camp for youth from Yukon River communities. The project actively recruits for and fills a local hire position.

Project Number: 18-202
Title: Gisasa River Chinook and summer Chum Salmon abundance and run timing assessment, Koyukuk National Wildlife Refuge, Alaska
Geographic Region(s): Yukon Region
Data Type: Stock Status and Trends
Principal Investigator: Jeremy Carlson, U.S. Fish and Wildlife Service (USFWS), Fairbanks Fish and Wildlife Field Office (FFWFO)
Co-Investigator: Jeff Melegari, USFWS, FFWFO

Project Cost:	2018: \$149,355	2019: \$140,209	2020: \$144,997	2021: \$149,115
Total Cost: \$583,676				

Issue: Through Section 302 of the Alaska National Interest Lands Conservation Act, the USFWS has a responsibility to ensure that salmon populations within federal conservation units are conserved in their natural diversity, that international treaty agreements are met, and subsistence opportunities are maintained. The Gisasa River provides important spawning and rearing habitat for Chinook and summer Chum Salmon that contribute to complex Yukon River mixed stock commercial and subsistence fisheries. The Gisasa River weir is currently one of only two projects within the Koyukuk River drainage that

provide in-season run information. This project will provide data that managers need to inform and evaluate in-season management decisions, build run reconstructions, and make future run predictions. These data will also help evaluate long-term trends in species abundance and age, sex, and length composition.

Objectives:

1. Use video weir technology to enumerate daily passage of all fish species.
2. Estimate seasonal escapement of adult Chinook Salmon and summer Chum Salmon using Sethi and Bradley (2016) model, and characterize their run timing.
3. Estimate the weekly age, sex, and length composition of adult Chinook and summer Chum Salmon such that the simultaneous 90% confidence intervals have a maximum width of 0.20.
4. Evaluate the use of VidSync software with a stereo camera system to measure lengths of Chinook Salmon and Chum Salmon via video (this will begin in 2017).

Methods: A resistance board weir will be installed and operated on the Gisasa River from mid-June through early to mid-August during each year. A trap equipped with a video counting chute will allow all fish passing through the weir to be identified to species and counted. Count data will be provided to managers and other interested parties daily. Age (scales), sex, and length data will be collected from Chinook, and Chum Salmon following a stratified random sampling design. Scales will be sent to Alaska Department of Fish and Game for aging.

Partnerships/Capacity Building: The FFWFO has strived for local involvement and capacity building with the project and is committed to continually promoting capacity building by describing project opportunities at RAC, YRDFA, and Refuge coordination meetings. Project staff has worked with staff from Tanana Chiefs Conference’s Henshaw River Weir, the other Koyukuk River monitoring project, to share knowledge, methods, and labor for weir setup. The FFWFO has also worked with Koyukuk National Wildlife Refuge to provide field work experience for Alaska Native Science & Engineering Program students and local hires from the Refuge.

Project Number: 18-203
Title: Application of mixed-stock analysis for Yukon River Chum Salmon
Geographic Region(s): Yukon River
Data Type: Stock Status and Trends
Principal Investigator: Blair Flannery, Conservation Genetics Laboratory (CGL), USFWS
Co-Investigator: John Wenburg, CGL, USFWS

Project Cost:	2018: \$125,303	2019: \$125,303	2020: \$125,303	2021: \$125,303
Total Cost: \$501,212 (a 16.5% reduction from the total cost of the project under 14-207)				

Issue: This project relates to the following priority information need identified in the 2014 Office of Subsistence Management (OSM) Request for Proposals:

- *Reliable qualitative and/or quantitative estimates of salmon escapements and/or harvests.*

This proposal is a continuation of Fisheries Resource Monitoring Program (FRMP) projects 04-228, 06-205, 10-205, and 14-207, which have provided in-season stock composition estimates of Chum Salmon to fishery managers within 24 to 48 hours of receiving samples from the Pilot Station sonar test fishery.

The disparate strength of individual stocks within and among years makes it clear that in-season stock return data assists management to meet escapement. It provides a real-time tool that allows for informed decisions on regulating fisheries to meet escapement and harvest goals.

Objectives: 1) Estimate the stock compositions of summer and fall Chum Salmon sampled from the Pilot Station test fishery each year (June 1 – August 31). 2) Assess the accuracy of the results by comparison with other sources of escapement and harvest data.

Methods: Genetic samples will be collected from every Chum Salmon caught in the Pilot Station sonar test fishery from June 1 – August 31, and sent to the CGL every week and at the conclusion of each run pulse. Samples will be stratified by time period or run pulse and a subsample of size 288, selected so that daily sample size is proportional to the daily sonar passage estimate within a stratum, will be genotyped for each stratum of the run. Stock composition will be estimated using Bayesian mixture modeling and reported to fishery managers as soon as practicable. Stock abundance estimates will be derived by combining the sonar passage estimates with the stock composition estimates. A post season analysis will be conducted to compare these stock specific abundance estimates against escapement and harvest estimates.

Partnerships/Collaboration: We will work with ADF&G biologists to coordinate sample collection. We will contract with the Association of Village Council Presidents (AVCP) to hire a local to collect the genetic samples. We completed the baseline in partnership with the DFOC. We will consult, collaborate and coordinate with ADF&G, USFWS, and DFOC managers.

Project Number: 18-204
Title: Yukon River Coho Salmon mixed-stock analysis
Geographic Region(s): Yukon River
Data Type: Stock Status and Trends (SST).
Principal Investigator: Blair Flannery and John Wenburg, Conservation Genetics Laboratory (CGL), U.S. Fish and Wildlife Service (USFWS)

Project Cost:	2018: \$24,000	2019: \$24,000	2020: \$24,000	2021: \$24,000
Total Cost: \$96,000				

Issue: This project relates to the following priority information need identified in the 2018 Office of Subsistence Management (OSM) Request for Proposals:

- *Reliable qualitative and/or quantitative estimates of salmon escapements and/or harvests.*

This project to conduct mix-stock analysis for Yukon River Coho Salmon extends the work done to create the genetic baseline under FRMP project 14-206.

With the recent decline in abundance of Yukon River Chinook Salmon, the exploitation rate for Coho Salmon has increased dramatically. From 1997–2010, an average of 29% of the Yukon River Coho Salmon run (as estimated by mainstem sonar) has been harvested, whereas since 2011, the average harvest has increased to 86% of the run (JTC 2014). The lack of stock composition data for Coho Salmon in light of this increased pressure is problematic. Stock identification and determining relative contributions of harvested stocks are essential for management of mixed stock fisheries (Larkin 1981). Differential harvest can result in excessive exploitation of individual stocks, which can decrease overall production in the long run for the entire system (Allendorf et al. 1987).

Objectives: 1) Estimate regional stock contributions and run timing of Yukon River Coho Salmon from mainstem sonar test fishery harvests; 2) determine if baseline is missing significant stock groups.

Methods: Genetic samples will be collected from Coho Salmon caught in the mainstem sonar test fishery. Samples will be stratified by run quartile. A sample size of 150 will be analyzed for each stratum, with the daily sample size proportional to the daily sonar passage estimate within a stratum. The mixture data will be compared to the genetic baseline (Figure 1) to estimate the relative stock compositions using the Bayesian mixture modeling method as implemented in the program Bayes (Pella and Masuda 2001). Stock composition estimates will be reported for the following stock groups: lower river, Nenana River, Tanana River, and Porcupine River. Abundance data will be obtained from Pilot Station sonar. Stock specific abundance estimates will be derived by combining the sonar passage estimates with the stock composition estimates.

Partnerships/Collaboration: We will work with ADF&G biologists to coordinate sample collection from the Pilot Station sonar test fishery.

Project Number:	18-205
Title:	Yukon River Coho Salmon Radio Telemetry
Geographic Region(s):	Yukon River
Data Type:	Stock Status and Trends (SST).
Principal Investigator:	Bonnie Borba, Fisheries Biologist III, Alaska Department of Fish and Game
Co-Investigator:	Sean Larson, Fisheries Biologist II, Alaska Department of Fish and Game Raymond Hander, United States Fish and Wildlife Service Randy Brown, United States Fish and Wildlife Service

Project Cost:	2018: \$0	2019: \$214,969	2020: \$214,941	2021: \$0
Total Cost: \$888,224				

Overview of need: We propose to conduct a radio telemetry project to track adult Coho Salmon (*Oncorhynchus kisutch*) to their spawning areas. This proposal is in direct response to the need for information on this highly exploited species, which has recognized large spawning distribution data gaps. Coho Salmon are targeted as the last salmon species migrating into the Yukon River each season. Especially during times when other species such as Chinook and fall Chum Salmon runs are weak, Coho Salmon are needed to supplement subsistence harvests. This project will improve Coho Salmon management to better provide for sustainable fisheries. Coho Salmon are a recognized as a priority for subsistence with an established *Amounts Reasonably Necessary for Subsistence*. This proposal addresses one of the priority information needs identified for the Yukon Region by providing *reliable qualitative and/or quantitative estimates of salmon escapement and/or harvests*. It will also provide data on *geographic distribution of Coho Salmon for incorporation into the Anadromous Waters Catalog*.

Project Goals and Objectives: The goal of this Yukon River telemetry project is to learn as much as possible about Coho Salmon migration and spawning distribution, to better inform fisheries managers responsible for ensuring sustainable use of the resource to benefit the people of Alaska. Identifying migration routes, stock specific run timing, migration rates, movement patterns, and distribution of Coho Salmon spawning areas in combination with an estimated total run size will help fishery managers spread the harvest throughout the run and indicate where escapement monitoring projects might be practical.

Specific project activities: This proposal seeks funding to apply esophageal radio tags in Coho Salmon in the lower Yukon River, just upstream of Russian Mission, and track them via an array of radio tracking stations located strategically along the mainstem and main tributaries of the Yukon River. These radio tracking stations will provide information used to plan the aerial survey tracking to locate fish at their spawning grounds. Analysis of the tower and aerial data together will address the information needs outlined in the objectives (i.e. migration routes, stock specific run timing, migration rates, movement patterns, and distribution).

Anticipated outputs and outcomes: Project results are expected to provide information for fishery management of Coho Salmon, and for development of management plans, development of escapement projects, and habitat projection. These benefits will be realized soon after the spawning areas are documented. All data collected through this proposal will be archived in perpetuity in ADF&G databases. Final project results will be published in the ADF&G Fishery Data Series.

Project Number: 18-250
Title: Documentation of salmon spawning and rearing in the Upper Tanana River Drainage.
Geographic Region(s): Yukon Region (Tanana River Drainage).
Data Type: Stock Status and Trends (SST), Traditional Ecological Knowledge (TEK).

Principal Investigator: Brandy Baker, Alaska Department of Fish and Game, Division of Sport Fish
Co-Investigator(s): Caroline Brown, Alaska Department of Fish and Game, Division of Subsistence

Project Cost:	2018: \$78,087	2019: \$67,106	2020: \$15,391	2021: \$0
Total Cost: \$160,584				

Issue: This study addresses the Yukon Region Priority Information Need: geographic distribution of salmon and whitefish species based on traditional ecological knowledge or other knowledge and incorporation of anadromous information into the Anadromous Waters Catalog. Documentation and inventory of anadromous fish species has been limited in the upper Tanana River drainage due to perceived low salmon abundance and the greater importance of Non-salmon species to local users. Presence of Chinook *O. tshawytscha*, which are currently not listed in this area, as well as Chum Salmon *O. keta*, and Coho Salmon *O. kisutch* which have limited documentation in this area, are mentioned in a recent TEK study from Northway and in the Tetlin NWR Fishery Management Plan as being present. This study proposes to document and list Pacific salmon *Oncorhynchus sp* spawning and rearing habitat in the upper Tanana River drainage (the largest tributary of the Yukon River).

Objectives:

1. Document traditional ecological knowledge (TEK) related to locally reported spawning and rearing areas of Chinook, Chum, and Coho Salmon not listed in the AWC within the Chisana and Nabesna drainages.
2. Verify presence of juvenile and adult salmon and document spawning and rearing areas in select waters identified through TEK, anecdotal accounts, and field observations.
3. Submit all verified waters used by salmon for listing in the Anadromous Stream Catalog.
4. Contribute to local capacity building by working with local research assistants on both ethnographic and biological sampling data collection.

Methods: Researchers will use a combination of social and biological science methods. First, researchers will use ethnographic methods to identify potential search areas based on local knowledge. Next, PIs will use aerial surveys, water sample collection for eDNA analysis, and minnow trapping to document and identify salmon presence and rearing habitat in those areas identified from the local knowledge as well as other areas that appear to have suitable habitat.

Partnerships/Capacity Building: This project is designed to incorporate an inter-regional initiative to assist with capacity building efforts with a new sampling technique for a similar proposal being submitted by YRDFA-TCC. Capacity building for this project will occur in the following ways: we will work with local residents and tribal councils to identify key respondents for the TEK interviews; we will work with TCC Partners Biologist to advertise and hire a local technician(s) to assist with ethnographic and field data collection; we will work YRDFA-TCC to collaborate on mirrored methodology and consultation during the analysis phase; we will work with agency staff from Tetlin and NPS to communicate areas of priority and collaborate on any additional habitat information from other surveys.

Project Number: 18-251
Title: Traditional Knowledge of anadromous fish in the Yukon Flats with a focus on the Draanjik Basin.
Geographic Region(s): Yukon Region
Data Type: Stock Status and Trends
Principal Investigator: Catherine Moncrieff, Yukon River Drainage Fisheries Association (YRDFA)
Co-Investigator: Brian McKenna, Tanana Chiefs Conference (TCC)

Project Cost:	2018: \$97,458	2019: \$62,379	2020: \$20,791	2021: \$0
Total Cost: \$180,628				

Issue: This proposal addresses the Yukon Region Priority Information Need of geographic distribution of salmon and whitefish species based on traditional ecological knowledge (TEK) and incorporation of anadromous information into the Anadromous Waters Catalog. This proposal will provide information critical to the management of anadromous Pacific salmon *Oncorhynchus sp* and whitefish species *Coregoninae subfamily* and the habitat utilized by them throughout their life cycles. Multiple salmon and whitefish species are known to utilize habitats within the Yukon Flats, and the Draanjik (Black River) subbasin at multiple stages in their life cycles for migration, spawning, and rearing. However, while their presence is known, the extent of their anadromous geographic distribution is not fully identified and documented within the AWC. This project will collect and document TEK of anadromous species within the Yukon Flats region, and will verify documentation of spawning and rearing activity within the Draanjik subbasin.

Objectives: The goal of this proposal is to provide information critical to the management of anadromous fishes and the habitats that support them and will achieve this through the following objectives:

1. Document and record TEK of anadromous waters utilized by salmon and whitefish species occurring in the Yukon Flats with a focus on the Draanjik subbasin
2. Verify the presence of salmon and whitefish species and document and record anadromous waters used for spawning and rearing as described by TEK ecological knowledge, primary literature, and field observations for the Draanjik subbasin
3. Submit nominations to the Anadromous Waters Catalog for all verified waterbodies used by salmon and whitefish species to maximize the spatial extent of mapped anadromous waters.
4. Engage the local communities and build capacity by collaborating with the Tribal Councils and by hiring local research technicians to assist with the ethnographic and biological research.

Methods: This research project has been designed to be a collaborative project, seeking and confirming locally observed contributions to the AWC, using a combination of social and biological methods and

collaborating amongst agencies and communities. Broadly, researchers will engage standard anthropological methods of ethnographic fieldwork (participant observation, semi-structure interviews, and mapping) to identify potential search areas based on local knowledge. Next, PIs will use aerial surveys, water sample collection for eDNA analysis, and minnow trapping to document and identify salmon presence and rearing habitat gained from the local knowledge. Subsequent year sampling locations will be refined dependent on minnow trap and eDNA results and visual observations from aerial surveys.

Partnerships/Capacity Building: This project is designed in partnership with the ADF&G (Upper Tanana proposal) as parallel proposals as well as a partnership with the Tribal Councils of the Chalkyitsik, Venetie, and Gwichyaa Zhee. The TCs will select local research assistants for the ethnographic fieldwork. Local hires will be trained in interviews, mapping techniques and will participate in outreach activities.

Project Number: 18-252
Title: Subsistence salmon networks in Yukon River communities
Geographic Region(s): Yukon Region
Data Type: Harvest Monitoring and Traditional Ecological Knowledge
Principal Investigator: Caroline Brown, Division of Subsistence, Alaska Department of Fish
Co-Investigator: Dr. Drew Gerkey, Department of Anthropology, Oregon State University

Project Cost:	2018: \$133,742	2019: \$96,013	2020: \$101,733	2021: \$0
Total Cost:				

Issue: Priority information needs identified in the 2015 Fisheries Resource Monitoring Program for the Yukon River included: “Incorporation of traditional ecological knowledge into fishery management processes.” This project will focus on 3 communities: Pilot Station, Nulato, and Beaver, each of which has a unique regional sharing pattern as identified during previous studies carried out by project researchers. The goal of this project is to provide information on how social networks “function in the allocation and management of subsistence resources... and how such a model might be applied and utilized in Federal subsistence management.” Understanding how the social obligations of sharing that underpin subsistence economies drive harvest will help State and Federal managers anticipate fluctuations in subsistence harvests in order to develop locally meaningful and effective regulations, especially in times of low abundance.

Objectives:

1. Using a social network survey and building on documented harvest data from the fall 2018, systematically document the scope of and local characteristics of exchange in 3 Yukon river communities, paying attention to exchanges both within and between communities;

2. Using the assembled social network data as an empirical framework, conduct indepth ethnographic interviews about exchange practices. Interviews will include questions about a) the amounts and types of fish or other resources shared; b) the relationships between people who shared wild food; c) decision making factors that structure sharing; d) the ceremonial context of exchange; e) forms of exchange, such as sharing, barter, and customary trade; f) perceptions of change in the environment, particularly with regard to salmon and other subsistence resources, and how these affect exchange practices; and g) perceptions of change in exchange practices in order to describe how exchange practices fit within the overall social, cultural, and economic life in the Yukon River; and
3. Contribute to local capacity building by utilizing a framework of community involvement in research.

Methods: The research will employ two integrated social science data gathering methods—systematic household harvest and network surveys and key respondent interviews—to analyze subsistence salmon sharing networks in 3 communities along the Yukon River: Pilot Station, Nulato, and Beaver. Harvest data will be collected using a census sample. Building off of that harvest data, researchers will administer the network survey with community households. The ethnographic research for this project will include anthropological methods of semi-structured key respondent interviews and participant observation. Researchers will attempt to interview 5-10 individuals per community. Network data will be analyzed using "R," an open-source statistics software program. Researchers will take a final trip to each community to present preliminary findings and follow-up with any informational gaps.

Partnerships/Capacity Building: Tribal councils in study communities will be consulted about the project, and project approvals will be obtained prior to conducting fieldwork. Temporary field assistants will be hired by ADF&G in coordination with tribal councils in each study community to assist with administration of the survey instrument and to help coordinate local logistical support and participation.

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.



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 17053.KW

AUG 14 2017

Sue Entsminger, Chair
Eastern Interior Alaska Subsistence
Regional Advisory Council
c/o Office of Subsistence Management
1101 East Tudor Road, MS 121
Anchorage, Alaska 99503-6119

Dear Chairwoman Entsminger:

This letter responds to the Eastern Interior Alaska Subsistence Regional Advisory Council's (Council) fiscal year 2016 Annual Report. The Secretaries of the Interior and Agriculture have delegated to the Federal Subsistence Board (Board) the responsibility to respond to these reports. The Board appreciates your effort in developing the Annual Report. Annual Reports allow the Board to become aware of the issues outside of the regulatory process that affect subsistence users in your region. We value this opportunity to review the issues concerning your region.

1. Understanding and tolerance for different cultural hunting values as means to reduce waste and work towards better hunter ethics in the field

The Eastern Interior Region has several areas where ongoing user conflicts among various groups of resource users create stress and misunderstanding, resulting in waste of valuable resources. This issue is one of the major concerns for many other Councils' areas, for example Western Interior. The Council brought the user conflict issue before the Board in its 2014 and 2015 annual reports but had not seen much progress made on developing solutions it. Some discussion regarding hunters' education occurred during an Outreach Challenges break-out session held at the All Council's Meeting in March of 2016; however, none of the suggestions made during this session were implemented and no Office of Subsistence Management (OSM) outreach strategy to reduce user conflict and educate hunters has yet been developed.

The Council would like to advocate for the acceptance and teaching different sets of values that the hunters of different backgrounds – both rural subsistence and urban sport – have. Very often ignorance and misunderstanding of these values result in animal waste. Some of the urban

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hunters would like to share with subsistence users animal body parts that they do not consume but they need to be educated on how to process and store them correctly.

The Council encourages the Board to set up a timeline for developing the strategy and testing it out. The Council suggests that OSM creates a small working group in partnership with other agencies and the State of Alaska to address the issues of user conflict and waste of subsistence resources. The goal of this group should be to develop strategies for hunter education and outreach programs both statewide and regionally. The developed strategies should be tested out through a pilot program focused on the Eastern Interior Region. Additionally, the Council suggests that one specific group of users – the military – should be targeted for delivery of hunter ethics and meat care education programs. The military has been very receptive to public concerns and requires their personal to go through a hunter orientation course before going hunting.

The Council also suggests that the Board directs OSM to develop an educational publication on different cultural values of various user groups and opportunities and procedures for sharing animal body parts to reduce waste and achieve better hunting ethics in the field.

Response:

The Board acknowledges the Council's continuing concern regarding ongoing user conflict in the Eastern Interior Region, potentially stemming from misunderstanding each user groups' traditions, way of life, and ethical standards. The Board appreciates the Council's emphasis on moving forward in a positive way to improve understanding of and tolerance for different cultural hunting values between local Federal subsistence users, non-local subsistence users, and sport/commercial user groups and the desire to create a collaborative network that will include State and Federal agencies, tribes and Native organizations, rural community representatives, and hunting organizations. For this effort to be successful, it is very important to take into account various perspectives and consider agency mandates and authorities.

The Board is pleased to report to the Council that, in accordance with the Board's recommendation outlined in the reply to the fiscal year 2015 annual report, the Office of Subsistence Management (OSM) developed a draft plan of action that will guide the development of an outreach strategy and potential pilot project to improve understanding between users. A draft timeline was also created to help guide achievement of realistic goals for the pilot project. The plan of action was presented to the Interagency Staff Committee in May of 2017 and subsequently to the Board during its work session in July of 2017. OSM plans to continue working with State and Federal agencies and Council representatives, with the intent to form a working group of collaborators that will identify target audiences and goals for the project and develop key messages by the Council's winter 2018 meeting. The Board is aware that two Council members, Susan Entsminger and Andy Bassich, have already agreed to be Council representatives on such a group.

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OSM will present the plan of action and timeline to the Council during its fall 2017 meeting to solicit further comments and ideas. After the working group is formed during the Council's fall meeting, it will work with other valuable stakeholders to solicit input and collaboration in developing a pilot project that will be presented to the Council during its winter 2018 meeting. Your Council Coordinator will lead this initiative, and OSM will commit other staff time on a as-needed basis. The Board will also request that representatives from the U.S. Fish and Wildlife Service, National Park Service and Bureau of Land Management are assigned to participate in the initial working group.

The Board would like to note that due to the current Federal budget uncertainties OSM cannot commit specific funding for this initiative but will leverage OSM staff time dedicated to the pilot project to network on a collaborative path forward and actively seek alternative funding from other sources.

2. Use of traditional Gwich'in river names for three rivers in the Eastern Interior Region on the Federal Subsistence Management Program maps, publications, and correspondence

In April 2014, the U.S. Board on Geographic Names ruled to adopt the Gwich'in name Draanjik River, meaning "Caches Along the River," as the official name for the geographic feature formerly known as Black River. In September 2015 this decision was followed by the U.S. Board on Geographic Names rule to adopt the Gwich'in names Ch'idriinjik River and Teedriinjik River as replacements for the North and Middle Fork of the Chandalar River, one of the major Alaskan river systems. In Gwich'in, Teedriinjik means "Shimmering River" or "Light Amid the Waters River" and is the name of the main river stream and its northern tributary. Ch'idriinjik, another tributary of the same river system, is a Gwich'in name for "Heart River."

The Athabaskan people have used these three names for over a thousand years. The application for the name change was submitted by the Gwichyaa Zhee Gwich'in Tribal Government on the bases that the adoption of these names would "help revitalize Gwich'in culture and language." The Council requests that these officially adopted names be incorporated on all of the maps produced by the Federal Subsistence Management Program and used in its publications, analyses, presentations, and official correspondence.

Response:

The Board thanks the Council for bringing these changes to its attention. The Board is aware that many names on U.S. Geological Survey maps of Alaska are not the names used by residents of the areas. Additionally, when traditional names do appear on these maps, they were written down before widely recognized orthographic writing systems were developed for Alaska Native languages and most have not been updated. The Board appreciates being informed when these changes occur. The Federal Subsistence Management Program has made note of the changes you describe and will make every effort to include them in all of its newly created maps, publications, presentations, and correspondence.

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3. Predator management is a subsistence practice and means of achieving food security

Alaska subsistence users have a unique connection to the land fostered by traditions and lifelong experience. Alaskan subsistence users have an inherit right to food security, which includes managing and protecting food sources, having access to food, and being an integral part of the ecosystem. The understanding that all species should be managed in a balance has been passed from one generation to another. Rural Alaskans who reside in remote areas put special care in managing and securing their food sources because they provide the bases of their existence and well-being. Utilization of predator management as a part of their subsistence practices has been one of their well-established traditions. At the same time, subsistence is currently defined by law as an exclusively consumptive activity. Section 803 of Title VII of ANILCA defines subsistence as “the customary and traditional uses by rural Alaska residents of wild renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of nonedible byproducts of fish and wildlife resources taken for personal and or family consumption; for barter, or sharing for personal or family consumption; and for customary trade.” The Council suggests that the definition of subsistence should include predator management as one of the subsistence practices means of achieving food security for Federally qualified subsistence users and would like the Board to look into this matter.

Response:

This issue raises the distinction between cultural practices and institutional practices governed by ANILCA. As for the cultural practices, the Board has acknowledged customary and traditional harvest practices through the adoption of certain regulations related to method and means of hunting bears and wolves. In the Eastern Interior Region, you may use bait to hunt black bears and wolves, and you may use bait to hunt brown bears in Units 12 and 25D. These methods are otherwise illegal under Federal Subsistence Management Regulations, as they are not authorized in other regions. Adoption of these regulations was based in no small part on the record before the Board indicating that they were customary and traditional practices.

But for institutional action carried out by agencies, the limits of that action are based on the language in ANILCA. For the purpose of Federal subsistence management “subsistence uses” is defined by Congress, as the Council correctly notes in citing Section 803 of ANILCA. While Congress included a substantially expansive definition of “subsistence uses” to include a variety of things in addition to “direct personal or family consumption as food” such as fuel, handicrafts, barter, customary trade, it chose not to include other activities in its definition. There is a legal principle guiding statutory interpretation that says the inclusion of one thing means the exclusion of others. Agencies and courts rely on this principle when determining legislative intent. Put simply, in including various practices and products in the definition of “subsistence uses” and excluding predator control, Congress chose to not include that activity in its definition. The Board or the Secretaries can only act on the language determined by Congress in passing ANILCA, and Congress’s intent is clear. The Board cannot expand this very explicit definition

of “subsistence uses” found in Section 803 to include predator management for the purpose of boosting game populations. Only Congress can change this definition of “subsistence use.”

4. Limited subsistence salmon fishing opportunities for remote rural residents of the Porcupine River

The issue of inadequate fishing opportunities for the rural residents remotely residing on the Porcupine River was already raised in the Council’s 2015 annual report. The Council feels that the reply provided was not sufficient and did not address the issue. The Council believes that this issue cannot be addressed through the normal regulatory process, such as submitting a regulatory proposal or a special action request, and suggests that the Board looks into taking a completely different approach to the management strategy of subsistence salmon in the Porcupine River.

The core issue is that the number of residents who reside remotely on the Porcupine River and live a traditional lifestyle is very small; anecdotal evidence suggests that there might be only 5 households there. These rural residents rely heavily, if not completely, on subsistence salmon to feed their families and dog teams and use salmon as bait on trap lines. This year subsistence fishing for fall Chum Salmon on the Porcupine River was again closed completely and only was relaxed in late September (Sept. 29, 2016). The information on fishing closures and openings is not relayed in a timely manner to these residents, who do not have access to telephone or internet. When, for example, a 12-hour subsistence fishing period is announced, this information is not related to the subsistence users on the Porcupine River in time to take an advantage of it.

The Council would like the Board to look into a variety of new management solutions to this issue, and suggests the following:

- *Consider instituting a system of specialized family/household quota allocations for Chinook and Fall Chum salmon (for example, 10 fish per family/household) to be used during the periods of low abundance and management conservation closures. This would allow Federally qualified subsistence user families that reside along the Porcupine River to continue their cultural practices and fish during the closures without enduring hardship due to very limited resources, considering that their harvest of a few hundred fish would not have a significant impact on the conservation of salmon species and meeting Canadian treaty obligations;*
- *Consider closing only a section of the Porcupine River at its confluence with the Yukon River, and allowing subsistence fishing in the upper Porcupine River, instead of closing the whole 200 miles of the river from Fort Yukon to the Canadian border;*
- *Devise new methods of communicating the information on fishing openings and closures to remote residents in a timely manner for subsistence users to take advantage of them.*

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Response:

The Federal Subsistence Board recognizes the need to help protect subsistence users through Title VIII of ANILCA. Delegation of authority to a Federal in-season manager is established pursuant to 36 C.F.R. 242.10(d)(6) and 50 C.F.R. 100.10(d)(6), which states, "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." It is the intent of the Board that subsistence management by Federal officials be coordinated with the Alaska Department of Fish and Game and involve Regional Advisory Council representatives to conserve healthy fish and wildlife populations while providing for subsistence uses.

Currently the best way for subsistence users to modify or change current regulations governing Fall Chum Salmon is to submit a regulatory proposal to the Board. During this process the proponent recommends either changing a current regulation or proposing a new regulation to be adopted. This process allows subsistence users a chance to voice their ideas on regulations to further allow more opportunity for subsistence uses. The Board recognizes the need to allow more opportunity for the Eastern Interior users to harvest more Fall Chum Salmon in their region. The Board also recognizes that during restrictive times, closures are necessary for the preservation of certain stocks of fish. We understand this limits the opportunity for subsistence users to harvest critical resources for themselves and their community. The Board recommends that the Council develop and submit one or more regulatory proposals to OSM (and the Board) during the next fisheries regulatory cycle to further expand opportunity for the residents in the Eastern Interior to harvest more Fall Chum Salmon on the Porcupine River.

5. Importance of youth engagement in resource management

The Council would like to stress the importance of youth engagement in resource management at the time of decreased economic opportunities and dwindling populations in rural Alaskan communities. The Council wants to officially thank the Council of Athabascan Tribal Governments (CATG) for bringing youth from several Eastern Interior communities to listen and participate in the Council's fall 2016 meeting. The Council also would like to thank Yukon Flats National Wildlife Refuge (NWR) for funding this effort. It was a great cooperative effort between CATG and Yukon Flats NWR. We believe that this kind of exposure was very educational to the young people, and for us it was very energizing to hear youth testimonies at the meeting. This also is a testimony to the fact that when meetings are conducted in the villages it is easier to get better input and participation from the youth and other local people that the Council represents.

The Council encourages the Board to provide youth with opportunities to learn about resource management and to participate in various meetings and workshops. The Council proposes that the Board develops a concrete plan on rural youth participation in the Federal Subsistence Management Program activities and dedicates some funding to its implementation.

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Response:

The Board agrees with the value of youth participation in the Federal Subsistence Management Program. Several Regional Advisory Councils have recently involved local high school students in their meetings, and the Board encourages all Councils to continue to do so in the future. At this time, there is no intention to develop a specific plan for youth participation, as that is something the Board has encouraged to occur on a regional basis. The Board supports youth engagement through various printed and online publications and the student art contest, which invites children in elementary, middle, and high school to participate and enter to have their art used in the Federal subsistence regulations books. Additionally, the *Federal Subsistence Management Program Coloring Book*, targeted towards younger children, is available to all who request copies. This book has been used in educational outreach programs throughout the state. OSM's Subsistence Outreach Coordinator is available to assist the Councils with any specific outreach efforts for increasing youth involvement, and can provide outreach materials upon request.

6. Notices to subsistence users on proposed changes to the Code of Federal Regulations

The Council requests that the Board sets a system in place for improved notification of the subsistence users on any proposed or pending major changes to the Code of Federal Regulations (CFR) that might affect their livelihood and ability to use wild renewable resources for direct personal or family consumption. The Council would like to be notified at the first opportunity when the changes are proposed and be provided with detailed information on the public comment period and procedures of submitting the comments. Over the years the Council has observed that the information about changes in the CFR and public involvement in this process were not available on consistent basis. The methods of distributing this information were not adjusted for the rural Alaska realities and efforts of engaging subsistence users to solicit their input were minimal.

Response:

When it comes to proposed Federal regulations outside of the Program, agencies frequently involve the Regional Advisory Councils and communities in conducting outreach. Some examples in this region include BLM efforts to modify its Eastern Interior Resource Management Plan, on which the Council provided written comments related to the Black River portion of that Plan, and the National Park Service's rulemaking related to the subsistence collection of shed or discarded animal parts. Additionally, your Council Coordinator makes a concerted effort to keep an eye out for other agency rulemaking that may affect subsistence uses and resources in the region and puts those issues on your agenda for Council information and discussion. Finally, Section 810 of ANILCA also requires special analysis of other agency activities that may adversely impact subsistence and, in certain cases, requires notice and hearing.

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As for proposed changes to Federal subsistence regulations, the process is addressed in Section .18 of the Federal Subsistence Management Program's regulations (enclosed). The schedule for proposed rulemaking has remained unchanged for many years. The only two recent exceptions to the established schedule has been the last two changes in administrations, which resulted in delays in the publication of Federal Register notices announcing the call for proposals. These exceptions were and are well beyond the scope of the Federal Subsistence Board. Additionally, any other Federal agencies that engage in rulemaking which may affect subsistence is outside of the scope of the Federal Subsistence Board. But, on some occasions, the Regional Advisory Councils are notified and such rulemaking is placed on the Council agenda for comment.

Currently, the day of publication for each Federal Register document is the same day that news releases and emails are sent out to all staff, participants in the Federal Subsistence Management Program, and members of the public. The listserv for the news releases from the Federal Subsistence Management Program includes some 1,200 individuals and organizations. There is also a list of approximately 1,400 individuals and organizations who receive mailings from the Federal Subsistence Management Program, which would include the book of submitted regulatory proposals. Notice of Regional Advisory Council meetings, including information on how to access meeting materials, is distributed through the news release listserv and published in regional papers throughout the State in advance of each meeting. There is also a statewide public radio campaign announcing each meeting cycle and individual meetings.

7. Opposition to the National Park Service (NPS) final rule re Subsistence Collections (36 CFR Part 13) and the U.S. Fish and Wildlife Service (US FWS) final rule re Non-Subsistence Take of Wildlife, and Public Participation and Closure Procedures on National Wildlife Refuges in Alaska

The Council remains in partial opposition to the NPS final rule regarding Subsistence Collections, specifically to the permitting part for Subsistence Use of Plants and Nonedible Animal Parts. The Council feels that requiring a permit or any written authorization from a superintendent is overly strict and unnecessary because collection is limited and is mostly opportunistic. The Council also opposes limiting types of bait in the Use of Bait for Taking Bears Under Federal Subsistence Regulations part of the rule because the defined types of bait are not generally available during bear hunting season, would require special storage and transportation, and do not correspond to bear's feeding habits. The Council believes that the NPS's definition of bear baiting indicates a failure on the part of the NPS to learn and understand traditional practices and ways of baiting bears in Alaska and would encourage waste of other animals.

The Council strongly opposes to the USFWS final rule regarding Non-Subsistence Take of Wildlife, and Public Participation and Closure Procedures on National Wildlife Refuges in Alaska (Rule) in its entirety. The Council feels that the USFWS Rule ultimately eliminates State-authorized seasons and bag limit regulations for the harvest of predators, which the USFWS has incorrectly deemed predator control regulations. The Council asserts that emphasizing the protection of bears, wolves, and coyotes over that of prey species does not go along with the

principles of sound wildlife management and will upset the predator-prey balance. The Council believes that a statewide Rule is not appropriate because regulations need to be specific to the biological concerns in each region of a state as large as Alaska. Moreover, the Rule interferes with traditional management systems, and is only the first step in further limiting subsistence activities. The scientific data does not support limiting predator harvest and the Environmental Assessment does not adequately integrate information and feedback provided by the public.

The Council would like the Board to seek avenues to overturn both the NPS rule re Subsistence Collections (36 CFR Part 13) and the USFWS final rule re Non-Subsistence Take of Wildlife, and Public Participation and Closure Procedures on National Wildlife Refuges in Alaska.

Response: The Refuges Final Rule was nullified when the President of the United States signed House Joint Resolution 69 into law on April 3, 2017. The Resolution invoked the Congressional Review Act, a law that permits regulations passed during the last six months of a previous administration to be overturned.

As for the National Park Service regulation, the Board forwarded that concern to NPS, which provides this response:

In responding to this issue, we first note that agency-specific regulations are not within the purview of the Board, and the Board lacks the authority to direct agencies to take action.

We also note that the Council requested that the NPS change its regulations to allow federally qualified subsistence users to collect horns and antlers for handicrafts in 2007 and that the Council expressed general support for the subsistence collections provisions of the draft regulation in its 2016 comments (attached).

The final rule on Subsistence Collections (attached) was modified to respond to a number of the comments received on the draft rule, including removal of the requirement for written permission to collect plant materials and the addition of provisions to allow for designated collectors.

Also, the written authorization that is required for the collection of animal parts could take the form of a blanket authorization for all local rural residents that meet the eligibility requirements of the regulation. That is the approach that has been taken, for example, by Wrangell-St. Elias National Park and Preserve (attached).

The final rule was modified in response to comments from the Council and others, regarding types of bait that can be used for harvesting bears under Federal Subsistence Regulations. Specifically, that modification allows the Superintendent of Wrangell-St. Elias National Park and Preserve to issue a permit

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to use human-produced food as bait upon a finding that such use is compatible with the park purposes and values and that the permit applicant has no reasonable access to natural bait. This allowance is specific to Wrangell-St. Elias National Park and Preserve because it is the only NPS unit where taking bears over bait has traditionally occurred. We believe that these modifications help to address the concerns about the 2017 Subsistence Collections regulation raised in your annual report.

NPS staff will attend your November 2017 meeting and address questions that you might have about these regulations. For additional information, please contact Mary McBurney, Subsistence Program Manager, NPS Alaska Region, at (907) 644-3596 or Mary_McBurney@nps.gov.

8. *Listeria monocytogenes* in fishery products and processing plants and its potential impact on subsistence fishing and customary trade

*The Council expressed concern over the potential impact on subsistence fishing and customary trade resulting from the research findings presented in the article titled "Incidence and Sources of *Listeria monocytogenes* in Cold-Smoked Fishery Products and Processing Plants" (*Journal of Food Protection*, 1995, Vol. 58, No. 5, pages 502-508) (see Enclosure). The U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) commissioned this research, which states that "the primary source of contamination proved to be the surface areas of frozen or fresh raw fish coming-into the plant" and that although *Listeria monocytogenes* is ubiquitous in the environment, it "causes listeriosis, a disease that can be serious and is often fatal to susceptible individuals." Federal regulatory agencies "have adopted a zero-tolerance policy toward the incidence of the organism in ready-to-eat food products." However, the European Union regulations on presence of *Listeria monocytogenes* in ready-to-eat food are different from the U.S. regulations: the EU safety food limit is 100 bacteria per gram (see Enclosure).*

The Council would like to ask the Board to request the following information from the Food and Drug Administration:

- 1. Comparison of genetic baselines between *Listeria monocytogenes* found in fish and in dairy products, meat, and vegetables;*
- 2. Research findings on whether *Listeria monocytogenes* found in fish is less or not contagious or harmful to humans. The Council believes that no genetic baseline research has been done for *Listeria monocytogenes*;*
- 3. Justification of why the standards of *Listeria monocytogenes* presence in fish are different in the U.S. and the European Union.*

*The Council believes that the lack of appropriate research and existence of stringent food safety standards for *Listeria monocytogenes* contamination have an adverse impact on subsistence fisheries. The State of Alaska Department of Environmental Conservation requirements and*

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regulations regarding the sanitation standards for the subsistence fish camp facilities where fish roe is harvested had resulted in lost economic opportunities.

Response:

The regulatory standards that the Council has identified govern fish that is processed at a commercial plant and distributed and sold commercially, and the Board has no jurisdiction over commercial activities. Subsistence, as defined in ANILCA, does not involve any commercial activity as described in the Food and Drug Administration (FDA) and Alaska Department of Environmental Conservation (ADEC) regulations. Customary trade is included in the Section 803 definition of subsistence use, and is further defined as “exchange for cash of fish and wildlife resources regulated in this part, not otherwise prohibited by Federal law or regulation, to support personal and family needs; and *does not include trade which constitutes a significant commercial enterprise.*” 50 CFR 100.4 (emphasis added). The Board does not have the authority to direct other agencies to conduct particular research or question the basis for their regulations.

By its very title, the study cited by the Council only applies to activities involving “products” at “processing plants.” It refers to recontamination from “processing line and equipment” related to an investigation of raw and smoked fish “products.” The FDA’s jurisdiction only extends to commercially-produced food that is part of interstate commerce. The FDA’s activities regarding *Listeria monocytogenes* are focused solely on the food industry, particularly those parts of the industry that prepare mass-quantity products at commercial food processing plants. The applicable ADEC regulations (18 AAC 34), are limited to seafood processing activities and products that are “to be sold as part of commerce and intended for human consumption.” (18 AAC 34.005(b)). While it is potential that these *Listeria* regulations may affect the ability of someone to earn a living, the Board does not have authority over any regulation which may affect the ability of someone earning an income to pay for subsistence activities. This could include anything from occupational health and safety to wage and insurance regulations.

In closing, I want to thank you and your Council for their continued involvement and diligence in matters regarding the Federal Subsistence Management Program. I speak for the entire Board in expressing our appreciation for your efforts and our confidence that the subsistence users of the Eastern Interior Region are well represented through your work.

Sincerely,



Anthony Christianson
Chair

Chairwoman Entsminger

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Enclosures

cc: Federal Subsistence Board
Eastern Interior Alaska Subsistence Regional Advisory Council
Eugene R. Peltola, Jr., Assistant Regional Director, Office of Subsistence Management
Thomas Doolittle, Deputy Assistant Regional Director, Office of Subsistence Management
Carl Johnson, Council Coordination Supervisor, Office of Subsistence Management
Katerina Wessels, Subsistence Council Coordinator, Office of Subsistence Management
Jill Klein, Special Assistant to the Commissioner, Alaska Department of Fish & Game
Interagency Staff Committee
Administrative Record

Enclosures to Annual Report Reply

§100.18 Regulation adoption process.

(a) The Board will accept proposals for changes to the Federal subsistence regulations in subparts C or D of this part according to a published schedule, except for proposals for emergency and temporary special actions, which the Board will accept according to procedures set forth in §100.19. The Board may establish a rotating schedule for accepting proposals on various sections of subpart C or subpart D regulations over a period of years. The Board will develop and publish proposed regulations in the FEDERAL REGISTER, publish notice in local newspapers, and distribute comments on the proposed regulations in the form of proposals for public review.

(1) Proposals shall be made available for at least a thirty (30) day review by the Regional Councils. Regional Councils shall forward their recommendations on proposals to the Board. Such proposals with recommendations may be submitted in the time period as specified by the Board or as a part of the Regional Council's annual report described in §100.11, whichever is earlier.

(2) The Board shall publish notice throughout Alaska of the availability of proposals received.

(3) The public shall have at least thirty (30) days to review and comment on proposals.

(4) After the comment period the Board shall meet to receive public testimony and consider the proposals. The Board shall consider traditional use patterns when establishing harvest levels and seasons, and methods and means. The Board may choose not to follow any recommendation which the Board determines is not supported by substantial evidence, violates recognized principles of fish and wildlife conservation, or would be detrimental to the satisfaction of subsistence needs. If a recommendation approved by a Regional Council is not adopted by the Board, the Board shall set forth the factual basis and the reasons for its decision in writing to the Regional Council.

(5) Following consideration of the proposals the Board shall publish final regulations pertaining to subparts C and D of this part in the FEDERAL REGISTER.

(b) Proposals for changes to subparts A and B of this part shall be accepted by the Secretary of the Interior in accordance with 43 CFR part 14.

[67 FR 30563, May 7, 2002, as amended at 75 FR 63092, Oct. 14, 2010]

Eastern Interior Alaska Subsistence Regional Advisory Council

U.S. Fish and Wildlife Service
c/o Office of Subsistence Management
1011 East Tudor Road M/S 121
Anchorage, Alaska 99503

RAC EI15068.KW

APR 1 1 2016

Herbert C. Frost, Ph.D.
Regional Director, Alaska Region
National Park Service
240 W 5th Avenue
Anchorage, Alaska 99501

Subject: RIN 1024-AE28

Dear Mr. Frost:

I am writing on behalf of the Eastern Interior Alaska Subsistence Regional Advisory Council (Council) to provide the Council's comments to the proposed changes to 36 CFR Part 13, which the National Park Service (NPS) published in the Federal Register on January 13, 2016 (RIN 1024-AE28).

The Council is one of ten regional advisory councils formed under Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA) and chartered under the Federal Advisory Committee Act. Section 805 of ANILCA and the Council's charter establish its authority to initiate, review and evaluate regulations, policies, management plans, and other matters related to subsistence within the Eastern Interior Region. The Council provides a public forum for discussion and recommendations for subsistence fish and wildlife management in the region. The Council also reviews resource management actions that may impact subsistence resources critical to federally qualified subsistence users whom the Council represents.

The Council held a public meeting on March 10, 2016, in Anchorage, during which the Council discussed the proposed regulatory changes to amend the NPS subsistence regulations. The Council also received a briefing by NPS staff on background information and an update on the changes being considered. We greatly appreciated your being available in person to provide us a further update on the proposed regulatory changes and to listen and respond to our concerns and questions.

The Council would like to comment on two aspects of the proposed changes: (1) subsistence uses of plants and nonedible animal parts and (2) use of bait for taking bears under Federal subsistence regulations. The Council appreciates the NPS's scoping process and outreach on the proposed changes; however, it wants to mention that these efforts sometimes fell short,

Herbert C. Frost

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especially in regards to the bear bait portion of the Proposed Rule. Overall, the Council has concerns about some aspects of the proposed regulations, as noted below. The Council agrees with the proposed rule authorizing the subsistence uses of plants and nonedible animal parts, but not the permitting part. Requiring a permit or any written authorization from the superintendent is unnecessary because collection is limited and is mostly opportunistic. Horn and antlers only last a few years on the tundra since they are eaten by rodents. The Council feels that this regulation is overly strict.

After the discussion on the NPS proposed regulatory changes, the Council reviewed and unanimously endorsed the letter from the Wrangell St. Elias National Park Subsistence Resource Commission (SRC) to the NPS that contains commentary of the NPS Proposed Rule. The Council stated on the record that the Council's position on the NPS Proposed Rule completely aligns with the Wrangell St. Elias SRC's position expressed in the attached letter (enclosure).

The Council also discussed and agreed to submit to the NPS the following points regarding the definition of bait:

- In the Council's opinion, limiting the types of bait to "(1) parts of legally taken native fish or wildlife that are not required to be salvaged; or (2) remains of native fish or wildlife that died of natural causes," would de facto almost completely preclude rural subsistence users from baiting bears because these types of bait are not generally available during bear hunting season and would require special storage and transportation methods (e.g., large freezers, often not available). If the special storage and transportation methods are not implemented the bait would rapidly spoil.
- In the Council's experience, the types of bait for baiting bears in the proposed definition do not correspond to bear's feeding habits. Typically bears do not eat parts "that are not required to be salvaged," e.g. bones, skin, scales, and the guts. The bears eat the flesh of the animals and leave the same parts that humans do.
- The Council believes that the NPS's definition of bear baiting reflects a failure on the part of the NPS in learning and understanding the traditional practices and ways of baiting bears in Alaska. The proposed types of allowed bait would not work in traditional bear baiting.
- The Council thinks that the NPS proposed rule on bear bait would encourage waste of other animals because it potentially would encourage hunters to kill another animal to obtain fresh, allowed bait.

The Council also questions the impact that the use of trained raptors have in the national parks in Alaska, and therefore, it questions the necessity of yet another regulation related to this activity.

The Council appreciates the opportunity to submit comments and recommendations on the proposed statewide regulatory changes on the National Park Service lands. We look forward to hearing from you and continuing to work together in the future.

Herbert C. Frost

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If you have any questions regarding this correspondence, please contact Katerina Wessels, Subsistence Council Coordinator, Office of Subsistence Management, at 1-800-478-1456 or (907) 786-3885 or at katerina_wessels@fws.gov.

Thank you for your consideration.

Sincerely,



Sue Entsminger, Chair

Enclosure

cc: Eastern Interior Alaska Subsistence Regional Advisory Council
Eugene R. Peltola, Jr. Assistant Regional Director, Office of Subsistence Management
Mary McBurney, Interagency Staff Committee
Amee Howard, Policy Coordinator, Office of Subsistence Management
Stewart Cogswell, Acting Deputy Assistant Regional Director,
Office of Subsistence Management
Chris McKee, Wildlife Division Chief, Office of Subsistence Management
Jennifer Hardin, Anthropology Division Chief, Office of Subsistence Management
Theo Matuskowitz, Regulations Division Chief, Office of Subsistence Management
Carl Johnson, Council Coordination Division Chief, Office of Subsistence Management
Katerina Wessels, Subsistence Council Coordinator, Office of Subsistence Management
Federal Subsistence Board
Administrative Record



regulations to have adequate time to review new or pending regulations, and neither the notice and comment process nor delayed effective date could be implemented in time to allow for this review.

List of Subjects in 23 CFR Part 490

Bridges, Highway safety, Highways and roads, Incorporation by reference, Reporting and recordkeeping requirements.

Issued on: February 7, 2017.

Walter C. Waidelech, Jr.,

Acting Deputy Administrator, Federal Highway Administration.

[FR Doc. 2017-02860 Filed 2-10-17; 8:45 am]

BILLING CODE 4910-22-P

DEPARTMENT OF THE INTERIOR

National Park Service

36 CFR Part 13

[NPS-AKRO-22869; PPAKAKROZ5, PPMRLE1Y.L00000]

RIN 1024-AE28

Alaska; Subsistence Collections

AGENCY: National Park Service, Interior.

ACTION: Final rule; delay of effective date.

SUMMARY: In accordance with a January 20, 2017, memorandum of the Chief of Staff for the White House, we, the National Park Service, are delaying the effective date of a rule we published on January 12, 2017.

DATES: The effective date of the rule that published on January 12, 2017, at 82 FR 3626, is delayed from February 13, 2017, to March 21, 2017.

FOR FURTHER INFORMATION CONTACT: Andee Sears, Regional Law Enforcement Specialist, Alaska Regional Office, 240 West 5th Ave., Anchorage, AK 99501. Phone (907) 644-3410. Email: AKR_Regulations@nps.gov.

SUPPLEMENTARY INFORMATION: On January 12, 2017, we published a rule to amend regulations for National Park System units in Alaska to allow qualified subsistence users to collect nonedible fish and wildlife parts and plants for creating handicrafts for barter and customary trade. The rule also clarifies that capturing, collecting or possessing living wildlife is generally prohibited and adopts restrictions on using human-produced foods to bait bears for subsistence uses. The rule was to be effective on February 13, 2017.

On January 20, 2017, the Chief of Staff for the White House issued a

memorandum instructing Federal agencies to temporarily postpone the effective date for 60 days after January 20, 2017, of any regulations that have published in the **Federal Register** but not yet taken effect, for the purpose of “reviewing questions of fact, law, and policy they raise.” We are, therefore, delaying the effective date of our rule published on January 12, 2017, at 82 FR 3626 (see **DATES**, above) to allow sufficient time for review of the rule relative to national wildlife management policy.

To the extent that 5 U.S.C. 553 applies to this action, it is exempt from notice and comment because it constitutes a rule of procedure under 5 U.S.C. 553(b)(A). Alternatively, our implementation of this action without opportunity for public comment, effective immediately upon publication in the **Federal Register**, is based on the good cause exceptions in 5 U.S.C. 553(b)(B) and 553(d)(3). Pursuant to 5 U.S.C. 553(b)(B), we have determined that good cause exists to forego the requirement to provide prior notice and an opportunity for public comment thereon for this rule as such procedures would be impracticable, unnecessary and contrary to the public interest. We are temporarily postponing for 60 days the effective date of this regulation pursuant to the previously-noted memorandum of the Chief of Staff. As a result, seeking public comment on this delay is unnecessary and contrary to the public interest. For these same reasons we find good cause to waive the 30-day delay in effective date provided for in 5 U.S.C. 553(d).

Authority: 16 U.S.C. 3124; 54 U.S.C. 100101, 100751, 320102; Sec. 13.1204 also issued under Sec. 1035, Public Law 104-333, 110 Stat. 4240.

Maureen D. Foster,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 2017-02890 Filed 2-10-17; 8:45 am]

BILLING CODE 4312-52-P

LEGAL SERVICES CORPORATION

45 CFR Part 1611

Income Level for Individuals Eligible for Assistance

AGENCY: Legal Services Corporation.

ACTION: Final rule.

SUMMARY: The Legal Services Corporation (LSC or the Corporation) is required by law to establish maximum income levels for individuals eligible for legal assistance. This document updates the specified income levels to reflect the

annual amendments to the Federal Poverty Guidelines issued by the Department of Health and Human Services (HHS).

DATES: Effective February 13, 2017.

FOR FURTHER INFORMATION CONTACT: Stefanie K. Davis, Assistant General Counsel, Legal Services Corporation, 3333 K St. NW., Washington, DC 20007; (202) 295-1563; *sdavis@lsc.gov*.

SUPPLEMENTARY INFORMATION: Section 1007(a)(2) of the Legal Services Corporation Act (Act), 42 U.S.C. 2996f(a)(2), requires the Corporation to establish maximum income levels for individuals eligible for legal assistance. Section 1611.3(c) of the Corporation’s regulations establishes a maximum income level equivalent to 125% of the Federal Poverty Guidelines (Guidelines), which HHS is responsible for updating and issuing. 45 CFR 1611.3(c).

Each year, LSC publishes an update to Appendix A of 45 CFR part 1611 to provide client income eligibility standards based on the most recent Guidelines. The figures for 2017, set out below, are equivalent to 125% of the Guidelines published by HHS on January 31, 2017, 82 FR 8832.

In addition, LSC is publishing a chart listing income levels that are 200% of the Guidelines. This chart is for reference purposes only as an aid to recipients in assessing the financial eligibility of an applicant whose income is greater than 125% of the applicable Guidelines amount, but less than 200% of the applicable Guidelines amount (and who may be found to be financially eligible under duly adopted exceptions to the annual income ceiling in accordance with 45 CFR 1611.3, 1611.4, and 1611.5).

Except where there are minor variances due to rounding, the amount by which the guideline increases for each additional member of the household is a consistent amount.

List of Subjects in 45 CFR Part 1611

Grant Programs—Law, Legal services.

For reasons set forth in the preamble, the Legal Services Corporation amends 45 CFR part 1611 as follows:

PART 1611—ELIGIBILITY

■ 1. The authority citation for part 1611 is revised to read as follows:

Authority: 42 U.S.C. 2996g(e).

■ 2. Revise appendix A to part 1611 to read as follows:



United States Department of the Interior

NATIONAL PARK SERVICE
Wrangell-St. Elias National Park & Preserve
Mile 106.8 Richardson Hwy., P.O. Box 439
Copper Center, AK 99573-0439
907 822 5234 Fax 907 822 3281
<http://www.nps.gov/wrst>



Authorization for the Subsistence Collection and Use of Animal Parts

Local rural residents are authorized to collect animal parts (excluding parts of threatened or endangered species) for subsistence uses in Wrangell-St. Elias National Park and Preserve provided that:

- (1) The local rural residents make their primary permanent residence in an area or community with a federally recognized customary and traditional use determination for the species in the game management unit where the collecting occurs (50 CFR part 100); and
- (2) For collections within the National Park, the rural resident must additionally live in the Wrangell-St. Elias Resident Zone (see 36 CFR 13.1902(a)), live within the external boundaries of Wrangell-St. Elias National Park, or hold a §13.440 permit from the park.

The use of paid employees to collect animal parts is prohibited. The sale of raw, unworked animal parts collected under this authorization is prohibited.

Collection and use of bird feathers continues to be subject to any applicable federal and state laws. Feathers may only be collected if such collection is not prohibited by the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, or other applicable law.


Areas open to collection: All NPS-managed lands within Wrangell-St. Elias National Park and Preserve.

Conditions, limits or other restrictions on collection activities: None.

Authorizing legislation or other authority: 36 CFR 13.482.

Expiration date: Until rescinded.

Authorizing official:



Superintendent Ben Bobowski



Date

Henshaw Creek Weir
SFR Permit SF2017-163
By Nicole Farnham (Tanana Chiefs Conference)

The Henshaw Creek weir project's primary objective is to monitor the escapement of Chinook Salmon *Oncorhynchus tshawytscha* and summer Chum Salmon *O. keta*. Henshaw Creek drains an area of 1,568 km². The mouth of Henshaw Creek is located 1,978 rkm from the mouth of the Yukon River and 721 rkm from the mouth of the Koyukuk River in West-Central Alaska. The weir site is located 1.4 rkm upstream of the mouth of Henshaw Creek and 1,979.4 rkm from the mouth of the Yukon River. The weir location coordinates are N 66.55611, W 152.21138 (WGS84). The project occupies land owned by K'oyit!ots'ina, Limited (K-Corp). The Henshaw Creek weir site has a width of 29 m, a depth of 0.68 m, and a substrate composition consisting of small cobble from 50-150 mm in diameter. In 2000, the Fairbanks Fish and Wildlife Field Office (FFWFO) installed a weir 1.4 rkm upriver from the mouth of Henshaw Creek. In 2001 the weir site was moved 23 meters upstream due to consistent high water problems during the 2000 summer season. The present location has proven more suitable because the banks on both sides of the creek are more stable than at the previous site. Henshaw Creek has a moderate flow rate with a rapid response to rainfall.

The Henshaw Creek Weir project was initiated and operated by the FFWFO in 2000. Beginning in 2005 and continuing through 2007, the project was jointly operated by both the FFWFO and the Tanana Chiefs Conference (TCC). In 2008 TCC assumed full operational responsibilities for the escapement project. TCC continues to collaborate with the FFWFO, through reporting the in-season escapement data for daily distribution of the salmon run throughout the season.

2017 Field Season

Funding for weir operations during the 2017 season was granted through the USFWS Office of Subsistence Management (OSM). This funding covered the cost of four technicians and one project biologist, logistics, food, and supplies for the project. Additionally in kind support was provided by the USFWS Kanuti National Wildlife Refuge (KNWR). The FFWFO provided motorboat operator training and First Aid/CPR training.

Bettles, Alaska is located 88 rkm upriver from Henshaw Creek and is used as a staging area for the crew and camp supplies. The KNWR allows the crew of the Henshaw Creek weir project the use of a diesel Dodge truck for transportation while in town, and space in the KNWR hangar for winter storage of field equipment (tents, sampling gear and emergency supplies). The TCC personnel stayed at the interagency bunkhouse while in Bettles. Weir and camp materials were transported to the site utilizing two boats, a 22 ft. Phantom Sport John with a Mercury 210 hp inboard jet, and a 22 ft Alweld riverboat with an outboard 150 hp Honda 4-stroke jet engine and gear drop charter by Brooks Range Aviation.

The Henshaw Creek campsite was located 23 meters downstream from the weir on a sand bar. Camp facilities included two, 8x10 ft. wall tents and two weatherports (one 10x12 ft. and one 12x18 ft.). The two wall tents and a smaller weatherport were located together on one raised platform, and the larger weatherport, which was used as the kitchen tent was located on a separate platform. Kitchen and camp amenities included propane stove, propane refrigerator,

wood stove, sand point well, an outhouse, solar powered chest freezer, and a shower tent. A solar powered bear deterrent fence surrounded the camp.

In 2017, the crew installed the weir in the same spot as 2001-2016. The TCC Henshaw Creek field crew consisted of crew leader, Adam Paskvan, and three fisheries technicians, Stephen Greenlaw, Jerry Joseph, and Kelly Walker. The Henshaw crew arrived at the Henshaw Camp location on June 21, including project biologist Nicole Farnham and volunteer from Nenana, Dennis Argall. Daily hydrological and weather information were reported seven days a week by satellite phone to the FFWFO at 08:30. Camp was set up between June 21- 22 and weir set up began on June 23. The weir was fish tight on June 25th and 24 hour counts began that day at 1200 hours. On June 28th, Nicole Farnham and Dennis Argall headed back to Fairbanks. The first summer Chum Salmon came through on June 25 and the first Chinook Salmon came through on June 26. The preliminary escapement estimate was 677 Chinook Salmon, 360,687 summer Chum Salmon, 1 Sockeye Salmon, 155 Grayling, 804 Whitefish, 30 Northern Pike, and 5,453 Longnose Suckers. A total of 489 Chinook Salmon were sampled, 72.2% of the total fish counted. Of those sampled, 263 were male and 226 were female, for an unweighted sex ratio of 46.2% female. A total of 760 summer Chum Salmon were sampled, 0.21% of the total fish counted. Of those sampled, 276 were male and 484 were female, for an unweighted sex ratio of 63.7% female.

The crew had a few smoky days throughout the season due to nearby wildfires, but it did not impede weir operations. Science Camp was conducted from July 18 to July 21. A fish net was set for 30min to catch 11 summer chum salmon for fish dissection and traditional fish cutting. The weir shut down at 1200 hours on July 30. The crew picked up Nicole Farnham and Tom Kron in Allakaket on July 31st and sent home Kelly Walker. Weir and camp disassembly occurred August 1 to August 4. Evening of August 2 the water rose and the crew put camp away but had to wait a few days before traveling for the right river conditions. The crew traveled from the Henshaw Weir site to Bettles on August 6 to store the boats and gear for the winter. The crew returned back to Fairbanks on August 8.

Recommendations for the 2018 season are:

- Purchases for the next field season will consist of plywood to resurface the sleeping platform, another solar panel for the freezer, and a small 17ft skiff with a 40hp engine to drive up and down the creek (due to extremely low water levels).
- We would like to look into the possibility of working with the K-Corp villages and or Kanuti NWR to build a permanent cabin on site.
- The crew will also be building a new fish relief pin because the current one is made out of sand bags and each year when the project gets its July flooding it gets knock down. The crew will be building one out of long weir pickets.

Table 1. Inseason data for the Henshaw Creek weir, Alaska 2017. Highlighted green numbers indicates a partial day count and the numbers were extrapolated.

Date	Chinook							Summer Chum							
	Daily	Cum	Cum Prop	M	F	Total	% F	Daily	Cum	Cum Prop	M	F	Total	% F	
6/18															
6/19															
6/20															
6/21															
6/22															
6/23															
6/24															
6/25	0	0	0.00			0		24	24	0.00			0		
6/26	1	1	0.00			0		220	244	0.00			0		
6/27	0	1	0.00			0		341	585	0.00			0		
6/28	1	2	0.00			0		529	1,114	0.00	4	12	16	75.0%	
6/29	1	3	0.00			0		876	1,990	0.01	18	22	40	55.0%	
6/30	1	4	0.01	1	0	1	0.0%	1270	3,260	0.01			0		
7/1	1	5	0.01	1	0	1	0.0%	1280	4,540	0.01	15	25	40	62.5%	
7/2	4	9	0.01	3	0	3	0.0%	2510	7,050	0.02	16	24	40	60.0%	
7/3	11	20	0.03	5	2	7	28.6%	5,467	12,517	0.03	8	16	24	66.7%	
7/4	14	34	0.05	7	4	11	36.4%	9,700	22,217	0.06			0		
7/5	30	64	0.09	15	9	24	37.5%	11,513	33,730	0.09	23	17	40	42.5%	
7/6	28	92	0.14	12	6	18	33.3%	13,046	46,776	0.13			0		
7/7	24	116	0.17	18	3	21	14.3%	14,973	61,749	0.17	16	24	40	60.0%	
7/8	46	162	0.24	24	14	38	36.8%	17,988	79,737	0.22			0		
7/9	38	200	0.30	21	11	32	34.4%	17,348	97,085	0.27	18	22	40	55.0%	
7/10	24	224	0.33	8	6	14	42.9%	10,313	107,398	0.30			0		
7/11	36	260	0.38	13	7	20	35.0%	19,582	126,980	0.35	19	21	40	52.5%	
7/12	78	338	0.50	23	38	61	62.3%	36,095	163,075	0.45	9	31	40	77.5%	
7/13	73	411	0.61	33	23	56	41.1%	32,041	195,116	0.54			0		
7/14	41	452	0.67	13	13	26	50.0%	30,317	225,433	0.63			0		
7/15	26	478	0.71	12	10	22	45.5%	21,995	247,428	0.69	14	26	40	65.0%	
7/16	24	502	0.74	10	7	17	41.2%	14,523	261,951	0.73	16	24	40	60.0%	
7/17	26	528	0.78	9	6	15	40.0%	15,110	277,061	0.77			0		
7/18	18	546	0.81	2	7	9	77.8%	12,843	289,904	0.81	10	30	40	75.0%	
7/19	17	563	0.83	5	6	11	54.5%	13,025	302,929	0.84			0		
7/20	12	575	0.85	3	2	5	40.0%	10,255	313,184	0.87	9	31	40	77.5%	
7/21	11	586	0.87	4	3	7	42.9%	5,508	318,692	0.89	18	22	40	55.0%	
7/22	19	605	0.89	3	13	16	81.3%	10,634	329,326	0.91			0		
7/23	8	613	0.91	1	5	6	83.3%	6,524	335,850	0.93			0		
7/24	8	621	0.92	2	5	7	71.4%	3,182	339,032	0.94	15	25	40	62.5%	
7/25	17	638	0.94	4	7	11	63.6%	7,075	346,107	0.96	18	22	40	55.0%	
7/26	20	658	0.97	7	9	16	56.3%	5,854	351,961	0.98	10	30	40	75.0%	
7/27	9	667	0.99	1	6	7	85.7%	3,233	355,194	0.99			0		
7/28	7	674	1.00	2	2	4	50.0%	2,181	357,375	0.99	9	31	40	77.5%	
7/29	3	677	1.00	1	2	3	66.7%	2,098	359,473	1.00	11	29	40	72.5%	
7/30	0	677	1.00			0		595	360,068	1.00			0		
7/31		677	1.00			0			360,068	1.00			0		
8/1		677	1.00			0			360,068	1.00			0		
8/2		677	1.00			0			360,068	1.00			0		
8/3		677	1.00			0			360,068	1.00			0		
8/4		677	1.00			0			360,068	1.00			0		
8/5		677	1.00			0			360,068	1.00			0		
8/6		677	1.00			0			360,068	1.00			0		
8/7		677	1.00			0			360,068	1.00			0		
8/8		677	1.00			0			360,068	1.00			0		
8/9		677	1.00			0			360,068	1.00			0		
8/10		677	1.00			0			360,068	1.00			0		
Total		677		263	226	489	**		360,068		276	484	760	**	64%

Henshaw Creek Weir 2017 In-season Report

Table 1 (con't). Inseason data for the Henshaw Creek weir, Alaska 2017. Highlighted green numbers indicates a partial day count and the numbers were extrapolated.

Date	Pink		Sockeye		Whitefish		Pike		Grayling		Sucker		Other	
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
6/18														
6/19														
6/20														
6/21														
6/22														
6/23														
6/24														
6/25	0	0	0	0	0	0	0	0	5	5	0	0	0	0
6/26	0	0	0	0	10	10	0	0	3	8	14	14	0	0
6/27	0	0	0	0	8	18	1	1	10	18	115	129	0	0
6/28	0	0	0	0	14	32	1	2	2	20	196	325	0	0
6/29	0	0	0	0	0	32	0	2	1	21	15	340	0	0
6/30	0	0	0	0	2	34	0	2	6	27	137	477	0	0
7/1	0	0	0	0	1	35	1	3	2	29	47	524	0	0
7/2	0	0	0	0	0	35	0	3	4	33	25	549	0	0
7/3	0	0	0	0	53	88	4	7	13	46	530	1,079	0	0
7/4	0	0	0	0	105	193	1	8	9	55	386	1,465	0	0
7/5	0	0	0	0	87	280	2	10	26	81	279	1,744	0	0
7/6	0	0	0	0	48	328	5	15	12	93	217	1,961	0	0
7/7	0	0	0	0	15	343	1	16	8	101	165	2,126	0	0
7/8	0	0	0	0	22	365	2	18	7	108	303	2,429	0	0
7/9	0	0	0	0	39	404	1	19	1	109	236	2,665	0	0
7/10	0	0	0	0	10	414	1	20	2	111	22	2,687	0	0
7/11	0	0	0	0	7	421	0	20	3	114	17	2,704	0	0
7/12	0	0	0	0	15	436	0	20	3	117	294	2,998	0	0
7/13	0	0	0	0	30	466	0	20	1	118	278	3,276	0	0
7/14	0	0	0	0	33	499	0	20	5	123	226	3,502	0	0
7/15	0	0	0	0	32	531	1	21	9	132	248	3,750	0	0
7/16	0	0	0	0	30	561	1	22	0	132	236	3,986	0	0
7/17	0	0	0	0	16	577	0	22	1	133	70	4,056	0	0
7/18	0	0	0	0	6	583	1	23	0	133	27	4,083	0	0
7/19	0	0	0	0	10	593	4	27	3	136	65	4,148	0	0
7/20	0	0	0	0	28	621	0	27	2	138	95	4,243	0	0
7/21	0	0	0	0	7	628	0	27	2	140	59	4,302	0	0
7/22	0	0	0	0	8	636	0	27	3	143	38	4,340	0	0
7/23	0	0	0	0	20	656	0	27	0	143	29	4,369	0	0
7/24	0	0	0	0	9	665	0	27	1	144	12	4,381	0	0
7/25	0	0	0	0	11	676	1	28	1	145	0	4,381	0	0
7/26	0	0	0	0	8	684	0	28	2	147	49	4,430	0	0
7/27	0	0	0	0	27	711	1	29	2	149	439	4,869	0	0
7/28	0	0	1	1	24	735	1	30	0	149	263	5,132	0	0
7/29	0	0	0	1	31	766	0	30	1	150	130	5,262	0	0
7/30	0	0	0	1	19	785	0	30	0	150	93	5,355	0	0
7/31		0		1		785		30		150		5,355		0
8/1		0		1		785		30		150		5,355		0
8/2		0		1		785		30		150		5,355		0
8/3		0		1		785		30		150		5,355		0
8/4		0		1		785		30		150		5,355		0
8/5		0		1		785		30		150		5,355		0
8/6		0		1		785		30		150		5,355		0
8/7		0		1		785		30		150		5,355		0
8/8		0		1		785		30		150		5,355		0
8/9		0		1		785		30		150		5,355		0
8/10				1										
Total		0		1		785		30		150		5,355		0

Table 1 (con't). Inseason data for the Henshaw Creek weir, Alaska 2017.

Date	Water			Weather			Comments
	Staff Gauge (m)	Temp °C	Turbidity	Ceiling	Wind Speed (mph) & Direction	Air Temp °C (Avg.)	
6/18							
6/19							
6/20							
6/21							
6/22							
6/23							
6/24							Fish Tight 2000
6/25	0.86	12.2	Clear	Clear Sunny	1.3 NE	17.0	Started Counting 1200
6/26	0.84	12.9	Clear	Partly Cloudy	2.0 N	25.6	
6/27	0.84	13.6	Clear	Partly Cloudy	2.0 NNE	26.0	
6/28	0.83	12.8	Clear	Partly Cloudy	1.0 SSW	21.3	
6/29	0.82	12.4	Clear	Cloudy Rainy	1.0 N	24.9	
6/30	0.82	12.2	Clear	Cloudy	2.5 SW	21.1	
7/1	0.82	12.3	Clear	Cloudy Rainy	1.5 SSW	21.2	
7/2	0.82	13.2	Clear	Sunny	2.0 SW	25.1	
7/3	0.82	14.2	Clear	Clear Sunny	1 NW	24.1	
7/4	0.84	13.7	Clear	Partly Cloudy	3.0 SW	25.8	
7/5	0.85	14.4	Clear	Partly Cloudy	2.0 S	24.7	
7/6	0.85	13.9	Clear	Sunny	1.5 S	26.0	
7/7	0.84	13.9	Clear	Sunny	1.0 W	25.6	
7/8	0.83	14.5	Clear	Sunny	1.9 S	25.2	
7/9	0.82	13.1	Clear	Smoky Cloudy	2.0 NNE	19.4	
7/10	0.82	10.9	Clear	Smoky Rainy	1.0 S	21.9	
7/11	0.83	11.3	Clear	Smoky Cloudy	1.0 S	23.6	
7/12	0.81	13.3	Clear	Smoky Cloudy	1.0 S	17.6	
7/13	0.80	14.2	Clear	Clear Sunny	0.25 NE	27.9	
7/14	0.80	14.5	Clear	Clear Sunny	1.0 NE	33.0	
7/15	0.80	14.8	Clear	Clear Sunny	2.5 S	27.0	
7/16	0.79	15.1	Clear	Clear Sunny	2.5 S	23.8	
7/17	0.78	13.9	Clear	Clear Sunny	2.0 S	25.0	
7/18	0.79	13.6	Clear	Smoky Partly Cloudy	3.0 SSW	24.0	
7/19	0.79	14.0	Clear	Cloudy	2.0 NNW	28.5	
7/20	0.80	14.1	Clear	Partly Cloudy	4.0 NNE	24.9	
7/21	0.80	13.2	Clear	Clear Sunny	2.0 NNE	22.9	
7/22	0.79	13.0	Clear	Foggy Smoky	2.0 S	23.9	
7/23	0.79	11.7	Clear	Cloudy Rainy	2.0 S	16.2	
7/24	0.81	10.5	Clear	Cloudy	3.0 SSW	13.9	1st official day below 1%
7/25	0.82	11.7	Clear	Cloudy	1.0 S	18.1	Run is at 2%
7/26	0.83	12.8	Clear	Partly Cloudy	1.5 NNE	22.1	
7/27	0.82	13.6	Clear	Sunny Smokey	1.0 N	24.4	
7/28	0.80	12.5	Clear	Partly Cloudy/Rain	1.0 N/S	22.1	
7/29	0.80	13.5	Clear	Sunny	1.0 S	22.7	
7/30	0.80	11.3	Clear	Clear Sunny	1.0 SSE	23.2	Stopped counting at 12:00 pm on 7/30/17
7/31							
8/1							
8/2							
8/3							
8/4							
8/5							
8/6							
8/7							
8/8							
8/9							
8/10							

An additional report with more in depth data analyses will be completed and submitted to the USFWS Office of Subsistence Management's Fisheries Resource Monitoring Program. The report should be made available by June, 2018. Please contact me with any questions.

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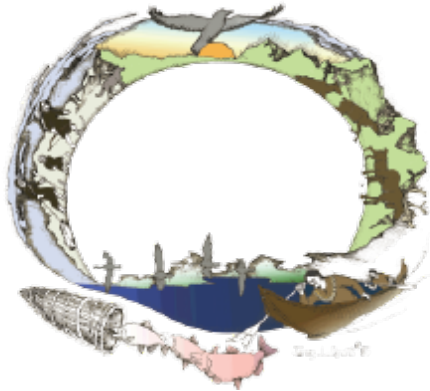
Tanana Chiefs Conference

**Abundance and Run Timing of Adult Salmon
in Henshaw Creek, Kanuti National Wildlife
Refuge, Alaska, 2014-2016**

FIS 14-209



**Tanana Chiefs Conference, Fisheries Program
Fairbanks, Alaska
June 2017**



Tanana Chiefs Conference

The Tanana Chiefs Conference's Fisheries Program strives to continually build educational capacity and expertise in fisheries science and management throughout the TCC region, including the Yukon and Kuskokwim River drainages. Our goals are to utilize western science and traditional knowledge to enable sustainable fisheries, and to advocate for cultural and traditional fishing and hunting rights. We endeavor to accomplish these goals by partnering with other Tribal organizations, NGO's, and State and Federal agencies to better manage, protect, and preserve our fisheries resources.

<http://www.tananachiefs.org/sustainability/fish-wildlife/>

Cover Photo: The 2016 Henshaw Creek Weir crew-courtesy of Brian McKenna, 2016.

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Abundance and Run Timing of Adult Salmon in Henshaw Creek, Kanuti National Wildlife Refuge, Alaska, 2014 - 2016

Nicole Farnham & Brian McKenna

Abstract

The Tanana Chiefs Conference Fisheries program received funding from the OSM FRMP to operate a resistance board weir in 2014, 2015, and 2016 to collect information on abundance and run timing of Chinook salmon *Oncorhynchus tshawytscha* and chum salmon *O. keta* migrating up the Henshaw Creek, a tributary to the Koyukuk River, Alaska. No data was collected in 2014, as the weir was not installed or operated due to persistent flooding. The estimated escapements for Chinook salmon in 2015 and 2016 were 2,391 and 1,354, respectively. Escapements in both years were above the 2000-2013 average estimated escapement of 966 Chinook salmon. The estimated sex composition for Chinook salmon was 40% female fish in 2015 and 45% female fish in 2016. Three age classes of Chinook salmon constituted the majority of the run in both years; age class 1.2, 1.3, and 1.4. The predominant age class for Chinook salmon in 2015 was age class 1.3 (41%), followed by age class 1.4 (34%) and age class 1.2 (25%). The predominant age class for Chinook salmon in 2016 was age class 1.3 (63%), followed by age class 1.4 (25%) and age class 1.2 (11%). The estimated escapements for summer chum salmon in 2015 and 2016 were 238,529 and 286,780, respectively. Escapements for both years were above the 2000-2013 average estimated escapement of 127,914 summer chum salmon. The estimated sex composition for summer chum salmon was 64% female fish in 2015 and 57% female fish in 2016. Two age classes of summer chum salmon constituted the majority of the run in both years; age class 0.3 and 0.4. The predominant age class for summer chum salmon in 2015 was age class 0.4 (59%), followed by age class 0.3 (37%). Similarly, the predominant age class for summer chum salmon in 2016 was age class 0.3 (69%), followed by age class 0.4 (29%). Five other fish species passed through the weir including longnose sucker *Catostomus catostomus*, arctic grayling *Thymallus arcticus*, whitefish sp. *Coregoninae*, northern pike *Esox lucius*, and Sockeye salmon *O. nerka*. The continued operation of this weir has provided a valuable long term data set dating back to the year 2000. The continuation of this project, and other escapement projects, is vital to successful management of Chinook salmon and summer chum salmon, as the data they provide aid managers in developing stock specific spawner-recruit relationships and evaluating how tributary systems respond to management actions. Furthermore, quality escapement data from tributaries like Henshaw Creek can help managers understand the contributions smaller tributaries make to the overall salmon runs throughout the Yukon River.

Introduction

Henshaw Creek, a tributary to the Koyukuk River, is located within the Kanuti National Wildlife Refuge (KNWR) in the Interior of Alaska. Henshaw Creek provides spawning and rearing habitat for Chinook salmon *Oncorhynchus tshawytscha* and summer chum salmon *O. keta*, as well as several other resident fish species. Chinook salmon and summer chum salmon from Henshaw Creek contribute to the mixed-stock fisheries in the Yukon and Koyukuk rivers (USFWS 1993).

Chinook salmon and summer chum salmon runs of the Yukon River Basin have demonstrated an overall decline in productivity (Bergstrom et al. 2001; JTC 2014). These declines have led to harvest restrictions, fishery closures, and spawning escapements below management goals (Kruse 1998; JTC 2015). In 2000, the Alaska Board of Fisheries classified Yukon River Chinook salmon as a stock of yield concern in response to low returns (Hayes et al. 2006). Low returns of Chinook salmon have persisted since 2007, resulting in subsistence fishery restrictions and closures, as well as multiple commercial fishery failures pursuant to the Magnuson-Stevens Fishery Act. Low returns of Chinook salmon have continued through the 2014 - 2016 salmon runs. During these low return years, in-season management efforts to protect Chinook salmon were enacted by fishery managers in an attempt to meet biological escapement goals and to comply with international treaty obligations. These management actions included intensified gear restrictions on subsistence fishers, coupled with fishery closures of subsistence salmon fishing periods (JTC 2016). These management actions resulted in increased hardships for Native Alaskans who rely heavily upon salmon as a subsistence food resource as well as a means to continue to practice their ancestral, cultural and traditional way of life. Because of the current state of the Yukon River Chinook salmon, and the complexity of mixed stock fisheries for both Chinook salmon and summer chum salmon, responsible management of these resources is paramount. In order to develop proper management strategies, managers need high quality data describing Chinook salmon and summer chum salmon escapements and age, sex, and length data (ASL). Without accurate escapement estimates from multiple Yukon River tributaries, managers are unable to determine stock specific spawner-recruit relationships (Labelle 1994), and will lack data to evaluate how these systems respond to management actions. Furthermore, quality escapement data from tributaries throughout the Yukon drainage can help fisheries managers to better understand population specific contributions to the overall salmon runs in the Yukon River.

Henshaw Creek has been determined to be an important producer of Chinook salmon and summer chum salmon, and has been monitored with a weir since 2000 (Barton 1984; Dupuis, 2012). The U.S. Fish and Wildlife Service (USFWS), Fairbank Fish and Wildlife Field Office (FFWFO) and, more recently, biologists with the Tanana Chiefs Conference (TCC) have collected salmon escapement and ASL data from the weir since it was installed (e.g., VanHatten 2002; O'Brien and Berkbigler 2005). The Henshaw Creek weir project is one of two salmon escapement projects currently operated within the Koyukuk River drainage (Carlson and McGuire, 2015). Since 2000, escapement estimates in Henshaw Creek have ranged from 244 to 2,391 Chinook salmon and from 22,556 to 292,082 summer chum salmon (Appendix 5). Both Chinook salmon and summer chum salmon from Henshaw Creek contribute to the subsistence harvests of villages within the Kanuti National Wildlife Refuge as well as to the harvests of subsistence and commercial fisheries occurring in the Yukon River. Information collected at Henshaw Creek weir is important to fisheries managers who have the difficult task of managing the complex mixed stock, subsistence and commercial salmon fisheries in the Yukon River. Pre-season estimates, in-season management actions and post season evaluations of management actions are enhanced by the data from this project. Objectives of the Henshaw Creek weir were to (1) determine daily escapement and run timing of adult salmon, (2) determine age, sex, and length compositions of adult salmon, (3) document upstream movement and presence of resident fishes, and (4) serve as an outreach platform for KNWR staff and Partners Program fisheries biologist to conduct an onsite science camp.

Study Area

Henshaw Creek is a small, clear water tributary of the Koyukuk River in north-central Alaska (Figure 1). The creek originates in the Alatna Hills and flows southeasterly for approximately 144 km before entering the Koyukuk River. The weir site is approximately 1.5 km upstream from the mouth of Henshaw Creek. The climate of this area is cold and continental, and is characterized by extreme seasonal temperature variations and low precipitation. Summer air temperatures range from 18°C to 21°C, with winter lows nearing -57°C (USFWS 1993). Stream discharge is the highest during the spring in response to snow melt with occasional peak discharge periods in the summer as a result of heavy rain showers.

Channel configuration is typically meandering with alternating cut banks and gravel bars. The substrate is composed primarily of medium to large gravel (8–64 mm) and small cobble (64–128 mm) in the areas of higher water velocity. Sand and silt substrate is common in the pools. The channel width at the weir site is approximately 30 m with an average depth of 0.6 m for most of the summer.

Methods

Weir Construction and Deployment

A resistance board weir was used to enumerate and collect biological data from adult salmon as they migrated up Henshaw Creek to spawn. The Henshaw Creek weir has been installed at the same site since 2000, following the construction and installation methods described by Tobin (1994). Each picket of the weir was made of schedule-40 polyvinyl chloride (PVC) electrical conduit with 2.5 cm inside diameter with individual pickets spaced 3.2 cm apart. The weir was visually inspected for integrity and cleaned of debris daily. A live trap was installed approximately mid-channel, near the thalweg, allowing fish to be recorded as they passed through the weir and, when necessary, the trap could be closed to hold fish for sampling. Water depth (cm) and temperature (°C) were recorded daily at the trap.

Biological Data

The annual project start dates were based on previous years' run timing data. The end dates were determined in-season when the daily count of each species dropped to less than 1% of the seasonal passage to date and remained at this level for at least three consecutive days. Run timing and abundance of adult Chinook and summer chum salmon were estimated by recording the number of each species of fish passing through the weir each day. Because non-salmon fish species were not handled, it was difficult to differentiate between whitefish species. Therefore, all whitefish species were grouped under the subfamily *Coregoninae*.

The daily counting schedule was dependent upon the level of fish passage through the weir. During the beginning and end of the run, when hourly counts were low, counting was conducted between 0800 and 2400 hours, with the trap closed from 2400 to 0800 hours to prevent upstream passage during unmonitored times. As the run increased in strength, the counting schedule increased to 24 hours a day.

A stratified random sampling scheme (Cochran 1977), with weeks as the strata, was used to collect age, sex, and length data from both adult salmon species. Sampling started at the beginning of each week and generally was conducted over a three to four day period, targeting 160 salmon/species/week. Lengths of Chinook and summer chum salmon were measured to the nearest 5 mm from mid-eye to fork of the caudal fin (MEFL), and sex was visually determined by external morphological characteristics. Scales were used for ageing; with age class information reported using the European method (Foerster 1968). Three scales were collected from each Chinook salmon sampled, and one scale from each summer chum salmon sampled. Scales were sampled from the area located on the left side of the fish and two rows above the lateral line on a diagonal from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin. Scales from both adult salmon species were sent to the Alaska Department of Fish and Game Division of Commercial Fisheries. Age 1.2 Chinook salmon were assumed to be males regardless of their field determination (Brady 1983; Bales 2007; Karpovich and Dubois 2007). Daily escapement counts and sex ratios were reported to the U.S. Fish and Wildlife Service Fairbanks Fish and Wildlife Field Office.

Data Analysis

Days with counts greater than 6 hours (h) but less than 24 h were adjusted for a 24 h period using:

$$E_d = (24/T_d) \bullet C_d,$$

Where E_d = estimated daily count for day d , T_d = number of hours sampled during day d , and C_d = number of fish counted during the time sampled in day d . Counts from days with less than 6 h of the day counted were disregarded and those days were treated as completely missed days. Completely missed days were estimated by linear interpolation from the daily counts before and after the missing period.

Calculations for age and sex information were treated as a stratified random sample (Cochran 1977) with statistical weeks as the strata. A statistical week was generally defined as beginning on Monday and ending on Sunday. Within a week, the proportion of the samples composed of a given sex or age, \hat{p}_{ij} , were calculated as:

$$\hat{p}_{ij} = \frac{n_{ij}}{n_j},$$

where n_{ij} is the number of fish by sex i or age i sampled in week j , and n_j is the total number of fish sampled in week j . The variance of \hat{p}_{ij} was calculated as:

$$\hat{v}(\hat{p}_{ij}) = \frac{\hat{p}_{ij}(1 - \hat{p}_{ij})}{n_j - 1}.$$

Sex and age compositions for the total run of Chinook salmon and summer chum salmon of a given sex or age, \hat{p}_i were calculated as:

$$\hat{p}_i = \sum_{j=1} \hat{W}_j \hat{p}_{ij},$$

where \hat{W}_j = the stratum weight and was calculated as:

$$\hat{W}_j = \frac{N_j}{N},$$

and N_j equals the total number of fish of a given species passing through the weir during week j , and N is the total number of fish of a given species passing through the weir during the run. Variance, $\hat{v}(\hat{p}_i)$ of sex and age compositions for the run was calculated as

$$\hat{v}(\hat{p}_i) = \sum_{j=1} \hat{W}_j^2 \hat{v}(\hat{p}_{ij}).$$

Results and Discussion

Weir Operation

No data was collected in 2014 due to persistent flooding. Chinook and summer chum salmon escapements were enumerated in 2015 and 2016 using a resistance board weir. The start dates of the weir operations were similar in 2015 and 2016. In 2015 the weir was fully operational with enumeration beginning June 24 and ending August 5 with no interruptions occurring to suspend operation. The first day of escapement for both species in 2015 was June 29. Estimated escapement on June 29 was 1 Chinook salmon and 159 summer chum salmon. In 2016 the weir was fully operational with enumeration beginning on June 26 and ending on August 1. The first day of escapement for both species in 2016 was June 26. Estimated escapement on June 26 was 4 Chinook salmon and 368 summer chum salmon. One high water event interrupted weir sampling operations but did not suspend enumeration efforts. The high water event occurred for nearly four days starting at 09:00 on July 5 and ending at 23:59 on July 8. Enumeration was suspended between 19:30 and 22:00 on July 11. The weir was left open and no enumeration occurred during this time. The partially enumerated day of July 11 was adjusted to provide full day estimates. Estimated escapement on July 11 was 55 Chinook salmon and 13,410 chum salmon.

The picket spacing (3.2 cm space between pickets) within the trap and weir panels was narrow enough to prevent adult Chinook and summer chum salmon from passing through the weir undetected. However, some smaller fish species, such as Arctic Grayling *Thymallus arcticus* and whitefish spp. (Coregoninae), were able to pass through the weir undetected.

The average river stage height during the 2015 weir operation was 67 cm. Morning and evening river stage readings ranged from 63 to 70 cm between June 24 and August 5. The average water temperature for 2015 was 11.5°C between June 24 and August 5, with individual readings ranging from 8.4°C to 14.1°C (Figures 2 and 3, Appendix 1). The average river stage height during the 2016 weir operation was 86 cm. Morning and evening river stage readings ranged from 76 to 107 cm between June 26 and August 1. The average water temperature for 2016 was 12.2 °C between June 26 and August 1 with individual readings ranging from 9 °C to 15.7 °C (Figures 2 & 3 Appendix 2). Additional water quality parameters were recorded during the

project including conductivity, dissolved oxygen, and pH for both 2015 and 2016 (Appendixes 3 & 4).

Chinook Salmon

The estimated Chinook salmon escapement for 2015 was the highest escapement recorded in the history of project (N = 2,391), and more than double the 2000–2013 average estimated escapement of 966 Chinook salmon (Figure 4, Appendix 5). The first Chinook salmon passed through the weir on June 29. On the final day of counting, August 5, 10 Chinook salmon passed through the weir. The mid-point of Chinook salmon passage occurred on July 18, with the first and third quarter passage dates occurring on July 12 and July 21 respectively (Table 1, Figure 5).

The estimated Chinook salmon escapement for 2016 was 1,354 fish. This is above the estimated average of 966 Chinook salmon (Figure 4, Appendix 5). The first Chinook salmon passed through the weir on June 26. On the final day of counting, August 1, 4 Chinook salmon passed through the weir. The mid-point of Chinook salmon passage occurred on July 16, with the first and third quarter passage dates occurring on July 12 and July 20 respectively (Table 1, Figure 6).

In 2015, scale samples were collected from 511 Chinook salmon for ageing analysis. Age was unable to be determined for 10% of the samples (n = 52), primarily due to scale regeneration (Table 2). Six age classes of Chinook salmon were identified; age classes 1.2, 2.1, 1.3, 2.3, 1.4, and 2.4, from brood years 2011 through 2008. Three age classes of Chinook salmon constituted the majority of the run; age class 1.2, 1.3, and 1.4. The predominant age class for Chinook salmon was age class 1.3 (41%), followed by age class 1.4 (34%) and age class 1.2 (25%) (Table 2).

In 2016, scale samples were collected from 407 Chinook salmon for ageing analysis. Age was unable to be determined for 6% of the samples (n = 23), primarily due to scale regeneration (Table 2). Six age classes of Chinook salmon were identified; age classes 1.1, 1.2, 1.3, 2.2, 1.4, and 1.5, from brood years 2013 through 2009. Three age classes of Chinook salmon constituted the majority of the run; age class 1.2, 1.3, and 1.4. The predominant age class for Chinook salmon was age class 1.3 (63%), followed by age class 1.4 (25%) and age class 1.2 (11%) (Table 2).

In 2015, the estimated sex composition for Chinook salmon was 40% female, with individual strata ranging between 38% and 49% female. The overall female composition of 40% was slightly higher than the 2000–2013 average of 36% female (Figure 7, Appendix 6). Female Chinook salmon length-at-age ranged from 561 mm to 888 mm MEFL (Table 3). Male Chinook salmon length-at-age ranged from 443 mm to 898 mm MEFL (Table 3). Mean length-at-age of female Chinook salmon was larger than males in the predominant age classes of 1.3 and 1.4 (Table 3).

In 2016, the estimated sex composition for Chinook salmon was 45% female, with individual strata ranging between 44% and 66% female. The overall female composition of 45% was slightly higher than the 2000–2013 average of 36% female (Figure 7, Appendix 6). Female Chinook salmon length-at-age ranged from 757 mm to 888 mm MEFL (Table 3). Male Chinook salmon length-at-age ranged from 339 mm to 901 mm MEFL (Table 3). Mean length-at-age of female Chinook salmon was larger than males in the predominant age classes of 1.3, 1.4, and 1.5 (Table 3).

Chum Salmon

The estimated summer chum salmon escapement for 2015 was 238,529, almost twice the 2000–2013 average estimated escapement of 127,914 summer chum salmon (Figure 8, Appendix 5). The first summer chum salmon passed through the weir June 25. On August 5, the final day of counting, 1,245 summer chum salmon passed through the weir. The mid-point of the summer chum salmon passage was July 19, with the first and third quarter passage dates occurring on July 15 and July 23 respectively (Table 1, Figure 9).

The estimated summer chum salmon escapement for 2016 was 286,780, and more than doubled the 2000–2013 average estimated escapement of 127,914 summer chum salmon (Figure 8, Appendix 5). The first summer chum passed through the weir June 26 (Table 1). On August 1, the final day of counting, 1,679 summer chum passed through the weir (Table 1). The mid-point of the summer chum salmon passage was July 19, with the first and third quarter passage dates occurring on July 14 and July 23 respectively (Table 1, Figure 10).

In 2015, samples were collected from 929 summer chum. Age was unable to be determined for 14% of these samples, primarily due to scale regeneration. Four age classes of summer chum were identified; age classes 0.2, 0.3, 0.4, and 0.5 from brood years 2012, 2011, 2010, and 2009 respectively (Table 4). The predominant age class was age class 0.4 (59%), followed by age class 0.3 (37%) (Table 4).

In 2016, samples were collected from 760 summer chum salmon. Age was unable to be determined for 12% of these samples, primarily due to scale regeneration. Four age classes were identified; age classes 0.2, 0.3, 0.4, and 0.5 from brood years 2013, 2012, 2011, and 2010 respectively (Table 4). The predominant age class was age class 0.3 (69%), followed by age class 0.4 (29%) (Table 4).

In 2015, the estimated sex composition for summer chum salmon was 64% female, with individual strata ranging between 36% and 73% female. The overall female composition was above the 2000–2013 average of 53% female (Figure 11, Appendix 6). Female summer chum salmon length-at-age ranged from 431 mm to 603 mm MEFL (Table 5). Male summer chum salmon length-at-age ranged from 409 mm to 676 mm MEFL (Table 5). Mean length-at-age of males were larger than females in age classes 0.2, 0.3, and 0.4 (Table 5).

In 2016, the estimated sex composition for summer chum salmon was 57% female, with individual strata ranging between 43% and 66% female. The overall female composition was above the 2000–2013 average of 53% female (Figure 11, Appendix 6). Female summer chum salmon length-at-age ranged from 450 mm to 642 mm MEFL (Table 5). Male summer chum salmon length-at-age ranged from 448 mm to 680 mm MEFL (Table 5). Mean length-at-age of males were larger than females in age classes 0.2, 0.3, and 0.4 (Table 5).

Summer chum salmon escapement at the Henshaw Creek weir represented 17% of the entire 2015 Yukon River summer chum salmon run estimate past the Pilot Station Sonar (JTC 2016). Summer chum salmon escapement at the Henshaw Creek weir represented 15% of the entire 2016 Yukon River summer chum salmon run estimate past the Pilot Station Sonar (JTC 2017). The information collected at the Henshaw Creek weir is vital to the difficult task of managing the complex mixed-stock subsistence and commercial salmon fisheries in the Yukon River. The data collected at the Henshaw Creek weir is used by the state and federal fisheries managers to help direct in-season management decisions and in post-season analyses. Additionally, the time series data from Henshaw Creek is used to evaluate long term trends in salmon escapements and stock compositions. These analyses, and the data that support them, will become increasingly important when determining the impacts of fishing regulation changes (e.g. net mesh size restrictions) in the Yukon River and the effects of climate change on salmon stocks.

Biological Data:

The most abundant non-salmon species in 2015 and 2016 was the longnose sucker *Catostomus catostomu*, passage estimates are N = 4,930 and 2,377 in 2015 and 2016 respectively (Appendix 7). Passage estimates in 2015 and 2016 for Arctic grayling were N = 181 and 330, for whitefish spp. N = 105 and 225, and for northern pike *Esox Lucius* N = 15 and 16, respectively (Appendix 7). In 2016 one Sockeye salmon passed through the weir (Appendix 7).

The Henshaw Creek Weir project has collected and produced 15 years of data allowing managers to analyze long term trends in population status, size, length, age, and gender composition, as well as helping to develop future run projections, and creating and evaluating harvest and escapement goals and allocations throughout the Yukon River. Finally, these long term data sets are increasing in importance due to the continual increase of stresses placed on these salmon resources.

Acknowledgements

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Table 1 — Daily and cumulative estimates of Chinook salmon and summer chum salmon passage at Henshaw Creek weir, Alaska, 2015 and 2016. Asterisks (*) denote the first quarter, midpoint, and third quarter of passage estimates.

Date	Chinook 2015		Chinook 2016		Chum 2015		Chum 2016	
	Daily	Cum	Daily	Cum	Daily	Cum	Daily	Cum
23-Jun	-	-	-	-	0	0	0	0
24-Jun	-	-	-	-	0	0	0	0
25-Jun	-	-	-	-	10	10	0	0
26-Jun	0	0	4	4	1	11	368	368
27-Jun	0	0	2	6	4	15	625	993
28-Jun	0	0	6	12	43	58	1,258	2,251
29-Jun	1	1	12	24	159	217	2,428	4,679
30-Jun	0	1	6	30	323	540	2,123	6,802
1-Jul	2	3	14	44	1,340	1,880	2,039	8,841
2-Jul	11	14	17	61	1,900	3,780	3,100	11,941
3-Jul	2	16	37	98	765	4,545	4,811	16,752
4-Jul	10	26	75	173	2,266	6,811	8,174	24,926
5-Jul	22	48	123	296	2,878	9,689	12,179	37,105
6-Jul	20	68	80	376	3,717	13,406	12,298	49,403
7-Jul	22	90	87	463	3,733	17,139	12,700	62,103
8-Jul	28	118	97	560	2,094	19,233	19,364	81,467
9-Jul	81	199	69	629	6,781	26,014	13,671	95,138
10-Jul	87	286	49	678	8,769	34,783	12,102	107,240
11-Jul	177	463	55	733	5,804	40,587	13,410	120,650
12-Jul	173	* 636	67	* 800	4,647	45,234	18,614	139,264
13-Jul	64	700	97	897	4,764	49,998	17,652	156,916
14-Jul	219	919	79	976	4,464	54,462	17,081	* 173,997
15-Jul	54	973	59	1,035	6,517	* 60,979	15,425	189,422
16-Jul	44	1,017	30	* 1065	4,371	65,350	7,963	197,385
17-Jul	159	1,176	25	1,090	10,977	76,327	10,918	208,303
18-Jul	107	* 1283	47	1,137	12,514	88,841	12,398	220,701
19-Jul	193	1,476	35	1,172	19,895	* 108,736	8,420	* 229,121
20-Jul	267	1,743	24	* 1196	22,305	131,041	7,251	236,372
21-Jul	230	* 1973	18	1,214	18,150	149,191	5,802	242,174
22-Jul	75	2,048	21	1,235	14,892	164,083	4,413	246,587
23-Jul	39	2,087	24	1,259	12,355	* 176,438	4,334	* 250,921
24-Jul	54	2,141	15	1,274	10,907	187,345	3,490	254,411
25-Jul	43	2,184	19	1,293	8,837	196,182	4,776	259,187
26-Jul	38	2,222	17	1,310	7,441	203,623	6,047	265,234
27-Jul	28	2,250	12	1,322	7,306	210,929	6,171	271,405
28-Jul	33	2,283	11	1,333	5,727	216,656	5,020	276,425
29-Jul	20	2,303	4	1,337	5,219	221,875	3,173	279,598
30-Jul	21	2,324	4	1,341	4,203	226,078	3,139	282,737
31-Jul	13	2,337	9	1,350	2,905	228,983	2,364	285,101
1-Aug	6	2,343	4	1,354	2,586	231,569	1,679	286,780
2-Aug	10	2,353	-	-	2,386	233,955	-	-
3-Aug	12	2,365	-	-	1,872	235,827	-	-
4-Aug	16	2,381	-	-	1,457	237,284	-	-
5-Aug	10	2,391	-	-	1,245	238,529	-	-
Total		2,391		1,354		238,529		286,780

Table 2 — Age and sex ratio estimates of Chinook salmon at the Henshaw Creek weir, Alaska, 2015 and 2016. Standard errors are in parentheses. Season totals are calculated from weighted strata totals. Unknown age indicates numbers of fish that could not be aged from the scales sampled and were not included in age calculations.

Run size (N)	Sample size (n)	Unknown Age	Percent Female	Brood year and age class								
				2013	2012	2011	2011	2010	2009	2009	2008	
2015												
2,391	511	52	40%			1.2	2.1	1.3	1.4	2.3	2.4	
						25% (2.1)	<1% (0.2)	41% (2.4)	34% (2.3)	<1% (0.3)	<1% (0.2)	
2016												
1,354	407	23	45%	1.1	1.2	1.3	2.2	1.4		1.5		
				1.4% (0.2)	11% (2.0)	63% (3.0)	1.4% (0.2)	25% (2.7)		<1% (0.5)		

Table 3 — Length at age of male and female Chinook salmon sampled at the Henshaw Creek weir, Alaska, 2015 and 2016.

Age	Male					Female				
	Mid-eye to fork length (mm)					Mid-eye to fork length (mm)				
	N	Mean	SE	Median	Range	N	Mean	SE	Median	Range
2015										
1.2	111	564.0	53.9	563.5	443–745	1	561	-	561	561
2.1	1	385.0	-	385.0	385	0	-	-	-	-
1.3	122	725.4	50.7	727.0	617–854	65	770.5	46.1	765.0	757–874
2.3	2	671.5	65.8	671.5	625–718	0	-	-	-	-
1.4	33	780.5	57.9	782.0	677–898	123	826.2	46.3	824.0	870–888
2.4	0	-	-	-	-	1	775	-	775	775
Total	269					190				
2016										
1.2	39	608.6	74.6	602	498- 817	0	-	-	-	-
1.1	2	341.5	3.5	341.5	339-344	0	-	-	-	-
1.3	142	703.6	57.6	712.5	533- 838	99	760.6	28.6	755.0	757–874
2.2	2	580.0	19.8	580.0	566- 594	0	-	-	-	-
1.4	15	843.3	47.3	845.0	756- 901	81	832.6	39.7	840.0	870–888
1.5	0	-	-	-	-	1	801	-	801	801
Total	200					181				

Table 4 — Age and sex ratio estimates of summer chum salmon at the Henshaw Creek weir, Alaska, 2015 and 2016. Standard errors are in parentheses. Season totals are calculated from weighted strata totals. Unknown age indicates numbers of fish that could not be aged from the scales sampled and were not included in age calculations.

Run size (N)	Sample size (n)	Unknown Age	Percent Female	Brood year and age class				
				2013	2012	2011	2010	2009
2015								
238,529	929	123	64%		0.2	0.3	0.4	0.5
					3% (0.6)	37% (2.2)	59% (2.2)	1% (0.2)
2016								
286,780	760	92	57%	0.2	0.3	0.4	0.5	
				0.3% (0.2)	69% (2.1)	29% (2.0)	1% (0.5)	

Table 5 — Length at age of female and male summer chum salmon sampled at the Henshaw Creek weir, Alaska, 2015 and 2016.

Age	Male					Female				
	Mid-eye to fork length (mm)					Mid-eye to fork length (mm)				
	N	Mean	SE	Median	Range	N	Mean	SE	Median	Range
2015										
0.2	0	-	-	-	-	2	503	2.8	503	501–505
0.3	184	566	28.0	569.0	409–635	280	532	28.7	532.0	449–603
0.4	96	585	27.7	584.5	506–676	98	550	34.0	550.0	431–641
0.5	6	623	37.2	616.5	578–676	2	556	10.6	556	563–548
Total	286					382				
2016										
0.2	13	508	24.0	506.0	448–538	13	483	22.5	480	450–517
0.3	77	559	31.4	560.0	483–664	179	534	29.3	535.0	474–625
0.4	239	582	48.5	582.0	493–680	276	556	25.3	556.0	490–620
0.5	6	608	24.8	606.5	582–646	3	611	44.3	630	560–642
Total	335					471				

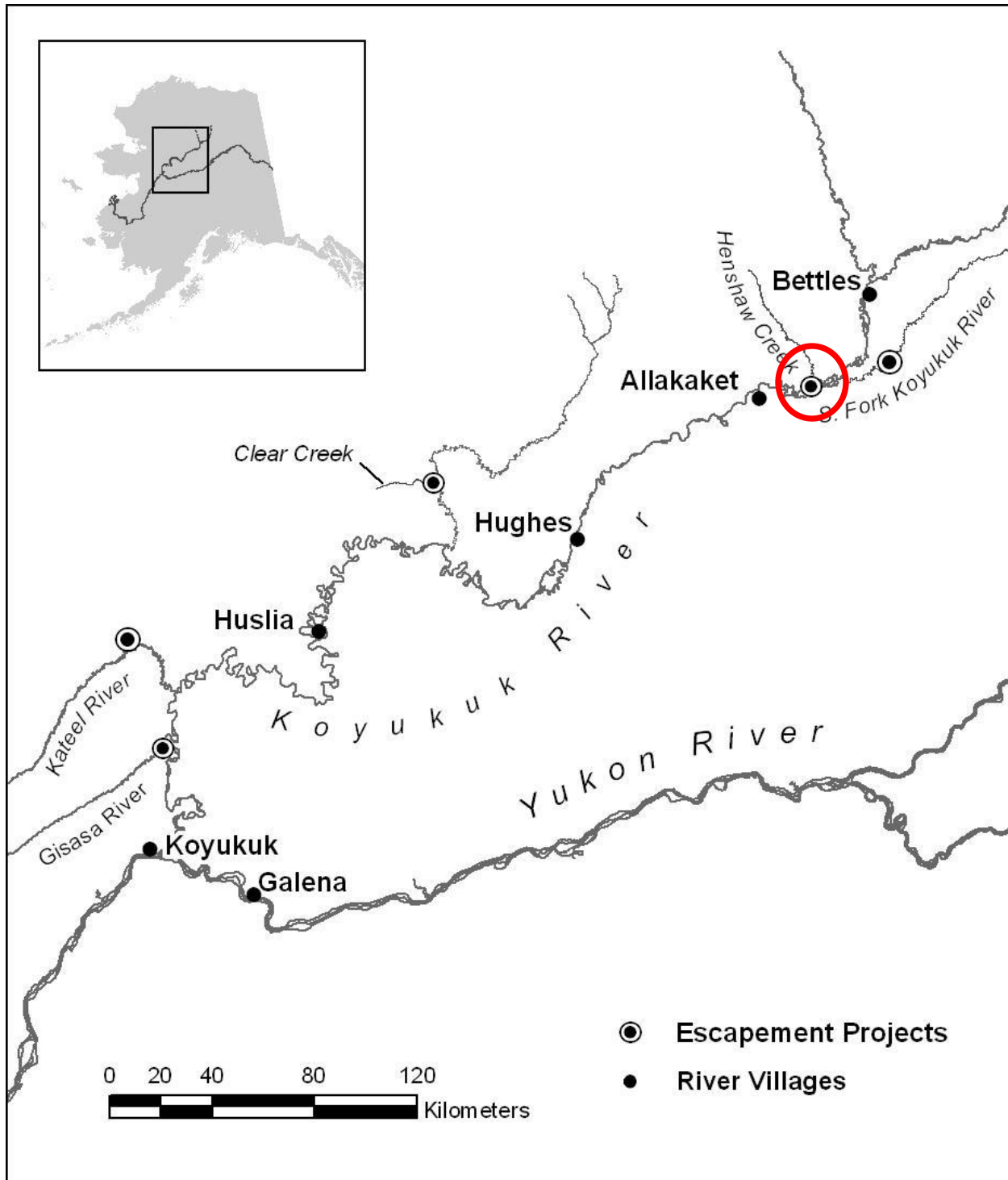


Figure 1 — Location of the Henshaw Creek weir and other active and historical tributary escapement project sites in the Koyukuk River drainage, Alaska.

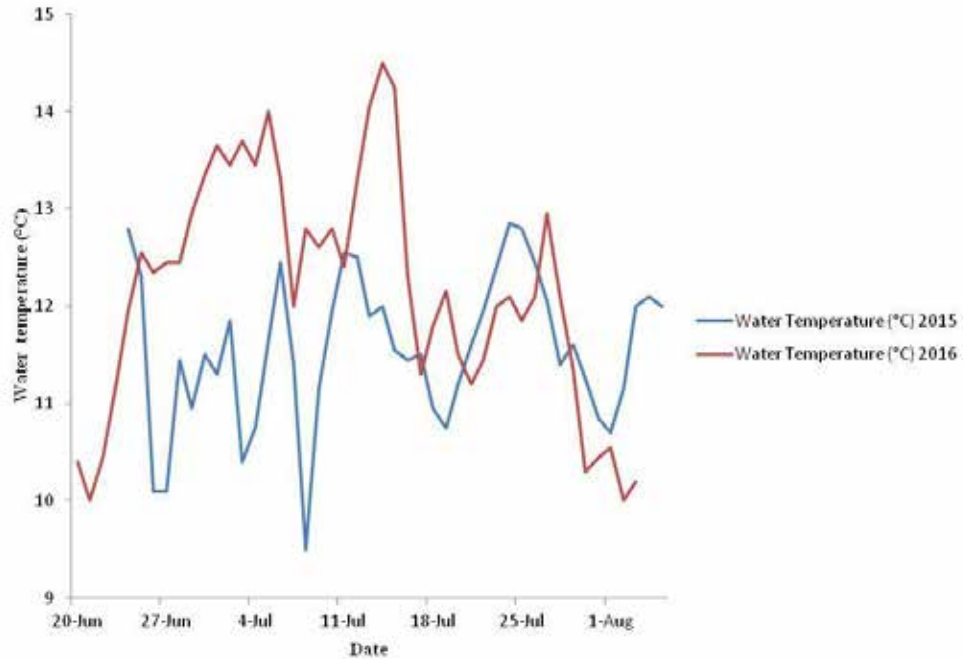


Figure 2 — Average daily water temperature at the Henshaw Creek weir, Alaska, 2015 and 2016. Average daily water temperature was calculated using the average of the morning and evening recorded values.

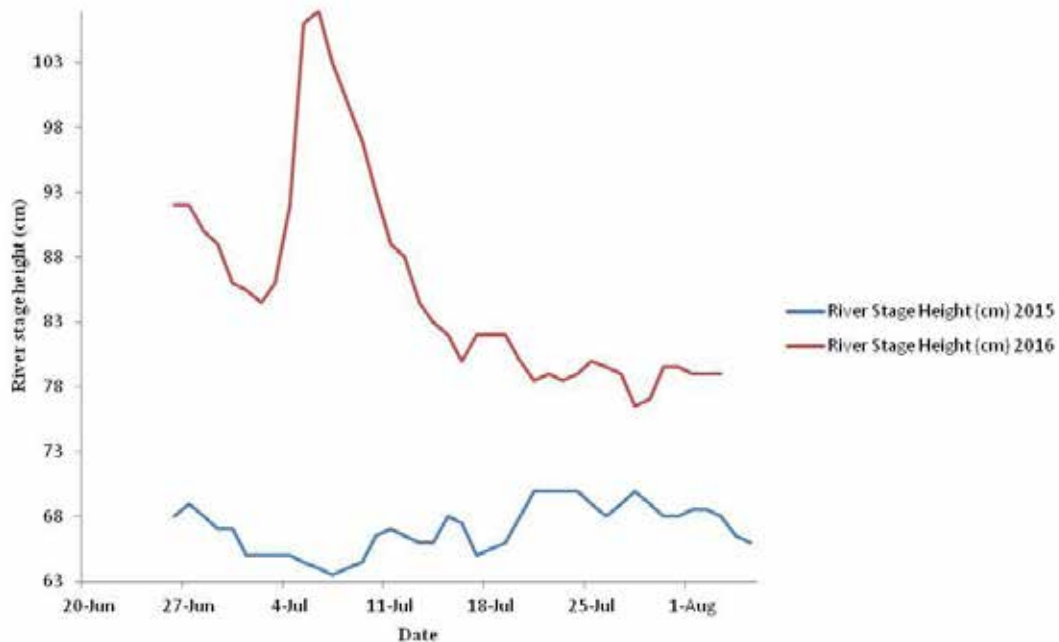


Figure 3 — Average daily river stage height at the Henshaw Creek weir, Alaska, 2015 and 2016. Average daily river stage height was calculated using the average of the morning and evening recorded values.

Chinook Salmon

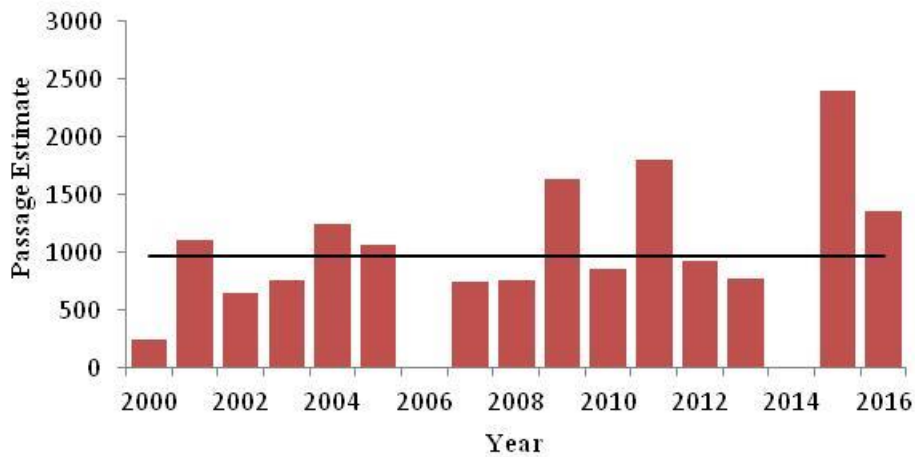


Figure 4 — Annual estimates of Chinook salmon escapement at Henshaw Creek weir, Alaska, 2000–2016. No data was collected in 2006 and 2014 due to high water events. The horizontal line represents the 2000–2013 average escapement estimate (N = 966), omitting 2006 and 2014.

Chinook Salmon

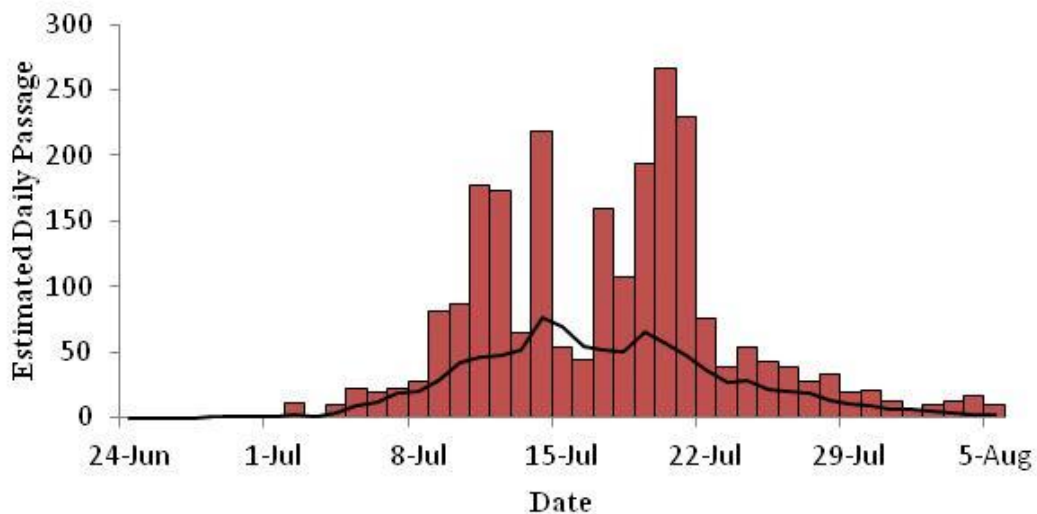


Figure 5 — Daily estimates of Chinook salmon escapement at the Henshaw Creek weir, Alaska, 2015. Solid black line denotes the 2000–2013 (omitting 2006 and 2014) average daily Chinook salmon escapements.

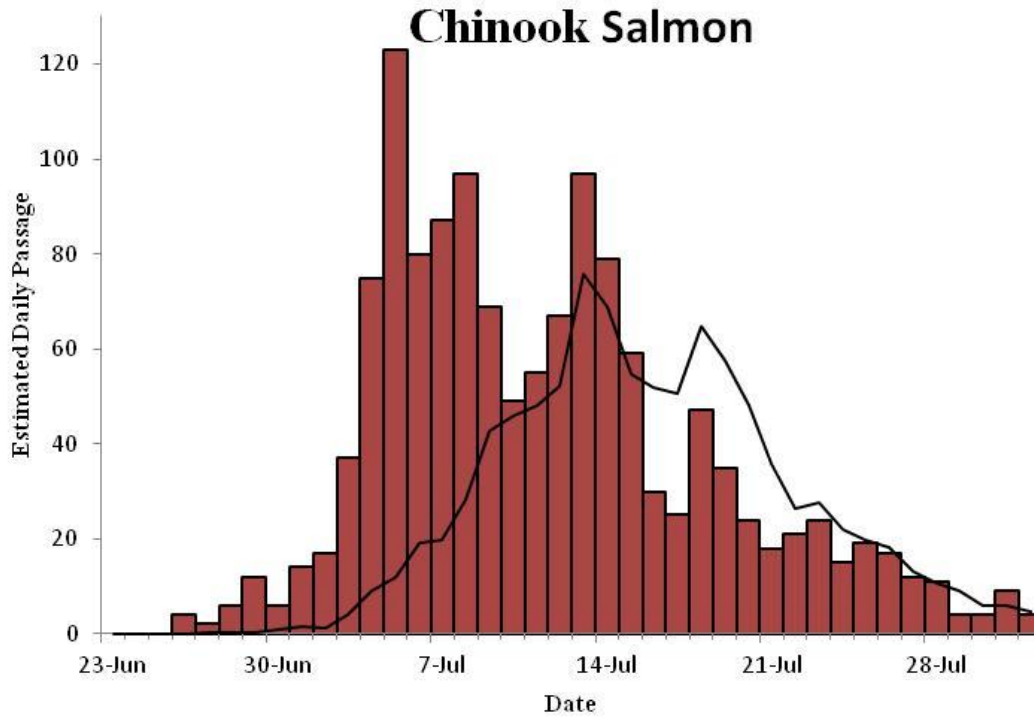


Figure 6 — Daily estimates of Chinook salmon escapement at the Henshaw Creek weir, Alaska, 2016. Solid black line denotes the 2000–2013 (omitting 2006 and 2014) average daily Chinook salmon escapements.

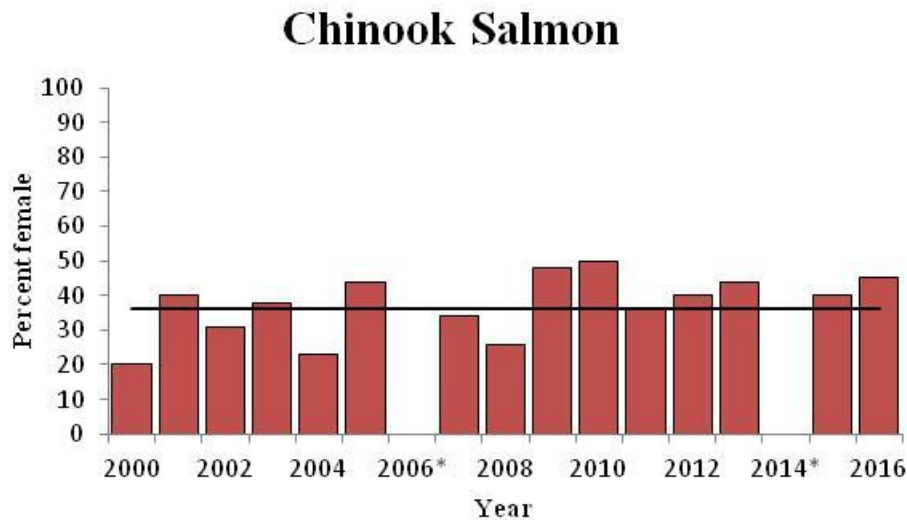


Figure 7 — Historical percent female Chinook salmon at the Henshaw Creek weir 2000–2016. No data was collected in 2006* and 2014* due to high water events. The horizontal line represents the 2000–2013 average percent female estimate (N=36), omitting 2006 and 2014.

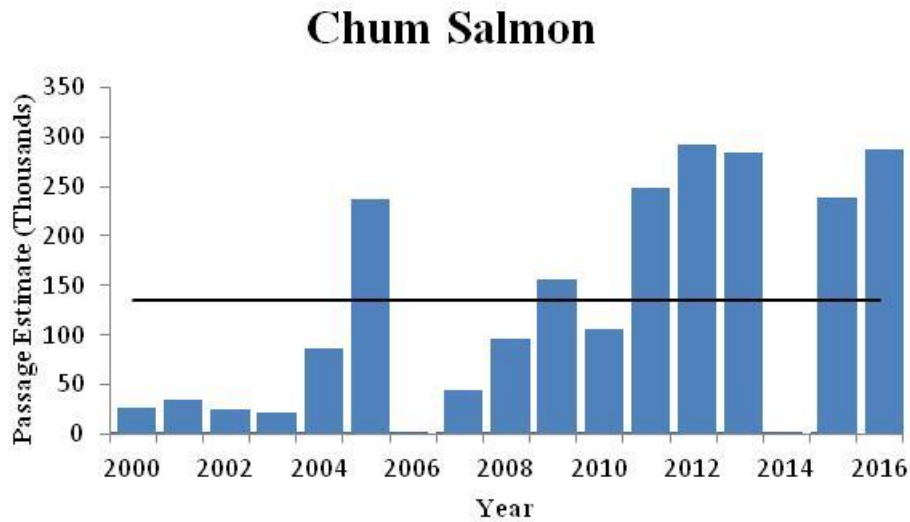


Figure 8 — Annual estimates of summer chum salmon escapement at Henshaw Creek weir, Alaska, 2000–2016. No data was collected in 2006 and 2014 due to high water events. The horizontal line represents the 2000–2013 average escapement estimate (N = 127,914), omitting 2006 and 2014.

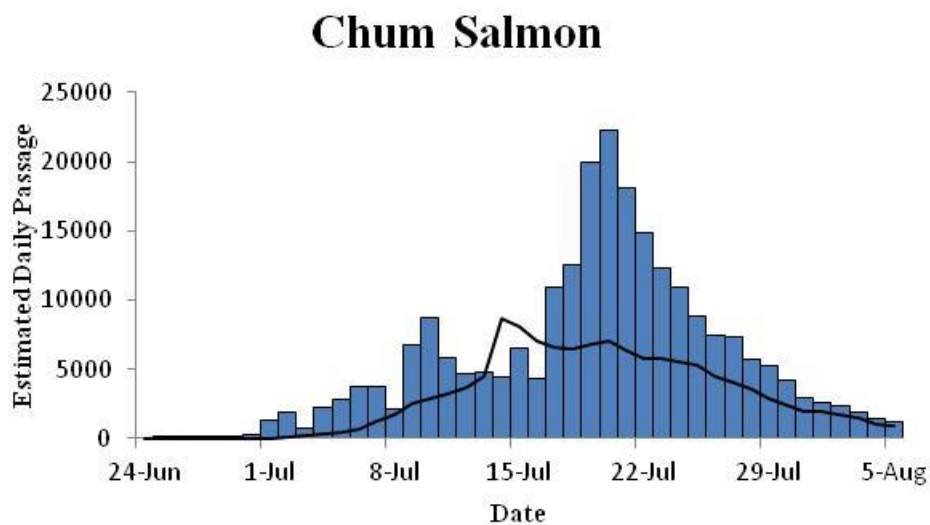


Figure 9 — Daily estimates of summer chum salmon escapement at the Henshaw Creek weir, Alaska, 2015. Solid black line denotes the 2000–2013 (omitting 2006 and 2014) average daily escapements.

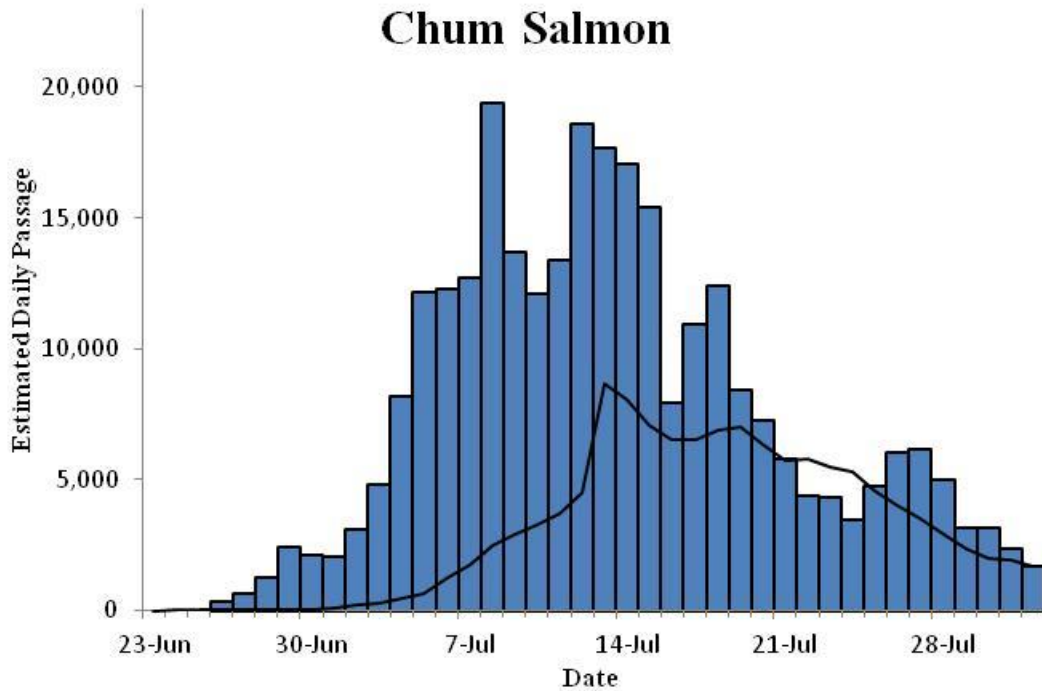


Figure 10 — Daily estimates of summer chum salmon escapement at the Henshaw Creek weir, Alaska, 2016. Solid black line denotes the 2000–2013 (omitting 2006 and 2014) average daily escapements.

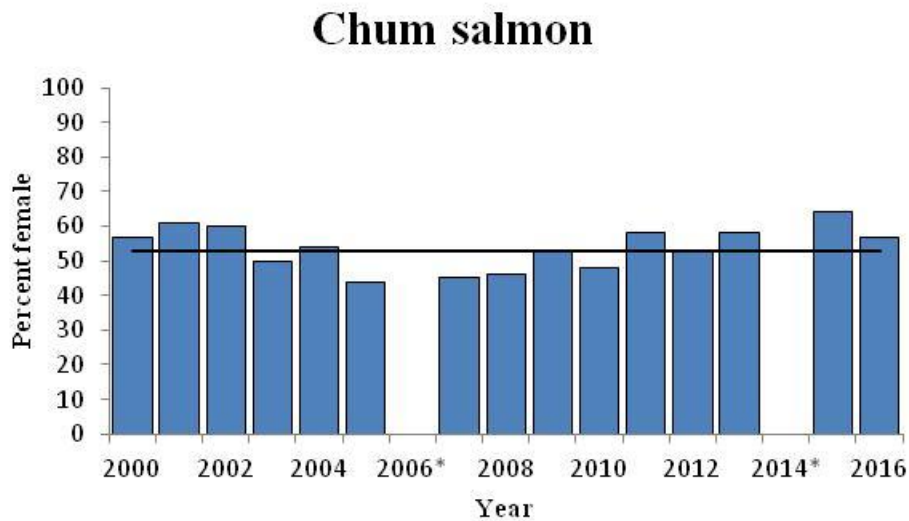


Figure 11 — Historical percent female summer chum salmon at the Henshaw Creek weir 2000–2016. No data was collected in 2006* and 2014* due to high water events. The horizontal line represents the 2000–2013 average percent female estimate (N=53), omitting 2006 and 2014.

Appendix 1 — Water depth, water temperature, and air temperature data collected at the Henshaw Creek weir, 2015. Water depth is the water level at the trap.

Date	Water Depth (cm)		Water Temperature (°C)		Air Temperature (°C)	
	AM	PM	AM	PM	AM	PM
24-Jun		-		11.8		20.5
25-Jun		-		11.3		18.7
26-Jun	68	68	10.4	9.8	9.4	15.0
27-Jun	69	69	8.4	11.8	12.1	18.6
28-Jun	68	68	10.3	12.6	14.0	19.6
29-Jun	67	67	10.1	11.8	12.8	17.9
30-Jun	67	67	-	11.5	12.8	19.6
1-Jul	65	65	9.7	12.9	15.9	21.1
2-Jul	65	65	10.7	13.0	15.8	14.8
3-Jul	65	65	10.1	10.7	10.1	15.8
4-Jul	65	65	8.9	12.6	12.6	24.1
5-Jul	65	64	10.6	12.7	17.8	23.8
6-Jul	64	64	10.9	14.0	21.9	27.3
7-Jul	64	63	11.7	11.1	16.3	15.4
8-Jul	64	64	9.0	10.0	13.4	12.1
9-Jul	64	65	9.5	12.8	13.2	19.7
10-Jul	66	67	10.5	13.4	15.1	19.8
11-Jul	67	67	11.2	13.9	17.0	18.7
12-Jul	67	66	11.0	14.0	14.1	22.6
13-Jul	66	66	11.0	12.8	19.1	21.6
14-Jul	66	66	10.6	13.4	15.0	22.4
15-Jul	66	70	11.2	11.9	13.2	15.5
16-Jul	70	65	10.2	12.7	13.8	21.5
17-Jul	65	65	10.9	12.1	13.1	16.2
18-Jul	65	66	10.4	11.5	13.1	15.8
19-Jul	66	66	10.3	11.2	12.1	15.0
20-Jul	66	70	10.2	12.2	12.9	17.6
21-Jul	70	70	10.7	12.5	16.2	21.4
22-Jul	70	70	10.5	13.4	16.2	21.3
23-Jul	70	70	10.9	13.9	18.1	22.4
24-Jul	70	70	11.6	14.1	16.3	23.1
25-Jul	70	68	11.8	13.8	15.2	18.1
26-Jul	68	68	11.3	13.6	13.6	19.6
27-Jul	68	70	11.6	12.5	15.0	17.4
28-Jul	70	70	10.4	12.4	10.7	18.1
29-Jul	70	68	10.6	12.6	11.8	16.6
30-Jul	68	68	10.4	12.1	9.7	19.7
31-Jul	68	68	9.8	11.9	13.1	17.6
1-Aug	68	69	10.4	11.0	12.1	14.3
2-Aug	69	68	10.3	12.0	13.4	18.0
3-Aug	68	68	10.8	13.2	14.6	20.6
4-Aug	67	66	10.8	13.4	14.6	22.2
5-Aug	66	66	10.9	13.1	13.8	19.4
Average	67	67	10.6	12.5	14.4	19.2

Appendix 2 — Water depth, water temperature, and air temperature data collected at the Henshaw Creek weir, 2016. Water depth is the water level at the trap.

Date	Water Depth (cm)		Water Temperature (°C)		Air Temperature (°C)	
	AM	PM	AM	PM	AM	PM
20-Jun	-	-	-	10.4	-	15.1
21-Jun	-	-	9.8	10.2	10.3	15.1
22-Jun	-	-	9.0	11.9	12.3	20.5
23-Jun	-	-	10.0	12.4	15.9	22.1
24-Jun	-	-	10.7	13.2	18.5	23.3
25-Jun	-	-	11.4	13.7	20.5	22.6
26-Jun	92	92	11.8	12.9	16.7	16.9
27-Jun	92	92	11.7	13.2	13.9	21.2
28-Jun	90	90	11.4	13.5	11.1	20.5
29-Jun	90	88	11.9	14.0	13.4	22.3
30-Jun	86	86	12.5	14.2	10.9	25.6
1-Jul	86	85	13.0	14.3	15.2	22.4
2-Jul	85	84	12.4	14.5	9.2	25.1
3-Jul	84	88	12.8	14.6	12.7	19.9
4-Jul	90	94	12.8	14.1	13.3	24.0
5-Jul	105	107	13.3	14.7	11.5	23.7
6-Jul	107	107	13.6	13.0	12.8	19.2
7-Jul	103	103	11.2	12.8	8.8	22.3
8-Jul	100	100	12.0	13.6	10.8	23.5
9-Jul	98	96	12.2	13.0	12.8	21.6
10-Jul	94	92	12.6	13.0	13.8	17.6
11-Jul	90	88	11.5	13.3	9.4	24.8
12-Jul	88	88	11.8	14.8	8.2	25.3
13-Jul	85	84	12.8	15.3	9.6	29.3
14-Jul	84	82	13.3	15.7	18.2	30.4
15-Jul	82	82	13.4	15.1	13.6	28.2
16-Jul	80	80	12.3	12.3	14.2	16.2
17-Jul	82	82	11.1	11.5	10.3	14.0
18-Jul	82	82	10.6	13.0	11.9	19.8
19-Jul	82	82	11.2	13.1	12.6	18.3
20-Jul	80	80	11.3	11.7	9.3	16.4
21-Jul	79	78	10.6	11.8	10.4	15.6
22-Jul	79	79	10.8	12.1	9.7	16.7
23-Jul	79	78	11.1	12.9	14.9	19.4
24-Jul	78	80	11.3	12.9	11.9	18.7
25-Jul	80	80	10.6	13.1	11.4	18.2
26-Jul	80	79	10.9	13.3	10.8	20.3
27-Jul	79	79	12.0	13.9	14.4	22.3
28-Jul	77	76	11.8	12.4	14.8	19.6
29-Jul	77	77	11.2	11.5	10.3	10.7
30-Jul	79	80	10.1	10.5	8.3	11.9
31-Jul	80	79	9.3	11.6	7.8	15.3
1-Aug	79	79	9.8	11.3	9.1	16.4
2-Aug	79	79	9.2	10.8	8.4	15.6
3-Aug	79	79	9.3	11.1	7.3	14.6
4-Aug	-	-	-	-	5.3	-
Average	86	86	11.4	12.9	11.9	20.1

Appendix 3 — Water quality parameters collected during the 2015 project at the Henshaw Creek weir, Alaska.

Date	Conductivity (µS/cm)		Dissolved Oxygen (mg/L)		pH		
	AM	PM	AM	PM	AM	PM	
24-Jun		76.0	80.2	10.21	10.55	7.43	7.41
25-Jun		75.3	79.2	10.21	10.48	7.44	7.42
26-Jun		73.4	72.5	10.18	10.58	7.42	7.41
27-Jun		69.8	76.1	10.91	11.01	7.46	7.44
28-Jun		73.3	78.1	10.53	10.92	7.53	7.45
29-Jun		73.3	76.5	10.48	10.81	7.43	7.47
30-Jun		-	76.1	-	11.01	-	7.52
1-Jul		72.8	79.2	10.75	10.86	7.45	7.42
2-Jul		74.9	79.6	10.42	10.92	7.39	7.38
3-Jul		73.9	74.8	10.45	10.98	7.48	7.40
4-Jul		71.5	78.9	10.98	10.96	7.49	7.50
5-Jul		75.2	79.3	10.45	10.67	7.52	7.46
6-Jul		75.8	82.3	10.22	10.32	7.42	7.52
7-Jul		77.7	75.9	9.29	9.71	7.45	7.40
8-Jul		73.9	73.2	10.00	10.34	7.44	7.57
9-Jul		72.7	80.1	10.55	10.43	7.46	7.56
10-Jul		76.0	82.9	10.05	10.12	7.49	7.55
11-Jul		78.5	84.1	9.61	9.75	7.52	7.41
12-Jul		77.8	84.3	9.39	9.36	7.47	7.50
13-Jul		77.9	81.8	9.25	9.41	7.44	7.49
14-Jul		77.0	83.2	9.09	9.34	7.36	7.48
15-Jul		78.4	78.4	8.79	9.20	7.47	7.42
16-Jul		75.9	81.7	9.33	9.40	7.45	7.46
17-Jul		78.0	80.9	8.90	9.14	7.38	7.34
18-Jul		77.4	79.8	9.16	9.16	7.44	7.48
19-Jul		77.6	79.8	8.98	9.65	7.40	7.52
20-Jul		77.5	81.4	9.04	9.12	7.40	7.47
21-Jul		78.6	83.2	8.73	8.83	7.48	7.42
22-Jul		78.7	85.5	8.55	8.64	7.49	7.45
23-Jul		80.0	87.0	8.23	8.25	7.43	7.42
24-Jul		81.8	87.6	7.85	8.05	7.32	7.34
25-Jul		82.6	87.2	7.71	8.07	7.34	7.30
26-Jul		81.5	86.6	8.02	8.33	7.36	7.32
27-Jul		82.4	84.2	8.23	8.79	7.37	7.33
28-Jul		78.3	83.1	8.44	9.14	7.45	7.41
29-Jul		79.0	84.2	8.79	9.20	7.38	7.35
30-Jul		79.6	83.3	8.70	9.73	7.37	7.44
31-Jul		78.2	83.0	9.24	9.83	7.42	7.50
1-Aug		79.8	80.7	8.74	10.00	7.36	7.41
2-Aug		79.5	83.0	8.75	10.03	7.33	7.48
3-Aug		80.7	85.8	8.79	10.09	7.36	7.42
4-Aug		80.8	86.4	8.68	9.92	7.36	7.47
5-Aug		81.3	85.8	8.35	10.25	7.36	7.48
Average		77.2	81.3	9.36	9.80	7.42	7.44

Appendix 4 — Water quality parameters collected during the 2016 project at the Henshaw Creek weir, Alaska. Dash marks indicate no data collected because device was down.

Date	Conductivity ($\mu\text{S}/\text{cm}$)		Dissolved Oxygen (mg/L)		pH	
	AM	PM	AM	PM	AM	PM
20-Jun	-	-	-	-	-	-
21-Jun	-	-	-	-	-	-
22-Jun	-	-	-	-	-	-
23-Jun	-	-	-	-	-	-
24-Jun	-	-	-	-	-	-
25-Jun	-	-	-	-	-	-
26-Jun	-	-	-	-	-	-
27-Jun	-	-	-	-	-	-
28-Jun	-	-	-	-	-	-
29-Jun	-	-	-	-	-	-
30-Jun	-	-	-	-	-	-
1-Jul	-	-	-	-	-	-
2-Jul	-	-	-	-	-	-
3-Jul	-	-	-	-	-	-
4-Jul	-	-	8.34	8.81	-	-
5-Jul	-	-	8.23	8.92	-	-
6-Jul	-	-	8.22	8.86	-	-
7-Jul	-	-	8.57	9.07	-	-
8-Jul	-	-	8.29	9.03	-	-
9-Jul	-	-	8.05	8.72	-	-
10-Jul	-	-	7.77	8.98	-	-
11-Jul	-	-	8.11	8.30	-	-
12-Jul	-	-	7.90	8.61	-	-
13-Jul	-	-	7.50	8.55	-	-
14-Jul	-	-	7.25	8.54	-	-
15-Jul	-	-	7.27	8.03	-	-
16-Jul	-	-	7.66	8.84	-	-
17-Jul	-	-	7.69	9.36	-	-
18-Jul	-	-	8.47	9.28	-	-
19-Jul	-	-	8.24	9.23	-	-
20-Jul	-	-	8.12	8.98	-	-
21-Jul	-	-	8.32	9.39	-	-
22-Jul	-	-	7.87	9.26	-	-
23-Jul	-	-	8.12	8.79	-	-
24-Jul	-	-	7.86	9.49	-	-
25-Jul	-	-	8.30	9.60	-	-
26-Jul	-	-	8.27	9.70	-	-
27-Jul	-	-	7.98	9.44	-	-
28-Jul	-	-	7.75	9.66	-	-
29-Jul	-	-	7.94	9.83	-	-
30-Jul	-	-	8.33	10.03	-	-
31-Jul	-	-	8.88	10.35	-	-
1-Aug	-	-	-	-	-	-
2-Aug	-	-	-	-	-	-
3-Aug	-	-	-	-	-	-
4-Aug	-	-	-	-	-	-
Average	-	-	8.0	9.1	-	-

Appendix 5 — Historical estimates of Chinook salmon and summer chum salmon escapement at the Henshaw Creek weir, Alaska, 1960–2016 (Aerial index data from Baron 1984; Alaska Department of Fish and Game unpublished data).

Year	Aerial index estimates			Tower estimates		Weir estimates	
	Chinook Salmon	Chum Salmon	Survey rating	Chinook Salmon	Chum Salmon	Chinook Salmon	Chum Salmon
1960	Present		Poor				
1969	6	300	Not Rated				
1975	118	1,219	Not Rated				
1976	94	624	Fair				
1982	48	12	Fair				
1983	553	3,288	Good-Fair				
1984	253	532	Poor				
1985	393	3,724	Good				
1986	561	2,475	Fair				
1987	20	35	Not Rated				
1988	180	1,106	Good-Poor				
1990	369	1,237	Good-Fair				
1991	455	2,148	Good				
1992	Present	Present	Poor				
1993	330	1,173	Good				
1994	526	2,165	Fair				
1995	271	15,397	Good				
1996	69	12,890	Fair				
1997	593	1,800	Fair				
1998	97	151	Fair				
1999	119	2,703	Poor	0	1,510		
2000						244	27,271
2001						1,103	35,031
2002						649	25,249
2003						763	22,556
2004						1,248	86,474
2005						1,059	237,481
2006						0*	4*
2007						740	44,425
2008						766	96,731
2009						1,637	156,933
2010						857	105,398
2011						1,796	248,247
2012						922	292,082
2013						772	285,008
2014						0*	0*
2015						2,391	238,529
2016						1,354	286,780

*No escapement estimates in 2006 and 2014 due to persistent flooding.

Appendix 6 — Historical percent female Chinook salmon and summer chum salmon sampled at the Henshaw Creek weir, 2000-2016. No data was collected in 2006* and 2014* due to high water events.

Year	Chinook % Female	Chum % Female
2000	20	57
2001	40	61
2002	31	60
2003	38	50
2004	23	54
2005	44	44
2006*		
2007	34	45
2008	26	46
2009	48	53
2010	50	48
2011	36	58
2012	40	53
2013	44	58
2014*		
2015	40	64
2016	45	57
Average	37	52

Appendix 7— Daily Passage estimates of non-salmon fish species at Henshaw Creek weir, Alaska, 2015 and 2016. There was one stray sockeye that swam up in 2016.

Date	Longnose Sucker		Whitefish		Arctic Grayling		Northern Pike		Sockeye Salmon		Other	
	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
23-Jun	0	0	0	0	0	0	0	0	0	0	-	0
24-Jun	5	0	0	0	0	0	0	0	0	0	-	0
25-Jun	14	0	0	0	0	0	0	0	0	0	-	0
26-Jun	18	4	0	0	0	24	1	0	0	0	-	0
27-Jun	15	53	0	0	3	6	0	3	0	0	-	1
28-Jun	32	48	0	0	1	10	0	0	0	0	-	0
29-Jun	70	255	1	2	0	4	1	1	0	0	-	0
30-Jun	84	158	0	0	3	17	0	0	0	0	-	0
1-Jul	370	35	2	1	9	7	1	0	0	0	-	0
2-Jul	424	3	8	2	8	12	2	3	0	0	-	2
3-Jul	90	34	2	14	8	26	0	2	0	0	-	0
4-Jul	538	56	1	4	6	20	0	0	0	0	-	1
5-Jul	547	232	2	21	8	28	1	1	0	0	-	28
6-Jul	574	132	5	15	6	31	0	0	0	0	-	15
7-Jul	189	43	2	1	6	26	0	0	0	0	-	1
8-Jul	76	95	3	2	3	14	1	0	0	0	-	3
9-Jul	8	63	0	1	1	17	0	0	0	0	-	4
10-Jul	223	77	6	10	8	12	2	0	0	0	-	5
11-Jul	667	22	13	5	4	6	0	0	0	0	-	0
12-Jul	243	47	5	11	7	14	1	0	0	0	-	2
13-Jul	51	91	3	12	0	4	0	1	0	0	-	2
14-Jul	9	202	4	12	3	9	1	1	0	0	-	0
15-Jul	5	114	1	23	4	12	0	0	0	0	-	4
16-Jul	2	13	2	7	4	0	0	0	0	0	-	1
17-Jul	3	6	6	3	1	4	0	0	0	0	-	0
18-Jul	8	14	1	5	2	4	0	1	0	0	-	0
19-Jul	4	34	0	3	1	3	0	0	0	0	-	1
20-Jul	3	19	2	2	9	1	0	0	0	0	-	0
21-Jul	6	18	4	6	7	0	0	0	0	0	-	0
22-Jul	13	21	1	0	1	2	0	0	0	0	-	0
23-Jul	31	23	4	2	3	5	0	0	0	0	-	0
24-Jul	106	64	2	1	12	0	0	0	0	0	-	0
25-Jul	130	140	7	20	8	1	1	0	0	0	-	0
26-Jul	82	82	7	9	4	5	1	0	0	0	-	0
27-Jul	67	85	2	14	3	1	0	1	0	0	-	0
28-Jul	47	69	2	9	2	1	0	2	0	0	-	1
29-Jul	60	16	2	5	7	1	0	0	0	0	-	1
30-Jul	40	5	1	2	10	0	2	0	0	0	-	0
31-Jul	5	0	0	0	6	2	0	0	0	1	-	0
1-Aug	8	4	2	1	1	1	0	0	0	0	-	0
2-Aug	10	-	0	-	3	-	0	-	0	-	-	-
3-Aug	9	-	0	-	0	-	0	-	0	-	-	-
4-Aug	24	-	1	-	5	-	0	-	0	-	-	-
5-Aug	20	-	1	-	4	-	0	-	0	-	-	-
Total	4930	2377	105	225	181	330	15	16	0	1	0	72



**Report to the YK Delta, Western Interior & Eastern Interior Regional Advisory Councils;
Fall 2017**

Introduction

The Yukon River Drainage Fisheries Association (YRDFA) would like to take this opportunity to share a bit of information about our present programs. As an association of Yukon River subsistence and commercial fishers with the mission of protecting and promoting all healthy fisheries and cultures along the Yukon River we wish to share our great appreciation for the funders that support our efforts.

Staff:

Wayne Jenkins-Director

Catherine Moncrieff-Anthropologist

Danielle Stickman-Communications & Outreach Director

Wayne's Reports

Building & Maintaining Public Support of Salmon Resource Management

Funded by US Fish and Wildlife Service through the Yukon River Panel's Resource Management (R&M) Fund-Wayne Jenkins

This project, in its ninth year, has the goal to maintain and improve public support and participation in management of Yukon River salmon within the Alaska portion of the Yukon River basin. Through our annual Board member meeting, which represents and communicates with member's home communities and fishing families the full length of the river, we foster two-way communications and information sharing with state and federal managers and fisheries researchers. Through communications and outreach efforts this program supports better understanding of Yukon River fishery biology, management challenges and objectives, differing river conditions and challenges to meeting subsistence needs and encourages fishing approaches that support meeting escapement goals in the face of the historical decline in Chinook salmon. We are especially focused on meeting our escapement agreements with Canada as these stocks comprise a critical 50% of the spawning population. Using mailings, surveys, our website and Facebook page and individual phone calls and our annual teleconferences and pre-season management planning meetings we strive to keep Yukon River communities informed and connected to build support for fisheries management and the rebuilding of the critically important Chinook salmon stock for subsistence harvest.

This year's Chinook salmon runs for Yukon River were the best seen since 2005 and, from the reports on the YRDFA Teleconferences, almost all Alaskan Yukon River communities have met

their subsistence needs with higher proportions of King salmon along with other species. This is a very different picture than the very low 2014 subsistence harvest levels but the sacrifices that have been previously made, which support meeting the escapement goals in Canada and in Alaska likely could not be achieved without fishers understanding and making conservation sacrifices.

Also, we wish to extend gratitude to the fisheries managers for their hard work across a vast geography, during challenging budgetary times, and working with a multi-species complex fishery. It is also evident they have a deep sensitivity to the fishery needs of Yukon River fishing communities. For the fourth year, the important escapement goal for Canadian bound Chinook salmon was exceeded while also meeting subsistence needs! The unfolding story on the Yukon River is one of many different people with the same desire, working together to bring Chinook salmon back to a thriving population. We still have a long way to go, but, we have hope that this year's improved runs may be evidence that we are headed in the right direction.

Pre-season Salmon Fishery Preparation Meeting

Funded by the Yukon River Panel through the Restoration and Enhancement (R&E) Fund-
Wayne Jenkins

The YRDFA Pre-Season Salmon Fishery Preparation meetings have been hosted by YRDFA for the past seven years and have become an integral and important part of the annual management planning cycle for the subsistence and commercial fisheries on the Yukon River. Following the day after the YRDFA Board meeting with an expanded attendance of invitees selected from local communities the full length of the river, fishers, managers, researchers and other stakeholders came together for a full day designed to prepare everyone for the fishing season ahead. The 2017 meeting in Fairbanks hosted 88 Yukon River fishers and community representatives and 16 fishery managers and staff.

After review of last year's fishing season and discussion on projections for the runs of summer chum, Chinook salmon, fall chum and Coho, this year's meeting focused on manager's views on best fishing approaches in response to a Chinook run expected to be as strong or stronger than 2016. In the case of a weaker run fishers were reminded that we were still in a conservation position for Chinook salmon and that past approaches of limited openings and time periods, 6" mesh nets, use of dip nets and beach seines when the run coincided with commercial summer chum efforts and other conservative management approaches would be in place. But, indicating some confidence in the coming King season, indepth discussion around the use of "King gear", that is 7.5" mesh nets for more efficient subsistence harvest, was a main topic of discussion. It was clear that fishers from some areas welcomed this approach, if the run size warranted it, and that others had strong concerns which centered around potential damage to the overall strength and recovery of the King runs after so many years of sacrifice. Fishery managers emphasized that decisions around subsistence Chinook harvest would be guided by meeting agreed upon escapement goals but that agencies were hopeful for an improved situation this year.

A post meeting evaluation indicated that, overall, participants were pleased (satisfied or very satisfied) with overall quality of the event (95%), the meeting's value in increasing their understanding of the issues (88%), the scope and usefulness of the information presented (95%), the venue (65%), and food provided (65%). A majority (72%) felt that there was a good balance of time spent listening to presentations and for discussions and networking.

The aim of this year's collaborative efforts by fishers and fishery managers on the Yukon River was to insure the meeting of escapement goals and if possible provide opportunities for some harvest of Chinook salmon if the run size supported a less restrained approach. Indeed, this is what happened with Canadian escapement goals being surpassed. Nearly all Alaskan communities were successful in meeting their subsistence needs and overall, reports from the river communities reflect much gratitude for increased opportunity to harvest Kings this year, filling drying racks and freezers for the winter to come.

In-season Yukon River Salmon Teleconferences

Funded by the Office of Subsistence Management, Fisheries Resource Monitoring Program (FRMP) -Wayne Jenkins

Since its inception in 2000, the In-season Salmon Management Teleconference Program (Teleconferences) has provided a practical and useful method for fishers, processors, managers, and other stakeholders in Yukon River salmon fisheries to discuss the complexities of salmon management and gain immediate real-time information across the more than 2,000 mile expanse of the Yukon River. Facilitated by YRDFA, the teleconferences have enabled local users to provide valuable insight to fisheries managers on in-season salmon subsistence needs, river conditions, and abundance and quality of salmon available. Information from the fishers allows managers to adjust timing and gear types for meeting their management goals. Additionally, subsistence users gain a better understanding of the different research projects and management tools the state and federal managers are utilizing and the status of fishing conditions in other areas of the drainage. Members of the public, Yukon River fishers and community members, state and federal agencies, tribal Governments and tribal consortia, fish processors and others have participated in in-season salmon management teleconferences since they have been initiated. The Fisheries Resources Monitoring Program (FRMP) funds this important program. As the program has evolved it has become a regular fixture of in-season salmon management, with calls occurring every Tuesday at 1pm from early June through August.

There is great practical value in having a public forum that is accessible to the people of the Yukon River to call in to hear first-hand about the status of the salmon fisheries. and to be able to share what they are seeing and experiencing during the fishing season. The 2017 calls, though not concluded at the time of this report, had lower attendance, apparently due to the increased opportunity to harvest King salmon for subsistence and the very strong chum salmon runs, mostly utilized in the lower river for commercial harvest but in other areas for subsistence use. It was clear from the calls that there was some concerns about using larger mesh gill-nets for Kings but the strength of the Chinook runs, for the first time in many years proved more than adequate to meet Canadian and most Alaskan escapement goals while providing the substantial subsistence harvest of Chinook salmon. Fishers from almost all areas of the river voiced their deep appreciation to management for the opportunity and commented repeatedly on the fine quality of the fish.

YRDFA Yukon River Community Engagement Support for BLM Resource Management Planning

Funded by PEW Charitable Trusts-Wayne Jenkins & Danielle Stickman

In July of 2014 YRDFA began assisting Yukon River communities with engagement in the Bureau of Land Management's (BLM) Resource Management Planning process (RMP). All federal land management agencies are directed by Congress by the Federal Land Policy Management Act

(FLPMA) of 1976 to create Resource Management Plans for guiding management decisions, usually over the next 15-20 years. The planning process is public and seeks through direct engagement to gain input on issues and concerns and any and all information pertinent to the management of the public's lands the agency is responsible for. In the US, BLM, which is within the Department of Interior, administers over 247 million acres; over 72 million acres are in Alaska within eight planning regions. Three of these include portions of the Yukon River and are in active planning mode; the Eastern Interior, the Central Yukon and the Bering Sea-Western Interior regions.

YRDFA's community support work is focused on the Central Yukon and Bering Sea-Western Interior RMP regions and is useful as the process is complicated and full of difficult to comprehend jargon, BLM is short on staff and local capacity to understand and bring important issues forward are challenged due to the many existing issues and responsibilities at the village level. Early on, tribal councils and communities, after coming to better understand the BLM planning process, made it clear that their main concerns were access to and protection of traditional use areas necessary for continuing their way of life.

BLM has a management designation called Areas of Critical Environmental Concern or ACEC's. Establishing an **Area of Critical Environmental Concern** is a way to provide special management for fish and wildlife resources or other important values on public lands. They are also created to conserve or prevent damage to important historic, cultural, or to protect fragile landscapes and sensitive ecosystems. PEW Charitable Trusts and YRDFA felt this designation was a good fit for the critically important areas that local communities had depended upon for thousands of years, presently use and are necessary for carrying their culture forward.

Requests were made to individual Native communities with one million or more acres of BLM lands within fifty miles for meeting with tribal councils and community members for discussing further protection of traditional use areas. These areas were mapped by use and watershed. Sometimes maps already existed in studies done by ADFG in collaboration with the tribe and community, which were very helpful. ADFG traditional land use mapping included maps for large mammals-bear and moose, small mammals, salmon and non-salmon fish species, birds and waterfowl and greens and berries. We added to this list, areas important for drinking water, fish spawning areas and wood gathering areas. Once the watersheds were identified they were overlaid on BLM managed lands and these areas were nominated by the tribal councils for ACEC designation.

The communities on the Yukon River which have made ACEC nominations are Marshall, Holy Cross, Koyukuk and Ohogamiut thus nominating a collective total of 6.5 million acres in the Bering Sea-Western Interior BLM planning region. Louden, Ruby and Huslia tribal councils have nominated 3.7 million acres so far with the village of Hughes nomination in process in the Central Yukon BLM planning region. It should be noted that some of these nominated areas overlap. Also the Yukon River villages of Anvik, Grayling and Nulato have nominated ACEC's working with Suzanne Little, PEW's Alaska Field Officer.

The desire of the tribal governments and their communities in making ACEC nominations is to increase BLM's understanding of the importance of these areas, request their protection through the Resource Management Planning and ACEC process and as a way to address the federal government's trust responsibility with tribal nations. We are interested in working with other Yukon and Kuskokwim River communities for improved engagement with BLM in the planning regions mentioned. Contact Wayne Jenkins at YRDFA for details. Also see our Facebook page, *Our Land, Our Voice, Our Future*.

Since the last series of Yukon River RAC meetings the Central Yukon planning region has conducted outreach to a number of individual village communities on the Yukon and Koyukuk Rivers, explaining the RMP process and hearing from local leaders and community members about their concerns, needs and desires for land management in their area. More specifically and unanimously across the region people desire to continue to have access to and habitat of subsistence and traditional areas used for hunting, fishing, trapping and harvest of berries and other natural resources, available and protected. Native culture and survival in the remote villages of the interior require it.

Danielle Stickman, YRDFA's Communications and Outreach Director joined this project in April 2017 and started with outreach to Edzeno (Nikolai) Tribal Council. Edzeno Tribal Council drafted up a resolution to support an existing ACEC in their area and shared valuable data that will be added to their supporting resolution and possibly to the nominated Sheefish ACEC. Telida Tribal Council was also contacted and updated with BSWI draft plans. 50 mile-radius maps were provided to both Edzeno and Telida Tribal Councils. Due to the subsistence and traditional use areas already being in the Sheefish ACEC nomination; Edzeno would like to support that nomination with some additional data; Telida is yet to be determined. A second outreach effort was done with the Iqurmiut Traditional Council in Russian Mission in May 2017; no formal ACEC nomination or resolution has been written, but follow-up visits are being planned. We continue to work with and reach out to communities in the BSWI and CY BLM planning areas.

Danielle's Reports

Yukon River Education and Outreach

Funded by the National Fish and Wildlife Foundation (NFWF)

One of the NFWF project outcomes is to develop educational workshops along the Yukon River. Due to the abundant amount of information sharing and networking at the YRDFA annual Pre-season meeting the YRDFA team decided to hold a young fishers workshop in Fairbanks on April 19, 2017. Six young fishers, ages 18-40 years old, who have not been involved in fisheries management or regulatory meetings before were chosen to participate. The fishers were from Fort Yukon, Beaver, Tanana, Ruby, Anvik, and Emmonak; they attended the pre-season meeting and a 3-hour Yukon River fisheries workshop. These young fishers were suggested by either a YRDFA Board member, Tribal chief, Tribal Council, or agency partner who works closely with Yukon River communities. One of the participants applied through our Facebook page. The workshop provided educational materials on salmon biology, regulatory processes, health of the runs, management processes, and much more. The workshop structure was a talking circle with several Yukon River fisheries managers from ADF&G and USFWS present to share their knowledge and was facilitated by Danielle Stickman. This was an excellent opportunity for the young fishers and managers to talk freely and to answer questions either party may have of the other. The young fishers provided a lot of insight, knowledge, and background to where their views are coming from. They provided great recommendations for improving methods of information sharing. They also identified gaps of data that are often left out (i.e. different methods of fishing gear and types of salmon), which makes it difficult for newcomers to management meetings and information understand and participate. New methods of communication are being implemented; like a young Yukon River fishers Facebook group, and we're taking steps to integrate young fishers into our organizational meetings. YRDFA will be applying for a grant extension that would go into early spring 2018 for continuing to build our relationships, outreach efforts, and communication methods to all key fisheries associated people along the Yukon river.

Salmon Know No Borders: 2017 Yukon River Exchange

Funded by the Yukon River Panel through the Restoration and Enhancement (R&E) Fund

Five participants from Alaska went to Canada for the 2017 Educational Exchange from July 30th to August 6, 2017. Sven Paukan (St. Mary's), Peter Tyson (St. Mary's), Katlyn Zuray (Tanana), Fred West (Anchorage ADF&G), and Danielle Stickman (YRDFA C&O Director) flew to Whitehorse on July 30th and met with Jesse Trerice, Director of the Yukon Salmon Sub-Committee. The first day of the exchange the Alaska group visited the *Chinook Salmon Restoration Project at Fox Creek* and drove up to Dawson, stopping at different sites along the Yukon River. They ended the evening with a talking circle and dinner with the Tr'ondek Hwech'in Territory First Nation community members. Day two and three were full of local tours by Tr'ondek Hwech'in residents in Dawson. Everyone on the exchange participated in the YRDFA Tuesday Teleconference call and the Department of Fisheries and Oceans Canada (DFO) Wednesday call. Selkirk First Nation employees gave an educational presentation on their *Pelly River Salmon Management Plan* and provided the participants with delicious moose stew and bannocks. The Selkirk First Nation's community-based management plan focuses on conservation, looking at various stock restoration projects, actively monitoring rivers and streams, as well as managing harvests according to pre-season forecasts. The group stopped at Tatchun Creek and Carmacks on the way back to Whitehorse; visiting a 98 year-old woman's fish camp where she continues to cut her own fish. This was a great experience for the lower river participants to see how First Nations' process fish and manage their fish camps.

The group took a *Fish Ladder Tour at the Whitehorse Dam* as well as a hatchery tour. They met with DFO employees and had lunch and watched a presentation on Canadian-Origin Yukon River Salmon. They did a site visit to *Deadman Creek* where a *Juvenile Restoration Project* just finished it's second year. The last few days of the exchange were spent in Teslin connecting and learning from the Teslin Tlingit First Nation community. The 2017 exchange was a success and is an important continuing approach to solving some of the large Yukon River fisheries challenges by building understanding and relationships through sharing stories, experiences, and ways of life that revolve around salmon.

Building and Maintaining Public Support of Salmon Resource Management: YRDFA Newsletters

Funded by US Fish and Wildlife Service through the Yukon River Panel's Resource Management (R&M) Fund

YRDFA received funding from the R&M fund to build and maintain public support and meaningful participation in salmon resource management. This project will also increase awareness and participation in management and conservation of Yukon River salmon stocks by reviving the much appreciated YRDFA newsletter, the "Yukon Fisheries News". Many Yukon River residents have shared how much they miss the newsletters and that they are very useful for keeping up-to-date on their complex and evolving fishery. The newsletter outreach and design is intended to be a two-way communications approach for informing Yukon River stakeholders about management measures, fisheries monitoring and research etc. and for eliciting Traditional and local knowledge, issues, and concerns from river communities and fishers. Three newsletters are scheduled to be sent out in the next 15-month period. The first newsletter is underway and will be mailed to Tribal Councils and life-long YRDFA members along the Yukon River and shared widely at fisheries meetings and with Non-Government Organizations (NGO's) and other stakeholders. There will also be electronic copies on the YRDFA website and Facebook page. The content will have an emphasis on the need for Alaskan Yukon

fishers to support and work toward meeting the Canadian escapement goals as defined by the Yukon River Salmon agreement, fisheries management articles and information shared and other pertinent articles provided by Yukon River fishers. This fall 2017 edition will have articles on the 2017 summer fishing season, the Educational Exchange to Yukon Territory, an Elder’s Gathering, the Summer Survey program, and much more. Please keep an eye out for the upcoming newsletter on the website and let us know how you like it and how to make it better!

Catherine’s reports

Yukon River In-Season Salmon Harvest Survey

Funded by the Office of Subsistence Management, Fisheries Resource Monitoring Program (FRMP)-Catherine Moncrieff

For the 2017 summer fishing season, we hired 10 community surveyors to participate in our In-Season Salmon Survey Program in the following communities: Alakanuk, Mountain Village, Marshall, Russian Mission, Anvik, Ruby, Huslia, Tanana, Fort Yukon and Eagle.

To kick off the season, our surveyors traveled to Fairbanks in April to attend the Yukon River Pre-Season Salmon Preparedness meeting and the Surveyor Training event. In addition to the training, they each received a binder with all the materials necessary for the work. A full evening was spent reviewing the materials, answering questions, and practicing conducting the survey.

Nine of our community surveyors were able to successfully interview fishers in their communities for 6 weeks during the Chinook salmon season and call in to the In-Season Salmon Management Teleconferences weekly with reports. There were new local hires in Mountain Village, Anvik, Ruby, and Tanana but no new communities added this year. In one community, Ruby, the surveyor attended the training event but ended up being unable to do the surveys. We plan to work with the Ruby tribe and community next year to improve this.

During the fishing season we were able to interview 155 households in 455 interviews between May 30 and July 31. We had a goal to interview more fishermen this year and we met this goal as our numbers of interviews and household are up from last year when we interviewed 100 households in 375 interviews. The following table summarizes the number of households that participated in each community and the total number of interviews per community for 2016 and 2017.

Yukon River Drainage Fisheries Association 2017 In-Season Salmon Survey					
Village	# of households interviewed		# of interviews total		date range
	2016	2017	2016	2017	2017
Alakanuk	12	41	65	126	May 30-July 17
Mountain Village	2	9	2	40	June 5 - July 17
Marshall	15	18	85	78	June 5- July 10

Russian Mission	20	21	35	34	June 5 -July 10
Anvik	8	12	12	32	June 12-July 17
Ruby	9	0	36	0	----
Huslia	5	20	29	40	June 19- July 24
Tanana	7	5	31	37	June 19-July 31
Fort Yukon	18	23	52	42	June 26-July 31
Eagle	4	6	28	26	June 19-July 24
Totals	100	155	375	455	May 30 - July 31

This season the surveyors reported that in most communities the fishermen were very happy with the fishing opportunities, the chance to use 7 ½ in nets, and, in most communities, the fishermen were able to meet their subsistence harvest needs.

We are still conducting the annual evaluation of the program and will likely have additional information to share at your upcoming meeting.

Customary Trade in the Upper Yukon River
Funded by the Office of Subsistence Management, Fisheries Resource Monitoring Program (FRMP) - Catherine Moncrieff

Both partner organizations, YRDFA and Alaska Dept. of Fish & Game (ADFG) Subsistence Division are actively working on writing our draft report for this project . This will include chapters on each participating community of Manley Hot Springs, Fort Yukon, and Venetie where we conducted ethnographic interviews and a survey on barter and trade. This fall, our research team will be traveling to each study-community to present our draft findings and to gather their feedback. This project ends in December of this year and we will be publishing a technical paper through the ADFG and distributing the report to Yukon River communities and other interested individuals and agencies.

How People of the Yukon River Value Salmon: A case study in the lower, middle, and upper portions of the Yukon River.
Funded by the North Pacific Research Board- Catherine Moncrieff

As an update on this project documenting how people of the Yukon River value salmon, Catherine traveled to Russian Mission in the spring of 2017 to present a draft summary of the Russian Mission chapter at a workshop with 6 representatives selected by the Traditional Council. As in Fort Yukon and Nenana, community members had the opportunity to provide feedback and their comments will be incorporated into the final draft.

Additionally, Catherine presented on this project at the Alaska Chapter of the American Fisheries Society annual conference, held in Fairbanks March 21-23, 2017. She also presented on this project at the YRDFA board meeting held in April also in Fairbanks.

To wrap up this project by the end of 2017, Ms. Moncrieff will be completing the final report and sharing the results widely.

Yukon River Salmon Declines: Learning from Tradition- workshop
Funded by National Science Foundation. - Catherine Moncrieff

In January and early February of 2017, YRDFA brought six Elders from the lower Yukon to Anchorage to speak in Yup'ik about king (Chinook) salmon for 3 days. This project is modeled after the very successful Yup'ik Environmental Knowledge Project carried out by our partners, Calista Education and Culture. The focus of the workshop was Elder knowledge of salmon and salmon fishing; discussing the history, changes, traditional place names, harvest patterns, diet and food preparation, traditional fishing practices, weather, river conditions, other animal and plant communities related to these practices, as well as other relevant topics.

Since the workshop, we have been working on transcribing and translating the many taped recordings of the discussions. We expect that this will be completed later this fall and, at that time, we will turn the discussions into a summary document to be shared widely with communities, managers, scientists, and other interested parties. Other results from this workshop will be forthcoming.

The YRDFA Board and Staff would like to thank the Dept. of Interior's Office of Subsistence Management for their support of our projects through the Fisheries Resource Monitoring Program we have shared reports for and also the entities that support our other Yukon River fisheries focused projects.

Thanks!



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Eastern Interior Regional Subsistence Advisory Council Fall 2017

Tetlin Biological Program Update:

Winter Caribou Hunt

During the 2016-17 winter season 114 permits were issued, 39 individuals hunted, 6 caribou were reported harvested (3 bulls and 3 cows) leading to a 15% success rate. Very few caribou passed through and/or wintered on Tetlin Refuge this past year compared to previous years. Harvest rates and hunter success was well below average even though harvest quotas were increased from one to two per federally qualified subsistence user.

Similar to last year, Tetlin Refuge is requesting a “Special Action” to increase harvest quotas from one to two caribou per federally qualified subsistence user for the 2017-18 winter season. The Nelchina caribou herd is currently above ADFG population objectives. Increasing harvest quotas will provide additional hunting opportunities for local residents and may help lower herd numbers.

Tetlin NWR’s refuge manager, Shawn Bayless, will open this year’s winter hunt when Nelchina caribou arrive on the Refuge, Nelchina and Mentasta herd mixing ratios are appropriate, snow conditions allow, and after consultation with ADFG, Wrangell-St. Elias National Park’s superintendent, and local tribal governments.

Winter Moose Hunt

During the 2016-17 winter season 88 permits were issued, 26 individuals hunted, 2 bull moose were reported harvested leading to a 7.7% success rate. Harvest and success rates were average for the 2016-17 season.

The 2017-18 winter hunt will open November 1st. The Refuge opens to the use of snowmachines when snow conditions allow. The use of ATVs is not permitted on Refuge lands.

Aerial Moose Survey

Abundance and demographic surveys of moose populations on Tetlin Refuge and the northern portions of Wrangell-St. Elias National Park and Preserve will be conducted by USFWS personnel during November, weather and snow conditions permitting. This survey is normally conducted every three years. However, due to poor snow conditions no moose survey has been carried out in this area since 2012.

Lynx Project Update

Twenty-five lynx were captured and collared between October 2016 and April 2017 using 50 foot snares and 30 log box traps. Three dens (6 kittens, 6 kittens, and 7 kittens, respectively) were located during June 2017. Multiple lynx have made short distance movements within the Upper Tanana River Valley. One collared lynx is currently making a long distance movement. He left his home range near the Chisana River in early June and has since traveled east across Yukon all the way to Northwest Territories and has recently turned south/southwest and is currently 75 miles from British Columbia.

This winter's capture efforts will be conducted by permanent refuge staff, one seasonal technician, and four volunteers between January and April 2018. We hope to place iridium GPS collars on 20 additional lynx this field season. Den visits will once again be conducted during May, June, and July of 2018 to document reproduction and habitat characteristics at these sites.

The Northwest Boreal Lynx Project is a 5-10 year study investigating the long distant movements of lynx in relation to the amplitude and synchrony of the 10-year snowshoe hare cycle in North America. This is a collaborative effort between USFWS, NPS, ADFG, BLM, USGS, Northwest Boreal LCC, Yukon Government, UAF, University of Washington, Trent University, and McGill University with study sites located at multiple wildlife refuges in interior Alaska, Bonanza Creek Experimental Forest in Fairbanks, Gates of the Arctic NPP, and at Kluane Lake in Yukon, Canada. We are entering our fourth year of this study at Tetlin Refuge.

Snowshoe Hare Monitoring

2017 estimates of abundance at our 7 monitoring locations are three times higher than previous estimates over the past 18 years. The 10-year snowshoe hare cycle is likely near its peak and will begin to decline within the next year or two. We are currently experiencing what some refer to as a "super peak" in the Upper Tanana Valley.

Estimating UAV (Drone) Use Parameters to Avoid Disturbance to Molting Waterfowl

Investigators: Angela Matz, U.S. Fish and Wildlife Service, Fairbanks Fish and Wildlife Field Office, c/o AFWCO, 4700 BLM Road, Anchorage, AK 99507. 907-271-2778, angela_matz@fws.gov

Nathan Berg, U.S. Fish and Wildlife Service, Tetlin National Wildlife Refuge,
Nathan Graff, U.S. Fish and Wildlife Service, Fairbanks Fish and Wildlife Field Office, 101 12th Ave., Room 110, Fairbanks AK 99701, Nathan_graff@fws.gov

Executive Summary:

Unmanned Aerial Vehicle (UAV, "drone") use for reconnaissance during oil spill response in Alaska will increase, as they remove the significant safety risk to humans associated with manned reconnaissance flights over cold ocean water or sea ice. However, drones can also disturb wildlife, including wildlife resources that would

otherwise benefit from spill response activities. Parameters (e.g. noise output, size, color, and minimum altitude) that minimize disturbance and maximize beneficial technology use are needed for oil spill planning and response. The U.S. Fish and Wildlife Service (Service) therefore has a need to determine use parameters, such as trajectory, altitude, and drone shape, that will enable response agencies to scout and map spill location and movements and identify resources at risk while minimizing disturbance to wildlife, particularly birds.

Birds need to replace worn feathers; some birds do this throughout the year but waterfowl often undergo a “spectacular” molt after breeding, dropping so many feathers at once that they have difficulty flying for some time. During this time, they are more vulnerable to aerial predators and may respond differently to perceived aerial threats compared to when they can easily fly. In particular, spectacled and Steller’s eiders, species listed as threatened under the Endangered Species Act, molt in nearshore areas of western Alaska that have increasing risks of oil spills from increased shipping during longer ice-free seasons than previous. These areas are Critical Habitat under the Endangered Species Act and comprise many miles of remote shoreline.

While studying responses of these threatened species in their actual molting areas is cost-prohibitive, we can evaluate responses of other molting waterfowl to drones in more accessible locations along or near the road system in Alaska (Fairbanks, AK or Tok, AK). We will systematically observe and document responses (head tilt, cessation of foraging) of molting waterfowl to drones (operated by licensed drone pilots) of different shapes, colors, noise levels, trajectories, and altitudes. This project will address FWS regional and national spill response priorities, particularly minimizing effects of response activities on threatened and endangered species.

Objectives

1. Evaluate multiple locations and select two lakes in or near Tetlin NWR for congruent presence of molting waterfowl, observer platforms, and drone launch areas.
2. At these two lakes, for multiple drone configurations and two approach paths, identify the maximum altitude that elicits a behavioral response (cease foraging, orient towards, escape diving, escape swimming, or escape flight) in one or more birds.
3. Prepare recommendations for minimum drone altitudes over molting waterfowl during oil spill response.

Peregrine Falcon, Osprey, and Bald Eagle Monitoring

Refuge staff conduct road and river based occupancy and fledgling surveys for peregrine falcons in late May and mid-July, respectively. Tetlin Refuge contracted Fortymile Air to conduct occupancy and fledgling surveys for ospreys and bald eagles at the same time of year using fixed-wing aircraft and helicopters.

Occupancy, fledgling rates, productivity, and mean brood sizes were average to above average in 2017 for peregrine falcons, bald eagles, and osprey when compared with annual monitoring data collected since 1991.

Olive-sided Flycatcher Study

This year marks the fourth and final year of Tetlin Refuge's participation in the olive-sided flycatcher project. Objectives were to investigate the olive-sided flycatcher's migration, breeding habitat, food availability, and mercury contamination in Alaska. A 30 year decline in the population has increased interest towards this species (decline documented from Breeding Bird Survey data (Altman & Sallabanks 2012)). The olive-sided flycatcher (OSFL) is a US Fish and Wildlife Service (USFWS) Species of Management Concern and one of the USFWS Region 7 priority species.

During the 2017 field season, the Tetlin NWR crew focused on retrieving GPS pinpoint units and Geolocators that were fitted onto OSFLs during the summers of 2014, 2015, and 2016. The information gathered from these units will hopefully provide vital migration data on stopover sites and overwintering grounds. No additional backpack units were deployed during this final season.

This project, spearheaded by Alaska Department of Fish and Game's Threatened, Endangered and Diversity Program, is a collaboration between the USFWS Region 7 Migratory Birds Division, the American Bird Conservancy, the Smithsonian National Zoological Park Migratory Bird Center, the Biodiversity Research Institute, the Bureau of Land Management, the University of Alaska Fairbanks Museum of the North, and the Alaska Songbird Institute.

Bird Banding

Capture and banding of neo-tropical migrants was conducted during the last week in August at our long-term banding station. Banding was conducted by the Tetlin National Wildlife Refuge Biology staff with the help of 2 volunteers.

One of our primary goals for this year's banding effort was to provide local school children with opportunities to connect with nature. The banding station received several visits from public and home school groups located in the communities of Tok, Tanacross, Tetlin, and Mentasta.

Methods

Four mist nets were erected in their historical locations. As in previous years nets were checked at minimum of every 30 minutes and closed after 6 hours of the pre-designated opening time. Nets were repaired and replaced as needed to maintain their maximum effectiveness for capturing passerines.

Netted birds were handled and processed in accordance with the Boreal Partners in Flight guidelines, USFWS *Intro to Animal Care* online course, and the TNWR Landbird Banding Manual.

Captured birds were placed in bird bags, returned to the banding station, "processed" and released, in a timely fashion. Captured birds were not typically held longer than an hour.

Data collected for all captured, banded, un-banded, and recaptured birds were; Bander, Recorder, Species, Date, Time, Net. In addition to the previously mentioned data, birds that were banded and processed had the following data collected; Skull pneumatization, un-flattened wing chord, tail chord, flight feather shape, wear and molt, tail shape, wear and molt, amount of body fat, presence of brood patch or cloacal protuberance, body feather molt, and presence of juvenile plumage. As outlined by the Selected Species Accounts of Alaska Birds manual, species specific secondary data was collected on certain individuals to help better determine age and sex of birds when possible.

Invasive Beetle Monitoring

Monitoring for invasive forest pests has been conducted along the Alaska Highway near the Tok Weigh Station and at Scottie Creek since 2010. This work is completed with support from Alaska Division of Natural Resources.

Samples from this summer's collection efforts have been sent to DNR and USFS for analysis. We are waiting for the results. To date no invasive forest insect pests have been detected.

Chum and Coho Salmon Surveys

During October and November refuge staff, with help from ADFG, will opportunistically look for salmon spawning areas within the Upper Tanana River watershed. Each fall a few chum and coho salmon are documented returning to local rivers but very little is known about these fish, where they go, or their abundance. Surveys will be conducted by foot, boat, and plane and will focus on potential spawning and rearing habitat.

Tetlin Lake Long-term Monitoring Project

Tetlin Refuge is working with Mary Hinckley to establish abiotic and biotic monitoring sites at Tetlin Lake and vicinity. The area is known to be mineral rich and there is interest in developing these resources. Baseline water quality data from Tetlin Lake inlet and outlet streams and rivers will be collected. In addition, we are interested in sampling Yukon floaters (a bivalve mollusk) and slimy sculpin to gain a better understanding of current and potential future contamination levels in these and other aquatic resources.

Water Monitoring

In cooperation with the USFWS Water Resources Branch and NPS personnel, Tetlin staff continue to monitor long-term water quality, quantity, and temperature at the AK Highway bridge at Scottie Creek and upstream from Northway Village on the Nabesna River. Monitoring at these locations began in 2009 and will continue indefinitely.

Snow Surveys

Refuge staff monitor snow conditions in the Upper Tanana River Basin by recording snow depth and snow-water content at the Jatahmund Lake and Paradise Hill snow course sites. Data collected from these sites during the winter months is used by USDA-NRCS to create hydrological predictions for our area. Refuge personnel have been monitoring snow conditions at these two locations since 1993 and will continue to do so indefinitely.

US Fish and Wildlife Service Visitor Services



Introduction



- Tim Lorenzini
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- <https://www.fws.gov/refuge/tetlin/>
- <https://www.facebook.com/tetlinnationalwildliferefuge/>

What we offer

- Hunter education
- Working in and out of school to get students certified in Basic Hunter Ed



What we offer

- Ice fishing



What we offer

- Trapping Classes
 - Several schools received basic classes last year, more will be conducted this year
 - How to set different styles of traps
 - How to build snares
 - How to skin animals



What we offer

- Survival skills
- How to start a fire, orienteering, bear awareness etc.



What we offer

- Career days
- Look into fish and wildlife careers



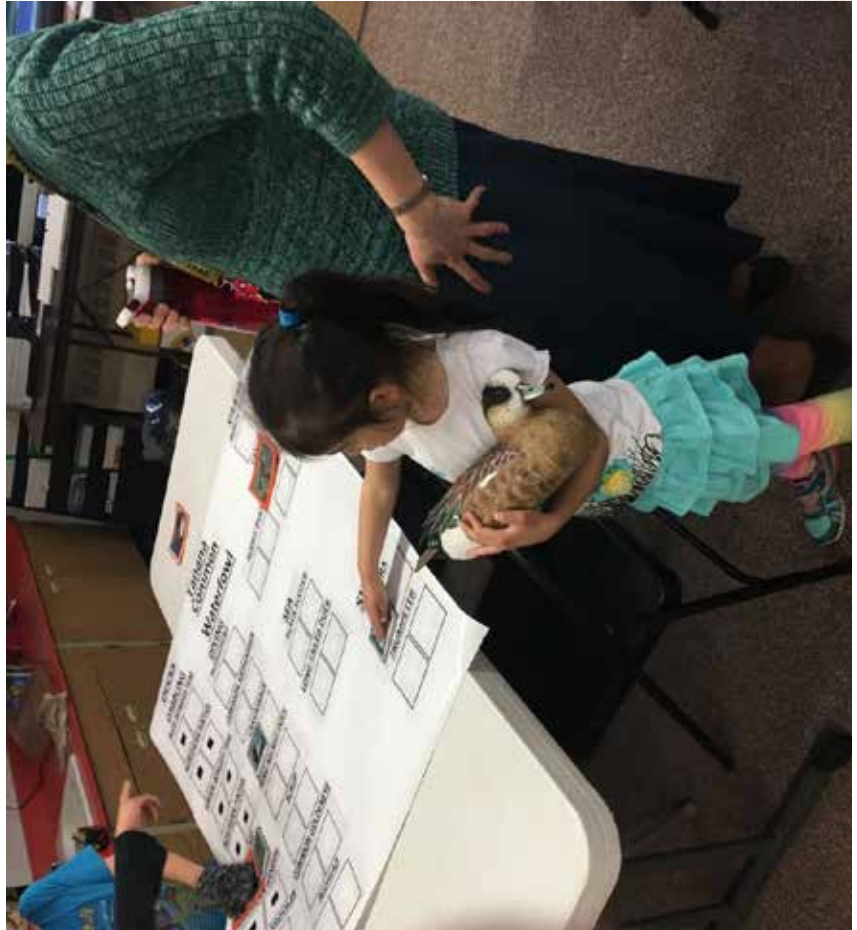
What we offer

- Migratory Bird Calendar
- Junior Duck Stamp



What we offer

- Waterfowl ID



Outdoor Photography



What we offer

- Water Safety/canoe class
- Float trips



What we offer

- Winter camping



What we offer

- Outdoor survival



Goals

- Encourage people to spend time outdoors with a focus on local youth
- Provide knowledge/skills to help them be safe and responsible while outdoors
- Add to knowledge and interest base
- Provide opportunity for every student to go through Basic Hunter Education by the time they leave middle school

Ideas, Suggestions, Questions

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Summary of Activities

Arctic National Wildlife Refuge



**Prepared for Eastern Interior Regional Advisory Council
September 2017**



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➤ **Research and Monitoring**

Caribou:

Management of the Porcupine Caribou Herd is a cooperative effort involving:

- 2 federal governments
- 3 state or territorial governments
- 8 native land claim agreements
- 5 national parks, preserves, or refuges
- 1 territorial park
- 2 special management areas
- Local residents of several small communities in Alaska and Canada

Management is coordinated by the International Porcupine Caribou Board, consisting of representatives from Canadian and U.S. national governments, Yukon and Northwest Territories provincial governments, the State of Alaska, and local citizens from Alaska and Canada. The International Board generally meets twice per year; the most recent meeting was held in December, 2016 in Fairbanks and Venetie, Alaska. Biologists from the responsible agencies also work together through the Porcupine Caribou Technical Committee, which reports to the International Board.

Examples of work being done include:

- Capture and radio-collaring caribou: mainly done in March each year by YTG, with assistance from USFWS and ADF&G.
- Purchase of radio-collars: funding provided by multiple agencies, primarily (in recent years) by Inuvialuit Final Agreement funds (Canada).
- Radio-tracking and costs of satellite data processing: mainly USFWS with assistance from YTG and others.
- Annual estimates of calving distribution and success: ADF&G
- Photo census (every 2 – 5 years): ADF&G with assistance from USFWS and others.
- Harvest summaries: YTG, NWT, ADF&G, with assistance from local communities.
- Body condition monitoring: YTG with assistance from local communities.

After declining slowly during the 1990s and early 2000s, the Porcupine Caribou Herd has been increasing for several years. The 2010 census estimated herd size at 169,000 and the 2013 census found 197,000 caribou, which is the highest population yet recorded for this herd. Staff from the

Alaska Department of Fish and Game conducted an aerial photo census in early July 2017. At this time, most of the caribou were concentrated on the coastal plain within the Arctic Refuge, although many of the bulls were grouped in the Richardson Mountains of northern Yukon. A new population estimate for this herd is expected to be available in the fall of 2017.

During the winter of 2016-2017 caribou were distributed across the southern Brooks Range, extending from just south of Chandalar Lake in Alaska to Old Crow flats in the central Yukon. Most of the herd wintered along the Sheenjek, Colleen, and upper Firth Rivers, although smaller groups were found near Arctic Village, Alaska, and Old Crow, Yukon.

Spring migration began during late April, and proceeded rapidly through May. Caribou from Alaska moved northeast into Yukon Territory, then west along the Arctic coast into Alaska.

Calving was spread across a wide stretch of coastal plain, from the northern Yukon and across the Arctic National Wildlife Refuge. As in 2015 and 2016, much of the calving this year occurred on the Refuge coastal plain, although some caribou calved in the Yukon as well.

Similar to 2016, post calving aggregations occurred on the Alaskan coastal plain. During early July the herd moved rapidly southeast through the Brooks Range to the upper Colleen River, then east through the Yukon Territory. By August 1, much of the herd was in the Richardson Mountains, and some caribou had crossed the border into the Northwest Territories just west of the village of Inuvik. During late August caribou moved back to the west and by early September much of the herd was back in Alaska.

Recent maps of the herd's distribution are now available on the web site of the Porcupine Caribou Management Board (Canada): <http://www.pcmb.ca/herd>



Figure 1. Caribou passing through the Canning River Delta. *Photo credit - Alex Lamoreaux*

Moose:

North Slope, GMU 26C

FWS staff conducted a moose survey within North Slope river drainages of Game Management Unit 26C during April 2017. River corridors were flown to cover all available moose habitat. Rivers included in the survey were the Sadlerochit, Hulahula, Okpilak, Okpirourak, Jago, Aichilik, Egaksrak, Ekaluakat, and lower Kongakut.

We observed 61 moose within the area surveyed, including 9 short-yearlings, 2 of which were a set of twins. Most moose were observed in the upper tributaries of the Kongakut River drainage. Last year we counted a total of 42 moose in the survey area, including 9 short yearlings.

Because of low moose numbers during 2012-2014, the FWS requested a Special Action to the Federal Subsistence Board to close moose hunting in GMU 26C for the 2015/2016 regulatory

year. In response to the recent increase in moose abundance, in April 2017 the Arctic Refuge Manager authorized two permits for subsistence harvest of bull moose in the Kongakut River drainage. Permits were issued to residents of Kaktovik; one bull moose was harvested under this program.

Because of the continued low moose population elsewhere on the north side of the Brooks Range, we recommend that hunting be limited to the Kongakut River, and that no more than two permits be issued per year. We plan to survey these drainages again during April 2018.

South Side of Brooks Range, GMU 25A

We conducted a limited survey of the Sheenjek River in April 2017. We observed 20 moose; however, based on tracks observed during the survey, it was evident that many moose had already begun their spring migration eastward, and had left the survey area. Thus, the number of moose observed does not represent the true size of the over-wintering moose population. Data from recent surveys indicate a stable population of moose in this area since 2000. If funds are available, we will survey this area again in late winter 2018.

Muskoxen:

No survey was conducted for muskoxen in the Refuge during 2017, however, one bull muskoxen was seen on the coastal plain during the April moose survey. A small group (approximately 18 to 20) was observed along the lower Kongakut River in summer 2015 and a group of 6 (including one radio-collared muskox) was seen by Canadian biologists just west of the international border during March 2016. However, these groups are thought to be found more usually in Canada. No visitors or FWS staff reported observing muskoxen in the Refuge this summer.

Sheep:

Traditional ground-based estimates of Dall's sheep sex and age composition were not conducted during 2016 or 2017. During July 2016, FWS and National Park Service biologists collaborated on a trial of an aerial transect survey covering approximately 4,000 square miles (10,117 sq. km) in the center of the Refuge. The survey area included the Hulahula River watershed on the north side of the Brooks Range and the Arctic Village Sheep Management Area on the the south side, We surveyed 115 transects, each 15 km long, and observed a total of 283 sheep in 52 groups. Most groups were small, although a few large groups of ewes and lambs were seen in the upper

Hulahula drainage (Figure 3). The population estimate for the area was 3318 sheep (95% CI = 2723-4121) or a density of 0.83 sheep per square mile (0.33 sheep per sq. km). The ratio of lambs/ewes was 0.30.

During July 10-13, 2017, we used this method to survey an area of approximately 3700 square miles (9750 sq. km), extending from the eastern edge of the 2016 survey unit to the Canadian border and including the Aichilik, Kongakut, and Sheenjek River drainages. Analysis of these results will be completed during fall, 2017.

Although results from the transect surveys are not directly comparable with methods used in previous years, sheep abundance seems to be low compared to numbers seen during 2000-2010. However, lamb abundance was relatively high during both 2016 and 2017, suggesting that the population may be in the process of recovery.



Figure 2. Dall's sheep ewes and lambs observed during an aerial survey within the Arctic National Wildlife Refuge, July 2016.

Pacific Common Eider on Beaufort Sea Barrier Islands

Populations of the Pacific common eider declined by 50–90% from 1957 to 1992, and the species is listed as a U.S. Fish and Wildlife Service Bird of Management Concern and an Audubon WatchList species. A recent climate change vulnerability assessment listed Pacific common eider as the most at-risk waterbird due to potential habitat loss and low productivity. Across their range, common eiders are an important subsistence species, contributing to food security in many communities. Although Pacific common eiders have declined throughout their

range, those breeding on barrier islands in the Beaufort Sea are considered particularly vulnerable to climate-mediated factors and impacts from development, due to their small population size, ecology, and genetic and physical segregation. In 2014, Arctic Refuge, in partnership with the University of Alaska Fairbanks, U.S. Geological Survey - National Wildlife Health Center and Alaska Science Center, and the Wildlife Conservation Society, began a multi-year study to determine the current demographics and limiting factors for the population of common eider breeding along the Beaufort and Chukchi Sea coasts.

From June 24-August 8, University of Alaska, Wildlife Conservation Society, and Refuge staff conducted an inventory of nesting waterbirds on select barrier islands near Prudhoe Bay and Point Thomson and within Arctic Refuge. We located a total of 1000 nests, 862 of which were common eiders. As part of this work, we captured some eiders for banding and disease surveillance and placed cameras at some nests to monitor causes of fate. Preliminary review of video footage suggests that polar bears were a significant cause of nest failure in 2017; similar to results from 2016. Studies conducted in the eastern Canadian Arctic have shown a 7-fold increase in egg predation by polar bears since the 1980s. It is hypothesized that decreased arctic sea ice extent may be leading to increased predation of eider eggs by bears. Although we did not experience a storm surge during the 2017 breeding season of the same magnitude as occurred 2016 (where the majority of the nests were lost to flooding), we did find ~ 8% of the nests that were active at discovery flooded this year. Sea levels are predicted to rise, the intensity and frequency of storm surges in the Beaufort Sea are increasing. In the future, eiders nesting on low elevation barrier islands may be increasingly impacted by earlier, stronger, and more frequent storm surges and climate-mediated changes in predation pressures.



Figure 3. Common Eider survey, Beaufort Sea barrier island. *Photo credit - Tine Hagelin*



Figure 4. Common Eider crew camp, Beaufort Sea barrier island. *Photo credit - Christopher Latty*



Figure 5. A) Nest camera footage of polar bear walking behind common eider hen on a nest and B) a glaucous gull depredating a common eider nest.

Tundra Nesting Birds at the Canning River Delta

The study site at the Canning River Delta in Arctic Refuge was established in the late 1970s and has since become the primary tundra nesting bird research station for the refuge. Work at this location is a collaboration between Arctic National Wildlife Refuge, Manomet, Inc., University of Alaska Fairbanks, and the U.S. Geological Survey. From May 31-July 18, a crew of up to 9 conducted work at the camp. 2017 was an exciting year at the Canning as we began to implement more multi-discipline, integrated scientific projects at the site. In addition to our core

tundra nesting bird monitoring that we have conducted in the past, this year we implemented pilot projects for fox and lemming monitoring, continued an assessment of the feasibility of using nest cameras to reduce costs and human disturbance, attached tiny GPS data loggers (some as small as 1 gram!) to dunlin and semipalmated sandpipers, retrieved geologgers attached to dunlin in 2016, and broadened our waterfowl search area and research questions to better inform both management of important subsistence species. The 2017 field season was characterized by a cold start in June, apparently low densities of fox and lemmings, and average numbers of shorebirds. Although data assessment is still being conducted, preliminary review of video footage suggested red fox were responsible for the vast majority of goose nest depredation this summer, which is noteworthy, as red fox have been fairly rare at this location in the past.



Figure 6. Crew arrival to the Canning camp on May 31. *Photo credit - Alex Lamoreaux*



Figure 7. Canning River tundra nesting bird camp after a mid-June snow. *Photo credit - Alan Kneidel*



Figure 8. A) Nest camera footage of parasitic jaegers depredating a long-tailed duck nest. B) Resighted semipalmated sandpiper that was banded in a prior year.

Alaska Landbird Monitoring Survey – Colleen River

Alaska provides breeding habitats for 135 species of landbirds, half of which breed predominantly north of the U.S.-Canada border. The road-based North American Breeding Bird Survey (BBS) provides some data on population trends in the state, but most northern species are inadequately monitored because of a paucity of roads. Boreal Partners in Flight thus developed the Alaska Landbird Monitoring Survey (ALMS) to monitor breeding populations of landbirds in roadless areas in Alaska. The primary objectives of ALMS are to (1) monitor long-term

population trends; (2) determine abundance by habitat; and (3) model distribution across Alaska. ALMS is a collaborative program whereby agencies participate by conducting standardized surveys of breeding birds and their habitats on their lands and contribute the data to the U.S. Geological Survey's Alaska Science Center for storage and analysis. Arctic Refuge has participated in this effort since 2009 and established 2 biannual boreal forest plots on the Porcupine and Colleen Rivers. In 2017, FWS staff floated a remote section of the Colleen from June 7-14. Conditions were quite windy early in the trip, limiting the work the crew could accomplish, but they managed to find a few days of good weather to finish the survey.

Plant Reconnaissance in Upper Wind River:

This work is part of a long-term effort to survey the vegetation within the Arctic refuge. Objectives are to: (1) compile a complete plant species list for the survey area, with species listed by three areas: lowland river deposits, limestone uplands and non-limestone uplands and (2) collect specimens of unusual or rare species for the Arctic Refuge and UAF herbaria.

Refuge staff camped at a small airstrip and traveled in different directions each day, surveying most habitat types within approximately five miles of the airstrip. We collected samples of all unusual or unknown plants for later identification. After the survey we will generate a comprehensive list of all vascular and nonvascular (e.g., mosses, liverworts, and lichens) plant species for the area by plant community type and bedrock type.

The result of this investigation will be a report documenting plant species by habitat type. For example, we noticed that the limestone mountain had very different plant communities than the other mountains. In addition we will add specimens to the Arctic Refuge and UAF herbaria from a survey area with almost no previous plant collection. The digital databases from the herbaria will then provide records of plant species distribution.



Figure 9. We expect algae to live in water, but this bright orange one (named *Trentepohlia*) survives on dry rock surfaces high in the Brooks Range.

Small Mammal Community Turnover with the Tundra and Boreal Biomes

The purpose of this project is to establish long-term inventory and monitoring transects for small mammals across the boreal-tundra ecotones of the refuge. This year data collection focused on the southern side of the refuge, was the second part of a transect running north to south from the Canning River delta on the coast to the confluence of the East Fork of the Chandalar with the Teedriinjik (Chandalar River). Data collected includes species density and range, species health - including external and internal parasite movement through populations, contaminants information derived from skins, and genetic information for viral and isotopic investigations.

On July 14, a crew of four researchers set out on the Junjik River, approximately five miles downriver from the confluence with Water Creek. Eight sites along the river were sampled, with the crew spending 3 to 4 nights at each site. The 39-day trip ended in Venetie, where the community hospitality was greatly appreciated. There were 605 specimen collected, with new

ranges being identified for some species, and the potential of hybridization noted in several specimens. Internal parasite loads were exceptionally high across all species in general.

This project included collaboration with Kansas State University and the University of New Mexico with the Museum of Southwestern Biology, as well as the U.S. Geological Survey, the National Park Service, the University of North Dakota, and the State of Alaska Department of Fish and Game.

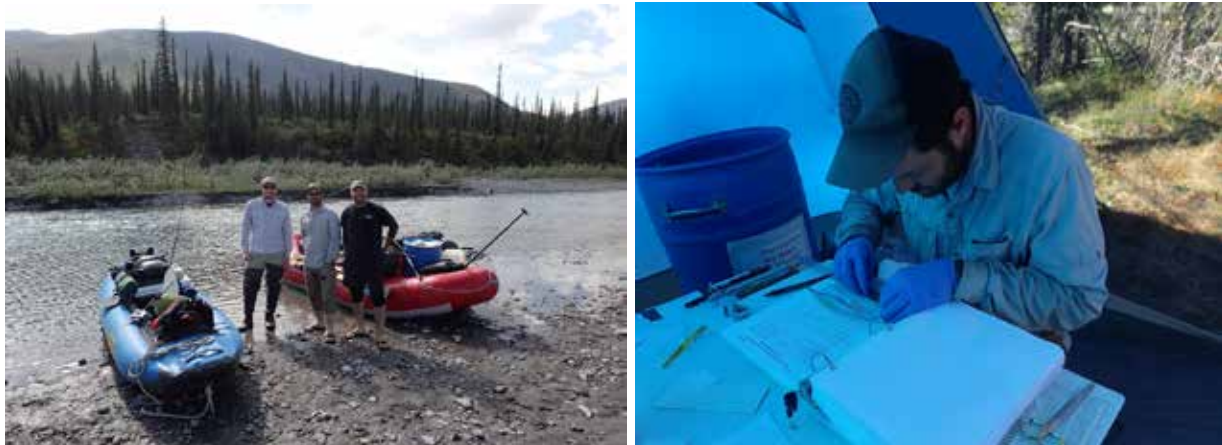


Figure 10. A) Volunteers ready for floating from the first site on the Junjik. B) Volunteer takes measurements on a collected specimen.

➤ *Public Use Management*

Staff continue to work together with area residents in a variety of ways to help keep habitat healthy, and to convey important messages about issues affecting communities to the Refuge visitors and businesses who serve them.

Commercial Permits:

Arctic Refuge is required to regulate the businesses that bring clients onto the Refuge and that guide clients during their stays. In 2017, the Refuge issued permits to 19 air operator businesses, 21 recreational guide businesses, 17 polar bear viewing guide and/or boat operator businesses, and 11 hunting guide businesses.

All recreational guiding permittees on the refuge may have clients that incidentally take photos along their journey. Our commercial filming permits do not cover personal use. None of the

permits the refuge authorizes allow any disturbance or chasing of wildlife; all permits have a condition prohibiting the disturbance of wildlife.

Interest in commercial polar bear viewing continues to increase. In response, the Refuge has begun evaluating options for future management. We will be seeking input from local communities and stakeholders throughout the process. The Refuge will not be soliciting requests from other businesses not currently under permit with Arctic National Wildlife Refuge for commercial guided polar bear viewing and water taxi activities during this time.

Law Enforcement:

Law enforcement patrols were conducted in August and September of 2017 with routine compliance checks at airstrips primarily in major drainages on the south side of the Brooks Range. Weather conditions permitted only a few checks of hunters on the north side of the Brooks Range. Most hunters were in compliance with both state and federal regulations. Routine compliance checks were made of big game hunting guides to ensure they were operating within the guidelines of their submitted operations plans and only one deviation from an operating plan was noted. Moose hunting patrols were conducted in September on several of the major river drainages to ensure compliance of state and federal regulations. Overall, the hunters encountered on ANWR during 2017 were mostly in compliance with the exceptions of a sub-legal sheep taken and a cow caribou illegally harvested by a non-resident hunter.



Figure 11. The refuge’s Top Cub airplane on a law enforcement patrol in the Sheenjek River Drainage.

Education and Outreach:

This summer five youth from Arctic Village were hired as Youth Conservation Corps (YCC) crew members. The purpose of the YCC program is to accomplish needed conservation work on public lands and to provide meaningful employment for young adults ages 15 through 18. The program also aims for young adults to develop an understanding and appreciation of the Nation's natural environment and heritage. This year's YCC crew helped with a variety of tasks during a two-week period. The first project involved assisting Refuge botany crew in collecting vegetation data at Galbraith Lake. Second, the crew restored the visitor interpretive kiosk at the Arctic Village airport by installing new polycarbonate panels. Lastly, crew flew in refuge aircraft to nearby airstrips to naturalize and improve campsites.

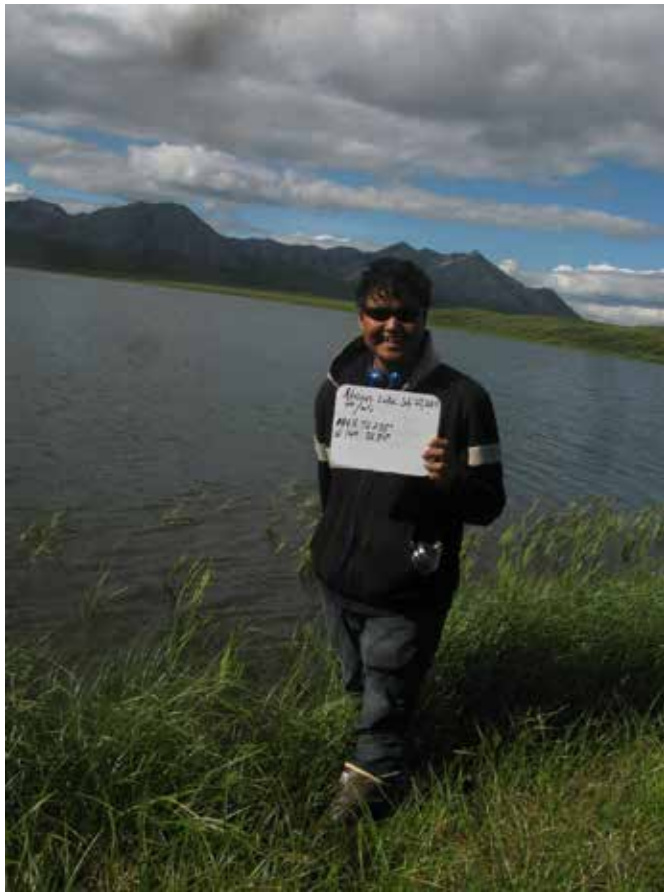


Figure 12. YCC crew member from Arctic Village records data for vegetation project.

Camp Goonzhii in Arctic Village:

Arctic National Wildlife Refuge, Friends of Alaska National Wildlife Refuges, University of Alaska Fairbanks and Toolik Field Station hosted Camp Goonzhii in Arctic Village. Instructors taught activities on writing, photography, art, hydrology, radio telemetry, beaver ecology, weasels, and the northern lights. Students built a minnow fish trap using local natural materials with their elders. The camp ended with a community potlatch in the school gym.



Figure 13. Student learns how to build a fire at Camp Goonzhii.

Facebook:

Arctic National Wildlife Refuge has a Facebook page:

<https://www.facebook.com/arcticnationalwildliferefuge>. The page is updated weekly containing interesting information about events and happenings on the Refuge.

Yukon Flats National Wildlife Refuge

Summary of Activities – Fiscal Year 2017

Prepared for the Eastern Interior Regional Advisory Council, September 2017

Refuge Overview

The Yukon Flats Basin is a world-renowned breeding ground for waterfowl. It also provides critical resources to over 1,200 people who live here. The Yukon Flats National Wildlife Refuge staff focus much of their biological efforts on monitoring the status of animals and habitat that are important from both a local and national perspective. Through a diverse program of education, outreach, and enforcement, Refuge staff work with partners to conserve these important resources. The following is a summary of activities that occurred in fiscal year 2017.

Research and Monitoring Projects

Moose Telemetry



Biologists conducted a radio-tracking flight of collared moose to determine over-winter calf survival. The survival from October to May was at a minimum 60% and very likely higher since biologists could not get a visual on all of the cow moose. This overwinter survival rate is similar to the past two winters (67 and 70% respectively). Of the original 28 collared cows, 3-4 of the collars indicated mortality. Two of the mortality signals came from cows that were 16 years-old, and the third signal came from an 8-year-old cow.

Sheep Survey

Refuge staff counted sheep on Victoria and Schwatka Mountains on July 14. The total count of 135 sheep was an increase over 2016 (74), 2015 (108), and 2014 (114), and the most since 145 were counted in 2013.



Biologists experienced excellent survey conditions. Highlights included:

- The ratio of lambs to ewes was 64%, which increased substantially from 2016 (14%).
- The total count of ewes was 70, which was up 18 from 2016 (52).
- The total count of rams was 20, which was more than 2016 (15). Six rams were full-curl and several were 7/8-curl.

Lynx Movement Study



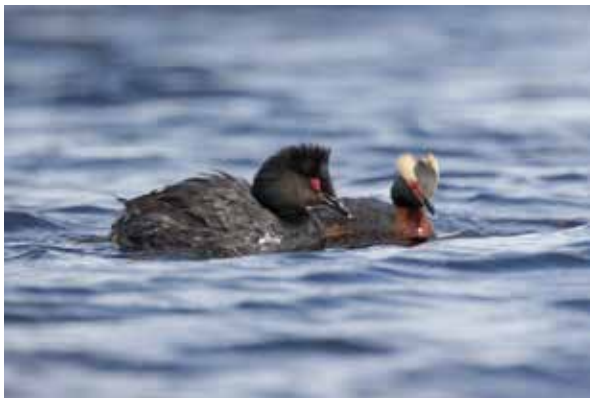
This year, Yukon Flats Refuge joined a larger effort across the boreal forest to study lynx movement patterns, dispersal behavior, and survival of lynx in relation to snowshoe hare abundance. Over one month, Refuge staff and volunteers live-captured seven lynx in walk-in traps. Four were fitted with satellite collars. Capture operations related to this study also occurred in 2017 at Tetlin National Wildlife Refuge, Koyukuk/Nowitna/Innoko Refuge Complex, and Gates of the Arctic National Park and Preserve.

Snowshoe Hare Monitoring

Snowshoe hares are an important component to boreal forest ecosystems. Lynx, which are heavily reliant on snowshoe hares for survival, are one of the most sought after furbearers on the Yukon Flats. Biologists annually monitor the population of snowshoe hares by counting pellets at transects near Canvasback Lake. Pellet counts in 2017 were up from 2016 with pellets present on 51% of plots surveyed.



Rare Sighting of a “Black” Horned Grebe



Biologists observed and photographed a black phase (also called melanistic) Horned Grebe (*Podiceps auritus*) at Canvasback Lake in late spring. Attempts made later in the nesting season to relocate the bird and search for potential offspring were unsuccessful.

This sighting has been submitted for publication to the journal *Western Birds*.

Eagle Surveys

Bald and golden eagles are designated as birds of management concern by the U.S. Fish and Wildlife Service. In 2014, the Refuge initiated a bald eagle “sticknest” survey that occurred along the Chandalar, Porcupine, and Black Rivers. This survey collects locations of raptor nests (eagles and hawks) and measures offspring production. In 2017, surveys were completed on the Yukon River. Data analysis is pending.

Invasive Plant Work

The Yukon River has the potential to be a major conduit for the spread of invasive species that may negatively impact moose, snowshoe hare, and salmon habitats. Village airports can also be sources of invasive plant species.



Invasive White Sweet Clover and Non-native Plant Surveys

The Refuge partnered with the Fairbanks Soil and Water Conservation District (FSWCD) to survey, map and control white sweet clover in Fort Yukon, Beaver, Birch Creek, and Stevens Village during the summer of 2017. Bird vetch was found in a yard in Stevens Village. For the first time, FSWCD staff conducted non-native plant surveys in Venetie and Chalkyitsik; they did not find any highly invasive plants in these villages.

Invasive Elodea

Elodea is a submersed aquatic invasive plant that has been problematic in Fairbanks and Nenana-area waterbodies and at Lake Hood in Anchorage. Biologists surveyed float plane lakes, including Hospital Lake in Fort Yukon. They did not find any Elodea. Staff also plan to survey priority areas of the Yukon, Nowitna, and Tanana Rivers. Biologists will continue to survey lakes every few years on a rotating basis. Early detection and eradication are critical to controlling invasive species.



Since 2015, Yukon Flats Refuge staff have supported Elodea eradication efforts on Chena Slough in Fairbanks to reduce fragments from dispersing downriver. In 2017, the FSWCD, Refuge and Fairbanks Fish and Wildlife Field Office staff completed the first year of herbicide treatment in Chena Slough. It will take 2-3 more years of treatment before Elodea is eradicated. The FSWCD crew also recently visited Totchaket Slough near Nenana and posted a sign to inform the public of its Elodea-infested status.

Waterfowl Surveys



2017 marked the sixteenth year of annual aerial surveys to monitor scoter and scaup populations on the Yukon Flats. Below is a summary of results:

The estimated number of white-winged scoters (9,303) in 2017 was lower than the previous fifteen-year mean (2001-2005 and 2007-2016) of 14,690. No black scoters were observed in 2017.



The estimated number of scaup (24,112) in 2017 was similar to the average for 2002 – 2016 (26,444).

Pacific loons were estimated at 1,071 in 2017, which is lower than the 10-year average from 2007 – 2016 (1,599). Trumpeter swans were estimated at 1,029 in 2017, which is similar to the previous 10-year average from 2007 – 2016 (815).

Scaup Brood Production Surveys

For the fourth consecutive year, Yukon Flats Refuge staff and volunteers conducted waterfowl brood surveys across the Refuge. Preliminary observations were mixed on brood numbers. Final results are pending analysis.



Trail Cameras



Biological staff deployed eighteen trail cameras to record wildlife occurrence during the 2016-2017 winter. The cameras were retrieved this summer, and their photos will be analyzed this fall. One goal of this project is to monitor the lynx population cycle. A report on furbearer sightings will be available in December. A preliminary review of the photos revealed a large number of lynx in addition to sightings of wolverine, bear, moose, foxes, wolves and unexpected species such as a swallow, crane, and sharp-tailed grouse.

Education and Outreach

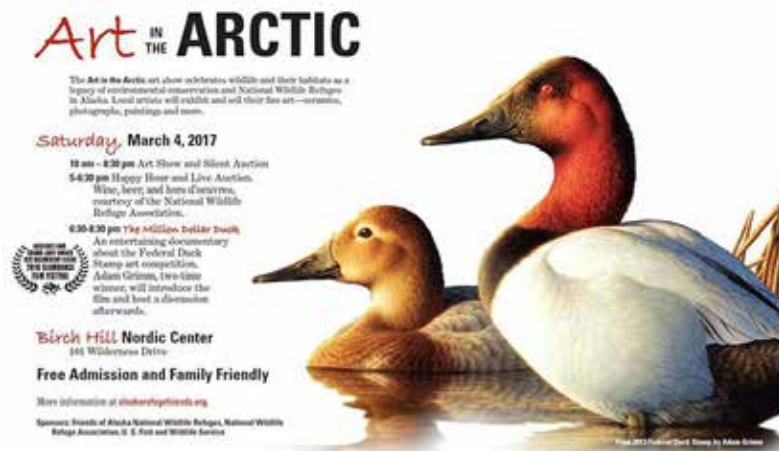
Chalkyitsik Open House

Refuge staff in collaboration with the Chalkyitsik Tribal Council hosted an “Informational Open House” on June 29 in Chalkyitsik. Refuge Friends Groups supported the Open House gathering, which included a BBQ, the opportunity to mingle with and ask biologists and managers about ongoing projects in the Yukon Flats Refuge, and activities for the youth. The gathering was well received by Chalkyitsik residents.

Art in the Arctic

Fairbanks area Refuge staff and the Friends of Alaska National Wildlife Refuges hosted the Second Annual Art in the Arctic Art Show in Fairbanks on March 4. Approximately 185 people participated in the events, which included a sale and exhibition of artwork by 15 local artists; a happy hour sponsored by the National Wildlife Refuge Association;

a free screening of the documentary *The Million Dollar Duck*; and a conversation with the documentary’s featured artist, Adam Grimm. Three non-profit organizations hosted booths at the event: the Friends of Alaska National Wildlife Refuges, the local chapter of Ducks Unlimited, and the Alaska chapter of Backcountry Hunters and Anglers.



Adam Grimm Photography



Adam Grimm is a two-time winner of the prestigious Federal Duck Stamp art competition. He donated his award-winning artwork to Yukon Flats Refuge to use for outreach purposes. He participated in Art in the Arctic and returned in May to visit Canvasback Lake where he captured high-resolution images of waterfowl, wildlife, and scenery that will be used to update outreach materials.

Sister Refuge in California

Yukon Flats Refuge wanted to increase its national audience; it sought to establish a “Sister Refuge” relationship with a Lower 48 refuge based on a shared resource, the canvasback duck. San Pablo Bay Refuge in San Francisco’s North Bay supports canvasbacks during the winter. This pairing of refuges provides a tangible opportunity to educate residents in the Bay Area and the



Yukon River Basin about how wildlife refuges function together as a national network of lands despite their apparent differences and the great distance that separates them.

As part of this initial effort, Yukon Flats Refuge employees presented to Bay Area classrooms, Refuge staff and Friends group members, and attendees of the 21st Annual San Francisco Bay Flyway Festival. The focus of these presentations was to demonstrate how integral Yukon Flats Refuge is for feeding the waterfowl flyways as well as sustaining the residents who subsist on the Refuge’s resources.

Fire Season Summary



Twenty wildfires burned 109,991 acres on Yukon Flats Refuge this summer. The Bear Mountain fire was the largest, which burned 43,000 acres in the southeast portion of the Refuge. The first Refuge fire of the season was reported on the solstice, and the last known fire was discovered on August 8th. All discovered fires this season were started by lightning.

Annual Funding Agreement

Yukon Flats National Wildlife Refuge and the Council of Athabascan Tribal Governments entered into their thirteenth year of an Annual Funding Agreement (Agreement) to conduct specific programs, services, functions, and activities. For 2017, the Agreement included moose management activities, including local stakeholder meetings and agreed-upon action items; a youth culture camp; logistical support for specific biological field projects; and funding for a Refuge Information Technician position.



United States Department of Interior

NATIONAL PARK SERVICE
Yukon-Charley Rivers National Preserve
4175 Geist Road
Fairbanks, Alaska 99709



Yukon-Charley Rivers National Preserve Eastern Interior Regional Advisory Council Meeting November 8-9, 2017

- **Ranger Division:** Two local rural residents, from Eagle and Circle, were issued a Special Use Permit for the use of NPS structures for subsistence purposes within Yukon-Charley Rivers. These permits allow the permittee to utilize a specific cabin or structure for a set period of time to conduct subsistence hunting and trapping activities. This allowance is permitted in Title 36 Code of Federal Regulations.

Yukon-Charley Rivers Ranger Nick Thompson has been promoted to a Ranger/Pilot position. This position utilizes aircraft for enhanced law enforcement coverage of the preserve, while also assisting the public in search and rescue activities.

Rangers conducted one Search and Rescue this summer in Yukon-Charley of a couple who lost their vessel on the 70 Mile River, which was assisted and reported by a local rural resident.

- **Education and Interpretation:** Visitation down slightly in terms of visitors noted in Eagle, Slaven's Roadhouse and on the river. Not as many guided groups as in years past.

Significant rehabilitation of Coal Creek Dredge – The Dredge has 6 new roof surfaces, a new railing, new floors, and a new window. The on-the-ground portion of the project took place from July 5 to July 22.

Repairs and improvements made on Smith (40 Mile) Public Use Cabin, including fixing squirrel damage, installation of boards and foam pads on bedframes.

New wood stoves installed in Nation Bluff Public Use Cabins and Coal Creek Camp Public Use Cabin. Some repairs made to Washington Creek Public Use Cabins, but significant work will require project funding.

- **Fire Management:** The 2017 Alaska Fire season was below the annual median of one million acres burned. There were 199 human ignited wildfires that burned 6,893 acres and 153 lightning ignited fires that burned 642,113 acres, statewide. On June 18th, the Yukon-Charley Rivers National Preserve had its first lightning ignited fire named Pass Creek in a modified fire management zone. This fire was suppressed by Alaska Fire Service personnel due to values of risk in the surrounding area. The fire was north of Windfall Mountain and controlled at 21.8 acres. On June 21st, there was a second lightning ignited fire near Trout Creek. The fire was located in the limited fire management zone and named Trout Creek fire. It burned 2,943 acres, predominately of

black spruce fuel type. On June 29th, a third lightning ignited fire named Seven Mile was detected. It was burning predominately of black spruce fuel type northwest of the mouth of the Kandik River and Yukon River. It burned a total of 404 acres in the limited fire management zone. Alaska Fire Service personnel provided point protection at the Kandik River Public Use Cabin. On July 18th, the fourth lightning ignited fire named Essie Creek was detected. It burned 5 acres prior to being declared out on August 6th. On July 30th, the fifth lightning ignited fire named Fisher Creek was detected. The fire was in the limited fire management zone and burned a total of 29 acres prior to being declared out on August 6th.

The National Park Service – Eastern Area Fire Management also conducted several fuel reduction projects in the Coal Creek area. Please visit the National Park Service Learning Center for Firewise Alaska and Fire Prevention information at <https://www.nps.gov/locations/alaska/wildland-fire.htm> For more information, contact Jason Devcich, Fire Management Officer, at 907-455-0650 or jason_devcich@nps.gov

- **Peregrine Falcons:** Scientists have been studying peregrine falcons in the preserve since the mid-1970s. During an early study in 1975, 11 nesting pairs of falcons were documented; today nearly 60 pairs have been noted. This ongoing survey has been instrumental in tracking the peregrine falcon's natural recovery within the preserve.
- **Wolves:** National Park Service researchers monitored wolf population dynamics for 22 years (1993-2014) in order to assess how two large-scale wolf control programs, which has the primary goal of increasing the size of the Fortymile caribou herd, affected a wolf population located within the adjacent protected area of Yukon-Charley Rivers National Preserve. The study is one of only four in North America conducted for this length of time.

The study found that during periods when wolf control programs were implemented, wolf survival rates in the national preserve were lower than usual even though the preserve encompasses 2.7 million acres and wolf control activities are prohibited in the preserve (and on other lands managed by the National Park Service). Other measures of population dynamics (dispersal, births and deaths) are also substantially different during years of wolf control.

Wolf monitoring efforts within Yukon-Charley Rivers National Preserve continued during the spring of 2017. Seven wolves from 4 packs were captured and collared. Monitoring efforts hope to understand how the wolf population within the Preserve responds to changes in prey abundance, landscape heterogeneity, and wolf densities.

For more information about this summary report contact Marcy Okada, Program Manager for Subsistence and Ethnography (907) 455-0639. For more information about NPS and Yukon-Charley Rivers National Preserve please call (907) 457-5752 in Fairbanks or (907) 547-2233 in Eagle.



United States Department of the Interior

NATIONAL PARK SERVICE
Denali National Park & Preserve
Mile 237 Parks Highway
P.O. Box 9
Denali Park, AK 99755

Denali Wildlife Update September 2017

Bear Monitoring/Denali North Side Bear Study

The objective of this study is to document the ecology of grizzly bears and their movements on the northeast portion of the park, especially outside the north park boundary where they may be subject to legal harvest and possible future intensive management efforts by the State of Alaska.

Earlier radio telemetry efforts in this area have shown that grizzly bears initially encountered within the park spend some portion of their lives outside the park boundary (see image below). These data were acquired from GPS radio collars that were deployed on bears in 2013 and released in 2015. Efforts to deploy additional collars in May 2016 were hampered by a lack of available bears and only four collars were deployed. The 2016 collars are Iridium based and location data directly to a computer about every 10 days. These 4 bears also split their time in and outside the park. A capture effort planned to deploy additional Iridium collars in May 2017 was hampered by lack of aircraft so a capture will be conducted in September 2017. Full analysis of the data will be completed after September 2019 when the last of the collars are programmed to release.

Bear Management

Over the course of the 2016 season 126 Bear Human Incident Management System (BHIMS) reports were collected along with two reports regarding bear caused human injuries. Nine were rated to be merely observations, where the reporting party saw a bear at a distance but the bear never noticed them. 117 bear encounters were reported where minimally, a bear noticed a human and its behavior changed in accordance. Reported bear behavior and subsequent management ratings were markedly different between frontcountry and backcountry reports. There were fewer reports of bear /human interaction filed for frontcountry areas than for backcountry areas, 40 and 79 respectively. However, 55% (22) of frontcountry reports were rated as an *incident* versus 15% (12) of reported backcountry interactions. Similarly, frontcountry BHIMS reports indicate 68% of bears displaying varying degrees of habituated behavior (ie. Tolerant, conditioned, and rewarded) and backcountry BHIMS reported 42%. Five

reports indicated that bears were actually provoked by humans. Four of the five encounters described in the aforementioned reports occurred on the park road by both visitors in private vehicles and concession employees driving buses.

Two major incidents occurred this season in which people were injured by bears. Both incidents involved people day hiking and grizzly bears. One incident occurred in the backcountry and one occurred on developed trails in the Savage River area. The human injury incident that occurred in the backcountry involved a lone hiker that surprised a grizzly sow with cubs and suffered a defensive attack. This incident was determined to be the result of natural bear behavior. The surrounding area was closed for a week and reopened without further incident.

The other bear caused human injury incident involved a sub-adult male bear and many hikers in a developed area. The injury incident occurred as the result of prior less severe incidents. In these other incidents there was a clear progression from a curious sub-adult bear testing boundaries to a bear that was rewarded with human food by approaching people to a bear that almost attacked a person and was subsequently destroyed. At every progressive stage of this major incident the bear encountered visitors that reacted incorrectly to the bear and the situation, ultimately leading to the destruction of the bear.

Moose

Denali receives funding for moose monitoring every third year from the Central Alaska Monitoring Network. These funds are then matched with park funds to conduct a moose survey on the north side of the park. Denali was scheduled to conduct this north side survey in Fall 2014. The survey area covers all areas within the park on the north side of the Alaska Range Mountains. Due to lack of adequate snow conditions, the survey was cancelled.

Partial funding was made available to attempt a survey of the same area in Fall 2015. Sufficient snow and reasonable weather conditions allowed us to conduct the survey between November 16 and 29 though the western-most units of the survey area were excluded. Results are as follows:

- Total units sampled = 111 (out of 653)
- Total area sampled = 657 mi² (out of 3863 mi²)
- Total moose counted = 524 (71 calves, 167 bulls, 286 cows)
- Preliminary Population Estimate = 2109 moose
- Preliminary Density Estimate = 0.55 moose/mi²
- Preliminary Calf:Bull:Cow ratio = 27:68:100

Denali is scheduled for moose survey funding in Fall 2017. Given adequate conditions the survey will be conducted in November/early December.

Caribou

This report summarizes research and monitoring of the Denali Caribou Herd conducted during

October 2015-September 2016 (FY2016). During this period, the specific objectives included:

1. Estimate the population size and composition in late September each year;
2. Determine productivity, survival patterns and age structure of adult females;
3. Assess calf production and recruitment;
4. Investigate the patterns of growth, survival, and seasonal habitat selection of male caribou;
5. Relate caribou population status, trends, and vital rates to climatic variables and predator population characteristics.

Herd size estimate of 2,660 caribou for September 2016. Although preliminary, the caribou population appears to have grown at about 5% per year since Autumn 2013. During these 3 years, winter snowfalls have been below average and adult female survival over winter has been very high, averaging 98%.

The adult sex ratio of 38 bulls:100 cows. Adult sex ratios declined from an average of 56:100 during 1984-1989 to a low of 29:100 during 1997-1998 as a result of increased mortality of males during severe winters in the late 1980s and early 1990s, as well as limited recruitment of male calves. Bull:cow ratios have shown an increasing, but variable, trend since that low point, but are well below those at the beginning of the study.

Productivity of cows ≥ 1 year old was estimated at 72% in mid-May 2016. Calf production has varied from 59% in 1990 to 92% in 1994 and is largely influenced by the number of yearling recruits, the highly variable productivity of 2-year-olds, and the proportion of older females in the herd.

During October 2015-September 2016, an estimated annual mortality rate was only 5% for adult females, lower than the long-term study average of 11% (range of annual values = 2-23%). Females ≥ 13 years old made up 10% of the population, declining from a recent peak of 22% in 2008.

Based on data collected from radiocollared females during October 1986 – September 2013, age-specific survival rates of females tend to be generally high for 2-7 year-olds, averaging 0.94, then decline slowly during 8-13 years of age prior to declining markedly as individuals become senescent. The 2 oldest caribou females we have monitored died in May as they turned an estimated 20 years old.

In mid-September bull caribou should be at their maximum body for the year in preparation for the rut and ensuing winter. Overall, body masses of males ranged from 93 to 278 kg. Body masses increased markedly with age from 1 to 6 years, gaining an average of 25 kg each year, and plateaued at 232 kg on average for bulls ≥ 6 years of age.

During our studies of bull survival since September 2007, we have noted that age-specific survival rates were high for males 1-4 years-old, averaging 88%. As bulls approached full adult size at 5 years of age and became active in the rut their survival declines with each passing year with very few surviving to 10 years. Interestingly, bulls ≥ 5 years old died predominantly during

July – November (85% of annual mortality) with half this mortality occurring prior to the onset of the rut in mid-September.

Wolf Monitoring

Denali National Park and Preserve's wolves have been studied by researchers since 1939. Population estimates were not very accurate until 1986, when a large-scale wolf research project was initiated by David Mech and others. This project provided basic information necessary for effective wolf management. The current monitoring program consists of maintaining one or two radio-collared wolves in each known pack inhabiting the park north of the Alaska Range. Radio-collared wolves are located about twice per month, with additional locations during late September to early October to determine fall pack sizes and to count pups, and during March to determine late winter pack sizes. In recent years, the use of GPS collars that record locations one or more times per day has greatly increased the number of locations available for most collared wolf packs. Telemetry locations acquired over one year (April—March) are used to determine the area of each pack territory. Counts of wolves in these packs and the area encompassed by the combined pack territories are used to estimate abundance and density of wolves. In addition, monitoring data are used to determine wolf movements, den locations, mortality factors, behavior, and population dynamics.

In spring 2017, we counted 72 wolves in 10 packs in our study area. This included a total of 20 wolves collared in 11 different packs (1 pack is outside of the study area currently). In 2016, at least 7 out of 9 monitored packs denned and 29 pups survived until the fall. From January 2016 to May 2017, 20 collared wolves died- 7 were harvested (shot or trapped), 7 were killed by wolves, 5 died of natural causes (such as starvation), and 1 died of an unknown cause.

We re-vamped Denali's wolf webpage this summer as well, with additional data and information. <https://www.nps.gov/dena/learn/nature/wolves.htm>

Sheep population Surveys

Ground-based Dall's sheep surveys were conducted annually along the Denali National Park Road corridor from 2008 to 2017. Previous ground surveys occurred from 1974 to 1996 but these were discontinued from 1997 to 2007. From 2008 to 2017, areas surveyed varied slightly from year to year depending on weather conditions and information gathered from aerial overflights prior to the surveys. From 2008 to 2017, a total of 41 to 184 sheep were counted and classified each year. Estimates of sheep productivity (expressed as the number of lambs per 100 ewes or ewe-like sheep) ranged from 3.57 (2013) to 50 (2016) lambs per 100 ewes. The estimate of productivity in 2012 (10.94) and 2013 (3.57) were the lowest recorded since 1993. The productivity estimate from 2013 was the lowest recorded during ground surveys since 1974. This drop occurred following a winter with very late snowmelt and record cold spring temperatures, which potentially covered spring forage and impacted natality and/or early survival of lambs. In 2017, 163 sheep were counted and the lamb to ewelike ratio was 49.21. In 2017, we also conducted aerial surveys using distance sampling methods. Over the course of two weeks, we

flew 102 transects via Supercub and saw 629 sheep. Population estimates from this survey will be coming this winter.

Trapping Records Project

Lake Minchumina is one of the communities designated for subsistence use in Denali under ANILCA. In April 2017, two biologists from Denali visited Lake Minchumina for four days to complete the field component of this project. During this time, we interviewed trappers. Interview questions detailed the trappers' observations of furbearer population trends over time, potential drivers of such changes, and questions they may have about furbearers. Trappers described their general lifestyle in the bush as subsistence users, and we heard multiple stories of changes experienced by the community over time. All interviews were recorded using a handheld audio recorder. Miki and Julie Collins also generously shared their trapping records with us. This valuable resource can be used not only as a historical reference but may also be applied to a retroactive population analyses on American marten, the main species targeted by the Collins twins. Considering that little is known about furbearers or of subsistence use in the Denali Preserve, having these records is of considerable importance to the National Park Service. Following our return from Lake Minchumina, the data collected was organized and quality assurance/quality control procedures were implemented. Along with a transcript, the audio file and an abstract for each interview will be archived in the Denali National Park Museum and on IRMA.

For further information on wildlife in Denali National Park and Preserve check out www.nps.gov/dena. You may also contact Pat Owen, Wildlife Biologist at pat_owen@nps.gov.

Denali Project Update

Denali National Park and Preserve Hosts Native Place Names Workshop

In an effort to preserve historically significant cultural resources, the National Park Service recently brought together linguistic experts and Alaska Native youth and elders in Denali National Park and Preserve to identify, share and learn about native place names in the Denali area.

The workshop included Alaska Natives from the Athabaskan communities of Telida, Nikolai, Nondalton, Nenana, Anchorage and Fairbanks, as well as Telida Village staff, all of whom recognize the importance of building a knowledge base of Native Place Names in Alaska that are only known to a few remaining speakers. The meeting also provided a platform for Native Elders to share culture and memories with younger members of their communities.

“These traditional ways are getting more important as we lose more of our elders. We need to pass this knowledge on to the younger generation,” said Nick Alexia, of Nikolai. “Getting together like this is really important.”

The Athabaskan people who lived and traveled in the lands now in Denali National Park and Preserve had names for natural features such as rivers, mountains, bays; human settlements and trails; and places to hunt, fish, and gather. These names are rich ethnographic and historical resources. Many of them refer to activities that took place regularly at the site; others tell of historical events that occurred there. Many of the names that were preserved in oral tradition have now been replaced with English names on modern maps. Many of the Elders who knew the place names and their stories are now gone; it is urgent to document the knowledge of those still living.

Native place names maintain and preserve cultural and spiritual practices as well as enhance the Park’s understanding of the history and significance of sites and resources in the parks. Park lands and associated place name resources hold key elements in maintaining Athabaskan traditional connections to sacred sites, cultural resources and traditional lifeways ways of life.

This workshop is the result of Telida Village Place Names Project that began several years ago. While conducting the project, linguist Ray Collins discovered a previously unknown series of tape recordings of Mishka Deaphon and Wassiley Petruska. These audio recordings describe travels along the Kuskokwim River and its drainages from the 1920’s and 1930’s. Elders from several Athabaskan groups joined linguist, James Kari, and NPS staff to help identify traditional place names from the recording that have been unknown to non-speakers and risked being lost forever as fewer people speak and understand Athabaskan languages.

During the workshop, various traditional Athabaskan names were restored to geographic features on the map. As Kari played the Petruska tape, several elders (Steven Nikolai Sr., Nick Alexia, Mike Alexia, Dora Esai, Verdresia Dennis) shared the place names they knew. In one dramatic moment, Dora (from Nikolai) recognized a place being discussed in the recording and hurried to the front to inform Kari about the Native name for Farewell Lake (Toydroya Mina’), which is translated as “that lake that belongs to Egypt Mountain.” This area is the Esai families’ Silvertip hunting camp located near the Iditarod Trail.

In addition to the important recovery of names, park archaeologist Phoebe Gilbert asked Telida and Nikolai members to name several archaeology sites that were discovered during field surveys in 2016. One was named on the spot, Dinatseya Ena Ghedushdi “where our ancestors lived.” This site is near the Alexia family’s traditional camping location where they would spend the winter trapping and hunting for sheep.

In addition to the mapping exercise, the workshop component of the meeting allowed students, teachers, and NPS staff to break into smaller groups and learn from Native elders about historical hunting routes into the park, trapping, winter camping, skills, and dog mushing.

“This was really good, getting together like this. I wish we could do more of this. It’s good for us older people and good for the young people to hear this,” said Butch Hobson, of Nondalton. “I am glad the park supports stuff like this.”

Nondalton Elders Butch and Pauline Hobson were able to ride in the Kennel’s dog sled. For Butch, it was like going back in time. He grew up mushing dogs, a time when that was the main source of transportation. After the ride, Butch told a few stories about his younger days mushing dogs. He first drove dogs through the mountains when he was 11 years old, hauling wood and moose meat.

There was also a session on “connection and living through values” and a beaver trapping video. Although the participants were from villages many miles apart they had much in common with one another. Participants young and old shared about what connection meant to them. All of what was shared revolved around the land. Some of the sharing included:

“Being out at camp and trapping for days.”

“Being at potlatch and knowing I am connected to my ancestors.”

“Eating moose meat.”

“Getting my first beaver.”

“Hearing the old stories and speaking the language.”

There was no doubt of the importance of the land, subsistence life way and cultural values.

The beaver trapping video was done through Lake Clark National Park and came from the Nondalton Dena’ina. This 15-minute video told the story of carrying on traditions and values. It spoke of the importance of ceremony and passing this knowledge on to the younger generation; one of the ceremonies included the blessing of a new pair of snow shoes.

This prompted a memory from a Nikolai Elder who stated that his grandma used to tell him that “when you weave the webbing into a pair of snow shoes, it needs be weaved in the direction of the moon.” This is another example of learning from the natural world around us.

In addition, NPS staff were able to discuss potential job opportunities for students and other members of the villages both within the agency and at Denali National Park. Workshop participants agreed that the gathering of several Native communities to reflect and share about culture was a tremendous success.

Winter 2018 Regional Advisory Council Meeting Calendar

February-March 2018

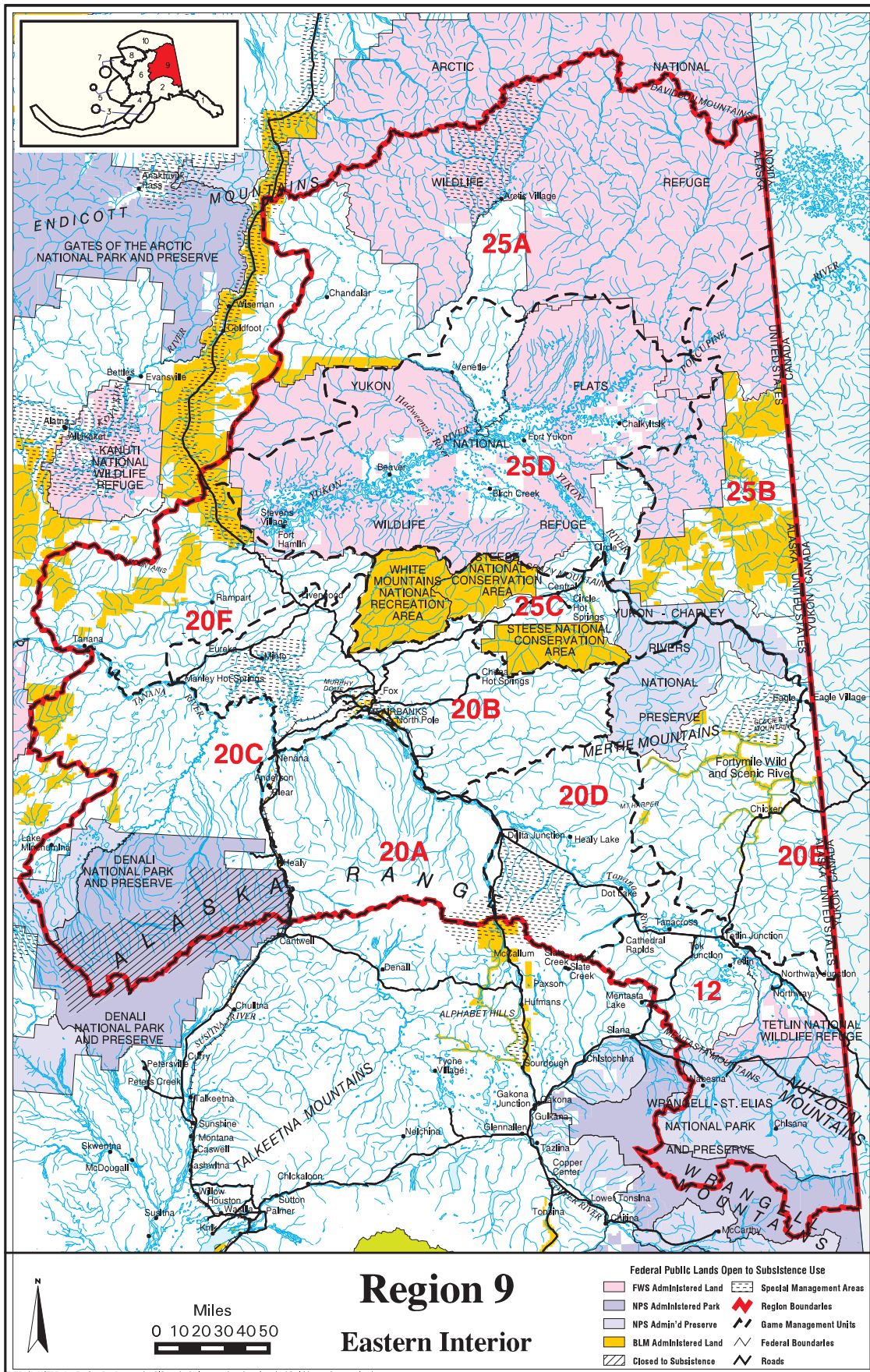
Meeting dates and locations are subject to change.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Feb. 4	Feb. 5 <i>Window Opens</i>	Feb. 6	Feb. 7 EI — Fairbanks	Feb. 8	Feb. 9	Feb. 10 SE — Wrangell
Feb. 11	Feb. 12	Feb. 13 NS — Utqiagvik	Feb. 14	Feb. 15	Feb. 16	Feb. 17
Feb. 18	Feb. 19 PRESIDENT'S DAY HOLIDAY	Feb. 20 WI — Anchorage	Feb. 21 KA — Kodiak	Feb. 22	Feb. 23	Feb. 24
Feb. 25	Feb. 26	Feb. 27 BB — Naknek (1st opt.)	Feb. 28 NWA — Kotzebue	Mar. 1	Mar. 2	Mar. 3
Mar. 4	Mar. 5 SP — Nome	Mar. 6 SC — Anchorage	Mar. 7	Mar. 8	Mar. 9	Mar. 10
Mar. 11	Mar. 12	Mar. 13 BB — Naknek (2nd opt.)	Mar. 14 YKD — Bethel	Mar. 15	Mar. 16 <i>Window Closes</i>	Mar. 17

Fall 2018 Regional Advisory Council Meeting Calendar

Meeting dates and locations are subject to change.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
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	Sept. 1	
Sept. 2	Sept. 3 LABOR DAY HOLIDAY	Sept. 4	Sept. 5	Sept. 6	Sept. 7	Sept. 8	
Sept. 9	Sept. 10	Sept. 11	Sept. 12	Sept. 13	Sept. 14	Sept. 15	
Sept. 16	Sept. 17	Sept. 18	Sept. 19	Sept. 20	Sept. 21	Sept. 22	
Sept. 23	Sept. 24	Sept. 25	Sept. 26	Sept. 27	Sept. 28	Sept. 29	
Sept. 30	Oct. 1	Oct. 2	Oct. 3	Oct. 4	Oct. 5	Oct. 6	
Oct. 7	Oct. 8 COLUMBUS DAY HOLIDAY	SE — TBD			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	Nov. 5	Nov. 6	Nov. 7	Nov. 8	Nov. 9	Nov. 10	



**Department of the Interior
U. S. Fish and Wildlife Service**

Eastern Interior Alaska Subsistence Regional Advisory Council

Charter

- 1. Committee's Official Designation.** The Council's official designation is the Eastern Interior Alaska 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 (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.** The Council has authority to perform the following duties:
 - 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 decisionmaking process affecting the taking of fish and wildlife on the public lands within the Region for subsistence uses.
 - d. 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 one member to the Wrangell-St. Elias National Park Subsistence Resource Commission and one member to the Denali National Park Subsistence Resource Commission in accordance with Section 808 of the Alaska National Interest Lands Conservation Act (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.
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 \$160,000, including all direct and indirect expenses and 1.15 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 7, U.S. Fish and Wildlife Service. The DFO is a full-time Federal employee appointed in accordance with Agency procedures. The DFO will:
 - Approve or call all of the advisory committee's and subcommittees' meetings,
 - Prepare and approve all meeting agendas,
 - Attend all committee and subcommittee meetings,
 - Adjourn any meeting when the DFO determines adjournment to be in the public interest, and
 - 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 it 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. A vacancy on the Council will be filled in the same manner in which the original appointment was made. Members serve at the discretion of the Secretary.

Council members will elect a Chair, Vice-Chair, and Secretary for a 1-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 specific party matter in which the member has a direct financial interest in a lease, license, permit, contract, claim, agreement, or related litigation with the Department.

14. **Subcommittees.** Subject to the DFO's 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. The Council Chair, with the approval of the DFO, will appoint subcommittee members. 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, shall be handled in accordance with General Records Schedule 6.2, and other approved Agency records disposition schedule. These records shall be available for public inspection and copying, subject to the Freedom of Information Act, 5 U.S.C. 552.



Secretary of the Interior

NOV 20 2015

Date Signed

DEC 03 2015

Date Filed

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