YUKON-KUSKOKWIM DELTA SUBSISTENCE REGIONAL ADVISORY COUNCIL

Meeting Materials

November 5-7, 2019
Bethel

What's Inside

On the cover...

Red Fox with ptarmigan in Andreafsky Wilderness, Yukon Delta National Wildlife Refuge.

USFWS photo by Kristine Sowl

What's Inside

YUKON-KUSKOKWIM DELTA SUBSISTENCE REGIONAL ADVISORY COUNCIL

Yupiit Piciryarait Cultural Center
Bethel

November 5, 2019 at 1:30 p.m.
November 6 - 7, 2019, 9:00 a.m. daily

TELECONFERENCE: call the toll free number: 1-866-864-5314, then when prompted enter the passcode: 3091862.

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

   Council Member Reports

   Chair's Report
8. **Service Awards and potluck celebration for James Charles and Charlie Brown**
9. **Public and Tribal Comment on Non-Agenda Items** (available each morning)
10. **Old Business** (*Chair*)

    a. Wildlife Closure Reviews – information update (*OSM Wildlife*)

       WCR20-38: Review closure to non-Federally qualified users and some Federally qualified subsistence users for moose in the Kuskokwim River area of Unit 18 23

11. New Business (*Chair*)

12. Agency Reports

(Time limit of 15 minutes unless approved in advance)

Tribal Governments

a. Orutsararmiut Native Council
b. Native Village of Napaimute

Alaska Native Science and Engineering Program (ANSEP) Student reports

Native Organizations

a. Association of Village Council Presidents
b. Kuskokwim River Inter-Tribal Fish Commission
c. Yukon River Inter-Tribal Fisheries Commission

Yukon River Drainage Fisheries Association

USFWS

a. 2019 Yukon River Salmon Season Summary (USFWS/ADF&G)
b. 2019 Kuskokwim River Salmon Season Summary (USFWS/ADF&G)
c. Yukon Delta National Wildlife Refuge
d. Togiak National Wildlife Refuge
e. Migratory Birds - Seabird die-off updates

ADF&G

a. Division of Subsistence FRMP project reports

b. Division of Wildlife Conservation regional wildlife updates

c. Alaska Board of Game proposals

North Pacific Fisheries Management Council

Bureau of Land Management

OSM

13. Future Meeting Dates*

Confirm Winter 2020 meeting date and location 265

Select Fall 2020 meeting date and location 266

14. Closing Comments

15. Adjourn (*Chair***)**

To teleconference into the meeting, call the toll free number: 1-866-864-5314, then when prompted enter the passcode: 3091862.

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 Eva Patton, 907-786-3358, eva_patton@fws.gov, or 800-877-8339 (TTY), by close of business on October 25, 2019.

REGION 5
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Seat	Year Appointed *Term Expires*	Member Name and Community	
1	2004 ***2019***	**William F. Brown** Eek	
2	1997 ***2019***	**James A. Charles** Tuntutuliak	**Vice-Chair**
3	2006 ***2019***	**John W. Andrew** Kwethluk	
4	 ***2019***	***VACANT***	
5	2018 ***2020***	**Edward I. Kiokun** Mekoryuk	
6	2018 ***2020***	**James C. Landlord** Mountain Village	
7	2017 ***2020***	**Alissa N. Rogers** Bethel	**Chair**
8	2018 ***2020***	**Phillip K. Peter, Sr.** Akiachak	
9	2018 ***2020***	**Carl D. Maxie, Sr.** Napaskiak	
10	2001 ***2021***	**Raymond J. Oney** Alakanuk	**Secretary**
11	 ***2021***	***VACANT***	
12	2003 ***2021***	**Robert E. Aloysius** Kalskag	
13	2018 ***2021***	**Richard B. Slats** Chevak	

YUKON-KUSKOKWIM DELTA SUBSISTENCE REGIONAL ADVISORY COUNCIL

Yupiit Piciryarait Cultural Center
March 12-13, 2019
Bethel, Alaska

MEETING MINUTES

Call to Order

Chair Alissa Nadine Rogers called the meeting to order at 9:01 am on March 12, 2019.

Invocation

At the request of the Chair, Father Martin from Kwethluk provided the invocation.

Roll call

The Council secretary, Raymond Oney, conducted a roll call of the Council. Alissa Rogers, John Andrew, Carl Maxie, Sr., Richard Slats, Robert Aloysius, Phillip Peter, Sr. James Charles and William (Charlie) Brown were delayed by weather but participated by teleconference but were able to arrive later in the day on March 12. Raymond Oney was weathered out; however, participated by teleconference for the entire meeting. Council member James Landlord was absent due to weather preventing flights and phones not operational. Edward Kiokun was on excused absence due to work obligations made prior to his appointment to the Council. Quorum was established.

New members were appointed in March 2019 to serve on the Council. New Council members are Edward Kiokun of Mekoryuk, Carl Maxie of Napaskiak, Philip Peter, Sr. of Akiachak, James Landlord of Mountian Village, and Richard Slats of Chevak. Two additional appointments were made, but the applicants were unable to serve at this time due to one moving out of the region and another being overcommitted to serving on other boards in the region. The current membership of the Council is 11 with two seats vacant.

Welcome and Introductions

Office of Subsistence Management Acting Assistant Regional Director, Tom Doolittle, provided a brief welcome to the Council and everyone attending the meeting.

The chair invited the meeting participants to identify themselves for the record. The following individuals participated in person or via teleconference:

Tribal and Alaska Native Organizations:
Jennifer Hooper, Natural Resources Director, Association of Village Council Presidents
Mary Peltola, Executive Director, Kuskokwim River Inter-Tribal Fish Commission
Johnathan Samuelson, Kuskokwim River Inter-Tribal Fish Commission

Mary Mathias, Natural Resources Director, Orutsararmiut Native Council (ONC)
Robert Lekander, Board Member, ONC
Jenessa Esquible, Partners Program Biologist, ONC
Martin Andrew, Organized Village of Kwethluk
Nick J. Ayapan, Kwethluk Inc.
Martin Nicholai, Kwethluk Inc.
Sandi Nicori, Kwethluk Inc.
George Guy, General Manager Kwethluk, Inc.
Alice Maxie, Napaskiak Tribal Council, Napaskiak
Chris Larson, Napaskiak Tribal Council, Napaskiak
Henry Lomack, Akiachak, Ltd.
John Ashepuk, Bethel Native Corporation/ ONC /Calista
Dan Gillikin, Native Village of Napaimute

Public and Local organizations:
Catherine Moncrieff, Anthropologist, Yukon River Drainage Fisheries Association
Evon Waska, Sr., subsistence hunter and fisherman, Bethel
Nels Alexie, subsistence hunter and fisherman, Bethel
Mary Woods, Bethel
Nikki Worm, Bethel
James S., Bethel
David Mute, Bethel

Agency staff:
Tom Doolittle, Acting Assistant Regional Director, Office of Subsistence Management (OSM)
Pippa Kenner, Anthropologist, OSM
Katerina Wessels, Council Coordinator, OSM
Tom Kron, Statewide Support, OSM
Megan Klosterman, Wildlife Biologist, OSM
Ray Born, Acting Refuge Manager, Yukon Delta National Wildlife Refuge (NWR), U.S. Fish and Wildlife Service (USFWS), Bethel
Gary Decossas, Fisheries Biologist, Yukon Delta NWR, USFWS, Bethel
Spencer Rearden, Biologist, Yukon Delta NWR, USFWS, Bethel
Aaron Moses, Fisheries Biologist, Yukon Delta NWR, USFWS, Bethel
Christopher Tulik, Lead RIT, Yukon Delta NWR, USFWS, Bethel
Gerald Maschmann, USFWS Yukon Subsistence Fisheries, Fairbanks
Phil Perry Area Management Wildlife Biologist, Alaska Department of Fish and Game (ADF&G)
Keith Oster, Wildlife Biologist, ADF&G
Rosalie Debenham, Biologist, Bureau of Indian Affairs (BIA)
Carol Damburg, Interagency Staff Committee, USFWS
Bonnie Million, Field Manager, Bureau of Land Management (BLM), Anchorage Field Office

Via teleconference:
Pat Walsh, Lead Biologist, Togiak NWR, Dillingham
Wayne Jenkins, Yukon River Drainage Fisheries Association

Deena Jallen, Yukon River Summer Season Assistant Manager, ADF&G
Aaron Tiernan, Kuskokwim River, Area Management Biologist, ADF&G
Christine Brummer, Pathways Student, OSM
Joshua Ream, Anthropologist, OSM
Paul Cassok, subsistence hunter and fisher, Alakanuk
Gabrial Buster, subsistence hunter, Alakanuk

Yup'ik translators:
Patrick Samson and Sophie Evan

Adoption of agenda

The Council reviewed and approved the agenda with modification to add a report on the migratory bird apology letter, and move the Donlin Mine update, and North Pacific Fisheries Management Council full report to the next meeting when they are available.

Election of Officers

The Council voted on officers. Alissa Rogers was elected as Chairperson, James Charles was elected as Vice-chair and Ray Oney was elected as Secretary.

Review and approve previous meeting minutes

The Council reviewed the September 26-28, 2018 meeting minutes. Corrections were made on page 6: John Lamont is from Emmonak not St. Mary's and on page 18: Mary Mathias' title is Natural Resources Director for ONC. Minutes approved with corrections by unanimous consent.

Council member reports

The following is a summary of what Council members reported.

Ray Oney, Alakanuk. Ray expressed the importance of keeping elders on the Council, and that he is looking forward to learning from the newly appointed members. He would like to see more Council involvement from Yukon River members and thinks that the Council needs to listen to and advocate for the people in their areas. Ray stressed that the Council needs to have involvement from all the communities in the region, to listen to the people, and hear what they are saying.

Ray reported that Sheefish fishing was good this year but ice fishing on the Yukon River ended early due to the unusual weather patterns and warmer weather causing thin ice and open water. People are trying to adapt to the changing weather. Even airplanes have a hard time getting in and out the villages with all the storms. He reported that moose are plentiful and the moose count is very high. The moose are coming very close to the village because of the amount of snow they have gotten. Ray highlighted that people in his area had not seen many ptarmigan in a long while but just recently they started seeing ptarmigan again and were able to harvest some.

James Charles – Tuntutuliak. James reported that they have moose in his village now and he really likes that. He highlighted that people had supported the moose hunting moratorium, and now the population had expanded, and moose are abundant enough to harvest again. James discussed his work on the Kuskokwim River Salmon Management Working Group and the Kuskokwim River Intertribal Fish Commission. He shared the process they go through meeting every week and discussed salmon conservation and when to open the Kuskokwim River for subsistence fishing. James noted they always are careful to decide when to open it, since they have seen over-harvest in some areas in the past, and not enough fish for some people. He stressed that they are always careful about what they do. People are happy when there is an opening on the river and they try to ensure everyone along the river has some opportunity to fish for some kings as they move upriver.

James thanked ADF&G and USFWS staff for opening Kinak River to the harvest of fish because his community missed the spring harvest of salmon, whitefish, pike and burbot. He really appreciated that the managers had come to Tuntutuliak to meet with the community the past two years

Charlie Brown – Eek. Charlie also reported on the weekly Kuskokwim Salmon Management Working Group meetings every week during the salmon season. He reported people are glad for the subsistence fishing opportunities, but there are no fish buyers for any commercial fisheries. Charlie reported that people talk to him since he is a commercial fisher representative on the Working Group and want to find out if there is a possibility for a commercial Coho fishing opening. He reported that the Coho runs were late last year and they were still being caught under the ice in December.

John Andrew – Kwethluk. John shared stories of his childhood growing up in Kwethluk and at fishcamp upriver living and learning the Yup'ik way. When he was four he began learning about the animals, birds and, as children, were taught to be eager to hunt as they played. He recalled swimming and catching frogs and minnows with his hands. They would follow those that went out fishing and at the age of six he started helping his dad fishing for salmon. The kids learned to pull in the nets, take out the fish, and bring the catch to camp for cutting. He relayed that for people on the Kuskokwim, salmon is their way of life and people used to fill their smokehouses with salmon when they were abundant. Yup'ik people depend on salmon. Everyone from elders to the children depend on salmon.

John relayed he grew up hunting and trapping and they would travel by dog team prior to snow machines becoming common. He learned to hunt all the furbearing animals with his Dad, harvesting squirrels in the spring, and fox, otter, lynx, and wolverine. Once in a while during the winter they would get fox, otter, lynx, and wolverine and sometimes wolf. He then learned to hunt the bigger animals such as moose and caribou to feed his family. John noted that fewer young people are trapping these days.

John reported that a few elders are ice fishing at this time, and the pike fishing is good. Whitefish harvest has been slow in the fall and all winter but was picking up the last couple of weeks. John reported very few caribou harvests in his community. The trails have been wet and the caribou moved back up into the hills. He highlighted that this is the first time in 10-11 years

that they have seen ptarmigan coming down from the hills. Overall the spring weather has been pretty wet making it difficult to travel for subsistence activities. Some of his relatives have ran out of fish in their freezers.

Bob Aloysius – Kalskag. Bob reported that he had health issues that prevented him from engaging in subsistence activities over the past year, so he did not have much to report at this time. Bob did share reports from others in his community of Kalskag, noting that people are complaining about moose in their yards and are interested in a winter or spring moose hunt if the moose population is expanding. He also reported that the snow and ice conditions have been hazardous. It is hard to go fishing through the ice, because it is not safe to travel by snowmachine on the thin ice on the creeks and lakes, but people have been able to fish under the ice on the river.

Alissa Nadine Rogers – Bethel. Alissa reported that weather has been unusual, but people have still been going subsistence hunting and fishing despite the risks caused by the weather and thin ice. Alissa reported seeing more ptarmigan, but not as abundant as about 8 years ago. She noted increasing coyote sightings this year, and saw two in her own back yard. She heard about caribou herds in the area but her family did not go hunting for caribou this year. Alissa reported good pike fishing, with a lot larger fish; however, they did not catch as much whitefish and are concerned about lower whitefish abundance. There were not that many Coho last fall and they had to work very hard till the end of September to catch Coho to freeze. Alissa reported that she was afraid to go fishing for Blackfish this winter because the ice was so thin. There were many reports of people going through the ice when out moose hunting this year. Berry production was poor this year, raspberries were trying to grow and bloom in September and they were still picking them in November. They saw more tree growth on the tundra due to melting permafrost.

Carl Maxie – Napaskiak. Carl introduced himself as a new Council member and lifelong subsistence hunter and fisher. He recounted how they used to travel by dogteam before there were snowmachines, but still go season to season to gather food for the winter. Their first priority is to get ready for winter with food and conserve the fish and wildlife they depend on. Carl expressed that he is looking forward to listening to the people's concerns in support of their livelihood and wellbeing. He is interested to listen and learn from everyone, especially the elders.

Carl reported that he was surprised to catch a couple of Silvers in December. The fish were healthy, 10 to 15 pounds each, but very late migration up stream.

Richard Slats – Chevak. Richard introduced himself as a new appointment to the Council and lifelong subsistence hunter and fisher from Chevak – the Cup'ik people of Kashunuk. He is the second Chief for the Chevak Native Village and has always been an advocate to protect subsistence rights and resources. He is also an advocate for children and wants to participate on the Council to ensure the future generations are able to enjoy living a subsistence way of life. Richard shared concerns raised by his Tribal Council, especially climate change as they are witnessing melting ice and rising temperature of the water, which is affecting the King Salmon. Recently Common Murres have been washing up dead on shore by the thousands in their area. The Chevak Tribal Council is also very concerned about pit mines being proposed in the region.

Richard relayed that the changing weather is impacting his community. The village of Chevak is located on a stretch of rolling hills near the coast and they are getting more South winds in the winter and more storms with gale force winds and storm surges are more common. They are having to adjust to new seasons with late freeze up and early thaw. Thin ice and lack of snow cover in winter creates dangerous trail conditions for travel by snowmachine and it strands the community from their normal subsistence activities. They have to be careful when they go to ice fish and jig for pike. Normally their spring hunts are conducted in April but now they have to go in March due to early thaw, this past summer the salmon berries were ripe a month early.

Phillip Peter, Sr. – Akiachak. Phillip introduced himself as a newly appointed Council member. He has been involved with his Tribal government for many years, serving as the IRA Council Chairman for 40 years and also as a board member of the Yukon-Kuskokwim Health Corporation. Phillip expressed his interest to serve on the Council to protect their subsistence way of life. He stressed the importance of maintaining customs and traditions and encouraging the younger generation to be involved on Councils such as this.

Phillip stressed that his primary concern now is to protect the Chinook Salmon, and recalled the late 1970s and early 1980s when Chinook were overfished in the commercial fishery. He also relayed that Chum Salmon also crashed in the 1990s and are slowly coming back. He noted that his Elders told him when the Chum numbers are low the Sockeye Salmon would increase and now they are seeing a lot of Sockeye in the Kuskokwim River. Phillip is concerned about the very low Coho Salmon returns in recent years.

Phillip reported it was a pretty good moose season this year for Akiachak except that it ended early because the quota was met after less than a week of hunting. The moose are increasing on the Kuskokwim and that is a good thing. There are a lot moose on the Yukon River but not many from his village travel across to hunt there. He usually sets his Blackfish trap in November. In recent years the winters are no longer cold and the thickest ice on the Kuskokwim is only 2 ½ feet thick. This year though they had pretty good snow cover in January – February. He saw a lot of ptarmigan in January and went out hunting on the tundra for ptarmigan a couple times this year.

Public and Tribal Comment on non-agenda items

The Council received public and tribal comments on non-agenda items. About 20 members of the public were present. Public comments ranged from observations of weather and environmental change, timing of fall moose hunts, expanding beaver population, their benefits and concerns for salmon and local ways to address it, including encouragement of traditional beaver trapping for their fur. The Council heard reports of sick and injured seals and concerns about trawl fisheries harming the ocean floor habitat for fish and marine mammals. Concerns were also raised about a decline in families going to fish camp and the loss of traditional knowledge and values that goes with it. One member of the public relayed that, when she was young, everyone went to fish camp and that is how the children learned by listening and observation, watching and participating. People are concerned that fishing restrictions have led

to fewer and fewer families going to fish camp causing a loss of knowledge and subsistence traditions about how to take care of fish.

Other members of the public also expressed peoples' need for fish for their primary food, that they cannot go to the store and just buy food to replace salmon, and extended fishing closures have caused great hardship for communities on the Yukon and Kuskokwim Rivers. They stressed the importance of sharing the first salmon with their elders. While they understand the need for conservation, they also understand the disruption it has caused to their self-identity and culture. The public also expressed concerns about Donlin Mine impacts to subsistence and the Kuskokwim River, which is their primary source of food.

Members of the public and Council commented that they very much appreciated the extended time to report moose harvest. They note it has helped subsistence hunters who often travel in groups in one boat to save on gas and have to travel long distances to the hunting grounds. The extra time to report supports the opportunity for each member of the hunting party to harvest a moose and more ample time to safely return back to the village from distant hunt areas to meet the reporting requirements.

Wildlife Closure Reviews

OSM Wildlife Biologist Megan Klosterman provided an overview of the Wildlife Closure Reviews. The Federal Subsistence Board's closure policy requires OSM to review closures to hunting or fishing on Federal lands every four years and presents analyses of these closures to the relevant Regional Advisory Councils. The Council was asked to make recommendations on any changes warranted to the current closures. The Council's recommendation will be presented to the Federal Subsistence Board for final action at its upcoming wildlife regulatory meeting in spring of 2020.

The Council took the following action on the closure reviews:

WCR18-38 (Unit 18 moose – Kuskokwim).The Council voted 6-1-0, consistent with the OSM recommendation to maintain status quo to maintain the closure to all but Federally qualified subsistence users. Justification: The Council had a lengthy discussion with staff about this Kuskokwim drainage hunt area in Unit 18 and the affected villages. The Council voted to maintain the closure to all but Federally qualified subsistence users on Federal public lands in this hunt area in support of the communities in this region that have a greater need for moose than they can currently harvest. The Council learned that, while the moose population is growing, the current subsistence demand for moose if far greater than the current harvest quota. The Council stressed Federal subsistence priority should be maintained and any additional moose available to harvest should go to local residents of the communities in this hunt area before opening the area to non-Federally qualified users.

WCR18-40 (Unit 18 moose – South of the Kanektok River). The Council voted 6-1-0 to open this area of Federal lands to Federally qualified subsistence users only. Justification: The Council discussed that this area has been closed with no moose hunt allowed on Federal public lands. The Council believes that now that the moose population has been growing slowly,

enough to support a hunt, and the subsistence communities in the hunt area should have the first priority to harvest moose and be open to only Federally qualified subsistence users at this time. The Council also suggested further consultation with the affected communities in this hunt area: Eek, Quinhagak, and Goodnews Bay.

Pat Walsh with Togiak National Wildlife Refuge, reported that they are working with Quinhagak and plan to prepare proposals to establish a moose season that will follow this closure review.

WCR18-39 (Eastern portion of Unit 19A moose). The Council voted 6-1-0 to defer this to the Western Interior Council. Justification: The Council noted that both the Y-K Delta and Western Interior Councils supported the original closure in 2007, as well as continuing the closure in 2014 when it was last reviewed. The Council mentioned that some Unit 18 residents do hunt in this area and that the Council would be comfortable keeping it closed and maintaining the status quo until they heard the Western Interior Council's decision. The Council hopes to consider this closure again at its fall 2019 meeting after hearing the Western Interior Council's recommendation.

WCR20-43 (Unit 19A remainder moose). The Council voted 7-0-0 to defer to the Western Interior Council. The Council discussed that they generally support the closure but would like to hear from the Western Interior Council prior to making a recommendation. The Council hopes to consider this closure again at its fall 2019 meeting after hearing the Western Interior Council's recommendation.

Call for Federal Wildlife Proposals

OSM Wildlife Biologist Megan Klosterman provided an overview of the 2020 call for Federal subsistence wildlife regulatory proposals. Yukon Delta National Wildlife Refuge, Togiak National Wildlife Refuge, and ADF&G wildlife biologists and managers provided wildlife census, harvest updates and other relevant information for consideration of wildlife proposal development to the Council.

Spencer Rearden (Yukon Delta NWR Assistant Manager), Phillip Perry (ADF&G Area Wildlife Manager), and Keith Oster (ADF&G, Assistant Area Wildlife Manager) presented the moose and muskox biological information for Unit 18. The council discussed options under both the State and Federal regulations for proxy hunts and designated hunters, respectively, and funerary / ceremonial potlatch hunts, as well as education and cultural permits to hunt for educational purpose outside of an established season.

Both State and Federal biologists discussed moose management and monitoring plans. The moose population on the Yukon River has been growing even with a very liberal nine month season. They hope to prevent a population crash from over-browsing. Beginning in April, ADF&G will begin a browse survey downriver from Mountain Village and will be radio collaring moose. The Department cautions that the immobilization drugs used to capture and collar the moose make the meat unsafe to eat for a period of time. The collars have information on them to indicate the date range that the moose are not safe to eat but the Department recommends that to be safe people not harvest radio collared moose this first year.

Aaron Moses, Yukon Delta NWR Subsistence Biologist, and Keith Oster, ADF&G Wildlife Biologist, presented information on a study to monitor the ptarmigan population and movement around Kusilvak, mud volcanoes area, upper Johnson River, and Kilbuck Mountains. They plan to fit 100 ptarmigan with small backpack transmitters to track them via radio telemetry flights over the next 12 months. The Council discussed the community outreach plans for this project and stressed the importance of communications with the local people in tagging areas, so they are aware of the project.

The Council discussed several possible Federal subsistence proposals and voted unanimously to submit a proposal to establish a December 1 - January 31, to be announced, antlered bull moose hunt on Federal public lands in Unit 18. Zone 2 of the Kuskokwim River drainage hunt area is for Federally qualified hunters that were unable to get a moose during the September season. Justification: Hunters will have additional opportunity to harvest moose if they were not able to harvest a moose during the fall hunt. A second hunting season will provide opportunity after the fall rut when the meat is not stinky and also the cold weather will help with meat preservation and ability to access moose hunt areas by snow machine. The one antlered bull by registration permit per year remains the same so the additional season will provide additional opportunity but does not increase the quota and thus is not a conservation concern. Based on the first hunt success rate, the remaining quota will be allowable for harvest for those who were not successful in the first hunt.

To avoid any inadvertent harvest of cow moose the Council requests that the harvest limit remain one *antlered* bull in order to distinguish them from cow moose. The Council discussed the timing of when bull moose drop antlers with the understanding that the bulls start dropping their antlers in December and, as the season progresses, fewer bulls will have antlers. However, the Council expressed the importance that the extended winter season of December 1 - January 31 would allow some flexibility for opportunity to hunt when weather conditions are good and freeze-up sufficient for safe travel. The Council recounted that warmer weather in recent years has made conditions unpredictable with rain, overflow, and thin ice on rivers and lakes occurring even in the winter month of December.

The Council discussed ideas for State wildlife proposals. The Council specifically discussed submitting a proposal to the Board of Game for Zones 1 and 2 in the Kuskokwim River moose hunt area of Unit 18. The Council would like to push back the opening date from September 1 to later in the month to avoid hunting in increasingly hot, wet weather that makes it difficult to preserve meat. The Council discussed moose management with ADF&G Area Wildlife Manager, Phil Perry, and voted 9-0-0 to send to send a letter to ADF&G in lieu of a proposal requesting a later State moose hunt on the Kuskokwim within the current available season. The Council proposed a September 15 start for the hunt rather than a September 1 start. A later season would help hunters keep their meat cool and avoid flies that are active in the earlier, warmer weather. The Council also voted to send a letter to ADF&G regarding the extension of the current open season for moose from September 20 to 30 (1 antlered bull moose for the Kuskokwim Area).

The Council voted 8-1-0 to submit a State Board of Game (BOG) proposal to revise the Unit 18 boundary such that Heart Lake would be within Unit 18 instead of Unit 17B. The Heart Lake

area is a traditional arctic ground squirrel, caribou, and moose hunting, and Lake Trout fishing area for Kwethluk residents. Justification: Heart Lake is a high alpine lake at a pass between the Kuskokwim and Nushagak drainages. Heart Lake currently drains into the Nushagak drainage, but is only about 100 feet from where the Kwethluk drainage starts. On the ground you can see that at one point in time the Kwethluk drainage began at Heart Lake. Lake Trout of Heart Lake are genetically closer to the Kuskokwim than they are to the Nushagak. Kwethluk people have always hunted and fished in Heart Lake. Documented oral stories have originated from the NW side of Heart Lake with fish bones washed up on the shore and that children passed thru the marrow of those bones. The Kwethluk people buried their family members in traditional areas near Heart Lake and harvested arctic ground squirrel, caribou, and moose there. People who go to hunt there have to abide by the rules of Unit 17B, but it makes sense for local area residents traveling through Unit 18 to reach this traditional area to hunt by the regulations for Unit 18. People of Kwethluk feel like they are being denied access to the traditional hunt and fishing area at Heart Lake because of the Unit 18 boundary.

The Council discussed another BOG proposal to adjust the unit boundaries for the Kalskag area. The Council discussed and voted on a BOG proposal to change the boundary in Unit 19A to include Arhymot Lake. The proposed changes to the Unit 19 regulation hunt area description should include all drainages flowing into the Kuskokwim River, including the drainages of Arhymot Lake. The Council voted 9-0-0 in favor of this framework proposal. It was noted that Phillip Perry would figure out the exact geographical coordinates of the proposed boundary change based on the place name discussion during the Council meeting. Justification: Drainages of Arhymot Lake that drain into the Kuskokwim River should be in 19A rather than 21E. This boundary was in proposals of the Central Kuskokwim Advisory Committee over the past 20 years in connection to traditional use areas. The Council understands that the Lower Kuskokwim Advisory Council was still supportive of this boundary line change as well.

*Note these two boundary change proposals were developed on behalf of the Council to submit to the Alaska Board of Game (BOG) but include Units not currently under consideration for the BOG Arctic, Western, and Interior Regions. These boundary change proposals can be submitted under the 2020/2021 call for Statewide proposals.

Council Charter Review

The Council reviewed their Charter and approved it, as is, by a vote of 8-0-0.

Council Annual Report Review

The Council reviewed their FY2018 draft annual report and approved it with some modifications by a vote of 8-0-0. Discussion and modification included the following: Topic 2 – added more detail on the moose population increase causing habitat loss on the Yukon; Topic 3 – added request for Coho Salmon subsistence harvest surveys, harvest trends during Chinook Salmon restrictions, and population assessment for Coho; Topic 6 – added discussion on traditional lessons to not play with your food such as sport fishing catch and release that can hurt the fish and diminish their return if not respected; and Topic 7 – added more detail on youth engagement with subsistence and opportunities to encourage youth to participate on the Council.

The Council also voted unanimously to follow up on Topic 8 of the annual report with a letter to the Federal Subsistence Board to express their concern about the loss of numerous long-time serving Council members with the recent Secretarial appointments to the Council. The Council requested recognition of these elders and their importance to the Council and subsistence communities in the region.

Agency Reports

Yukon River Pre-season Outlook (Joint report by Federal and State, Yukon River Fisheries Management staff). Gerald Maschmann, USFWS Assistant Yukon Area Manager, and Deena Jallen, ADF&G Assistant Yukon Summer Season Manager (by teleconference) presented the Yukon River 2018 summary and the 2019 pre-season outlook.

Gerald provided the Council with handouts of the fall 2018 season summary and the first news release for 2019 Yukon River summer fishery season. Gerald discussed the 2019 preliminary preseason forecast, which will be finalized by the US / Canada Yukon River Panel at their spring meeting. They anticipate the management challenge similar to the past several seasons—trying to conserve Chinook Salmon, while at the same time providing harvest opportunities on more abundant summer Chum.

Management strategies and options for 2019 will be discussed with fishermen prior to the season; however, it's likely that the strategies will be similar to those that have been implemented the last few seasons. These strategies include a combination of reduced window schedules, period closures and various gear restrictions. The managers will be working to try and provide opportunity to harvest summer Chum Salmon with selective gear while limiting the harvest of Chinook Salmon. Subsistence harvest opportunities will be spread out over the run to try and prevent overharvest of any one stock. Subsistence harvest opportunities with 7.5 inch gear could be allowed if indicators show an abundance of Chinook Salmon similar to the last few years. Deena Jallen reported that the Yukon River preseason planning meeting hosted by Yukon River Drainage Fisheries Association will take place in Fairbanks on April 25 and encouraged all to participate—they are looking forward to discussion and feedback from subsistence users.

The Council discussed the subsistence fisheries management strategies with Gerald. Council member Ray Oney shared his observations that last year the Yukon Chinook run was late, but this year the river ice was thin and warmer temperatures were beginning to cause an early break-up, which could influence the salmon run timing. Ray also reported that the Bering Sea was ice-free already, which is very unusual for this time of year. Several public participants from Alakanuk also provided their insights and observations of the Yukon River and salmon runs.

Kuskokwim River Pre-season Outlook (Joint report by Federal and State, Kuskokwim River Fisheries Management Staff). Ray Born (Acting Yukon Delta NWR Manager), Gary Decossas (Yukon Delta NWR Fisheries Biologist) and Aaron Tiernan (ADF&G Kuskokwim Area Fisheries Manager, by teleconference) presented the Kuskokwim River pre-season salmon outlook.

Ray Born, Federal in-season manager for the Kuskokwim River, provided an overview of the 2019 pre-season salmon management plan. The objective is to regulate the Kuskokwim River Chinook Salmon harvest during 2019 to allow for balanced subsistence and escapement to the spawning grounds. The in-season manager with the Inter-Tribal Fish Commission and USFWS, along with ADF&G are discussing an escapement objective between 100,000 and 110,000 fish but it is not finalized yet. They feel this would be conservative since the Chinook Salmon run has been poor since 2010. The Refuge is consulting with the Kuskokwim River Inter-Tribal Fish Commission on a regular basis planning for the 2019 management strategy.

The expected preliminary return forecast is around 120,000 to 160,000 Chinook Salmon this year. Therefore, they are looking at managing for a harvest in the range of 30,000 to 40,000 Chinook Salmon. On average, approximately 5000 salmon are harvested in a 12-hour fishing period with 6 inch mesh nets. The first opportunity to fish will likely be around June 12 for Federally qualified subsistence users during windowed openings similar to previous years. The Refuge has been working along with the Inter-Tribal Fish Commission on outreach to all Kuskokwim River communities; they try to visit approximately three villages each week. They also will continue to host talk shows such as Fish Talk, Talk Line, and other news pieces on KYUK, as well as use other venues to reach out to everyone on the river.

Aaron Tiernan, ADF&G Kuskokwim River in-season manager reported they will be finalizing the pre-season forecast in the coming weeks. In-season salmon monitoring tools include the Bethel Test Fishery, Bethel Sonar, aerial surveys for salmon in the 13 -14 Delta Clearwater tributaries and weirs.

The Council asked questions of the fisheries staff and shared their own observations of fish and river conditions.

Fisheries Resource Monitoring Program (FRMP) and Partners Program

Pippa Kenner, Anthropologist with OSM, reported on the Partners for Fisheries Monitoring Program and Fisheries Resource Monitoring Program (FRMP) updates. She highlighted several of the current Partners Program biologists and presented to the Council, Janessa Esquible with ONC, and Dan Gillikin with the Native Village of Napaimute. OSM also just closed the application period for the notice of funding for the 2020 – 2023 Partners Program funding cycle. The Partners Program seeks to strengthen Alaska Native and rural involvement in Federal subsistence management by providing funding for biologists, social scientists or educators in the Alaska Native and rural nonprofit organizations with the intent of increasing the organization's ability to participate in Federal subsistence Management. A total of 14 proposals were received from prospective partners statewide.

The FRMP provides grant funding for subsistence fisheries research and monitoring projects throughout Alaska. The 2020 notice of funding opportunity closes on March 15, 2019. OSM is seeking proposals for projects that gather information to manage and conserve subsistence fishery resources in Federal waters in Alaska. The FRMP is also directed at supporting meaningful involvement in fisheries management by Alaska Native and rural organizations and promoting collaboration among Federal, State, Alaska Native and local organizations. For the

2020 funding cycle, it is anticipated there will be about $1.5 million available for the first year of new projects to be distributed statewide. Anyone wanting to apply can find information about the program on the OSM website.

Agency Reports

Kuskokwim River Inter-Tribal Fish Commission. Mary Peltola, Executive Director, and Robert Lekander, Bethel area Commissioner for the Kuskokwim River Intertribal Fish Commission, presented an overview of Commission's work. The Commission is a consortium of all 33 Tribes along the Kuskokwim River working with the U.S. Fish and Wildlife Service on consultations and inseason fisheries management since 2015. In February of 2016 the Fish Commission entered into an MOU with USFWS to cooperatively manage Kuskokwim River Chinook Salmon stocks to ensure a more self-determined management structure. In 2018 the Commission also started hosting a Monday morning call for everyone who lives on the river to call in and discuss fisheries management.

The Fish Commission has four in-season managers that represent four sections of the Kuskokwim River who, together with Federal and State managers, make important in-season decisions about fishing openings and closures. The in-season managers are Robert Lekander, Nick Kameroff, Jr., James Nicori, and James Charles. Council members Charley Brown of Eek and Philip Peter of Akiachak are also commissioners. These in-season managers have fished on the Kuskokwim for decades and bring a wealth of traditional knowledge to the table. The Commission believes there's a role both for Western science and traditional knowledge in co-management and traditional knowledge fills informational gaps needed for in-season management. Mary expressed that traditional knowledge represents the most significant dataset of systematic observations of this ecosystem where local people have lived for thousands of years. She feels this traditional knowledge has already come into play helping inform in-season management. In 2018, they were pleased to meet conservation escapement goals while still having ample opportunity for subsistence fishing, which was a relief for everyone. Using traditional knowledge to address climate change also ensures that community responses can be adaptive and flexible.

Orutsararmiut Native Council. Janessa Esquible introduced herself as the Partners Program biologist for ONC. She started in this position in May of 2016. Janessa reported on several ongoing programs' projects focused on in-season subsistence fisheries monitoring, post season subsistence fish surveys and a high school internship program.

The in-season Harvest Monitoring Program conducts harvest surveys in Bethel area fish camps, at the boat harbor and recruits subsistence families for the Chinook Salmon age/sex/length sampling program. Five local hires helped conduct the post-season surveys; they had a very successful season nearly achieving their sample size goal. They completed 512 household surveys in just three and half weeks—by the end of October. This project is in cooperation with the ADF&G Subsistence Division. Staff persons Dave Koster and Chris McDevitt are working on the more community deliverables to distribute to survey participants. They hope to provide an overview of prior season findings rather than just the technical report that is usually completed each year. The plan is to have it ready to distribute this upcoming fall.

Janessa reported on a new partnership project called Indigenizing Salmon Management. This is primarily led by Dr. Jessica Black and Dr. Courtney Carothers with the University of Alaska Fairbanks. The ONC Council and Subsistence Committee members, and Kuskokwim River Inter-Tribal Fish Commissioners and their staff were involved in the discussions on this. The project goals are to determine how to include indigenous values, knowledge and management into the current management systems and to assess strengths and weaknesses of the current salmon management system from an indigenous perspective.

Janessa has been working with Bethel Regional High School students on summer science internships. Calvin Sampson, who presented to the Council last fall, is looking at the impacts of habitat change on tree swallow chicks and Nicholai Chase is looking at differences in juvenile Dolly Varden abundance on the Salmon and Aniak Rivers. Alaska Native Science and Engineering Program student, Clarissa Zeller from Red Devil, was also introduced to the Council. ONC hopes to hire her on full time this summer after graduates from college.

Native Village of Napaimute. Dan Gillikin, Environmental Director, Native Village of Napaimute, and OSM Partners Fisheries Monitoring Program, based in Aniak, provided a PowerPoint presentation with video for the Council. Napaimute means people of the forest. It is a small seasonal village in the middle Kuskokwim with approximately 100 Tribal members. In addition to environmental programs, the Tribe runs a for-profit firewood sales and lumber and cabin packages. The Napaimute Partners Program is involved with fisheries monitoring projects through cooperative agreements with ADF&G. They also do a lot of environmental education, outreach, and technical assistance when it requested, and provide environmental-type internships through both their fisheries program and Environmental Protection Agency Indian Environmental General Assistant Program. The Native Village of Napaimute is also involved in environmental review of proposed projects that may affect subsistence resources primarily in the middle of the Kuskokwim.

Their goal is to build a professional local workforce through internship opportunities and provide good job opportunities where people can develop marketable skills. Dan shared that his favorite work is youth education and outreach programs, which includes the George River weir High School Internship Program and the Math and Science Expedition on the Aniak River. He also works on securing grant funding for ongoing fisheries projects. Currently they are submitting FRMP proposals to continue the Salmon River Weir and the Aniak Test Fish Project. They also just completed a three year project in partnership with David Runfola of the ADF&G Subsistence Division to conduct in-season salmon harvest monitoring with local hires from the middle Kuskokwim communities.

Yukon River Drainage Fisheries Association: Katherine Moncrieff, Anthropologist with the Yukon River Drainage Fisheries Association (YRDFA), presented the Council with a summary handout and reported on the many projects they are involved with. For many years YRDFA has held in-season salmon management teleconferences each Tuesday throughout the summer salmon season with agencies and Yukon fishermen. It's a forum for people from the Yukon River to engage with fishery managers during the fishing season and is funded by the OSM FRMP program. YRDFA also hosts the preseason fisherman's meeting. This is an annual

meeting of active fishers and fishery managers with the purpose to inform the public and motivate them to maintain and protect Yukon River salmon stocks with a special regard for the Yukon Salmon Agreement with Canada. They also have funds from the Yukon Panel to host an educational exchange and meetings to engage communities on salmon conservation efforts throughout the year.

Catherine reported on the Yukon River in-season harvest interviews funded through the OSM FRMP program. This project provides important communications between fishers and communities and informs managers on how fishers are doing in key locations throughout the Yukon River drainage during the fishing season. It helps managers make timely decisions in-season and ensures subsistence needs are being met. Currently they are working in Alakanuk, Mountain Village, Marshall, Russian Mission, Anvik, Huslia, Ruby, Tanana, Fort Yukon and Eagle. YRDFA hires a local surveyor in each community to talk to the fishermen on a weekly basis when the Chinook Salmon are running through their communities. These reports are then shared with all on the in-season teleconferences.

YRDFA is involved with another FRMP funded project called Traditional Knowledge of Anadromous Fish in the Yukon Flats. This project is focused in the Draanjik Basin with the purpose to provide critical information for the management of whitefish and salmon and habitats that support them.

Yukon Delta National Wildlife Refuge. Ray Born, Acting Refuge Manager, and Aaron Moses, Subsistence Resource Specialist for the Yukon Delta NWR, presented an overview of Yukon Delta National Wildlife Refuge programs. Ray provided information on the ptarmigan radio telemetry project the Refuge is conducting jointly with ADF&G, a handout about duck parasites, and Kwethluk weir. Aaron reported that the Kwethluk weir will be up and running this year starting in April. The entire crew is comprised of Kwethluk residents. USFWS Fisheries Biologist Aaron Webber will continue to be involved, but he is working toward transitioning more responsibilities of the weir project to the community of Kwethluk. Updates also included a report on the results of the recent seabird die-off due to starvation, and a handout with a number to call about sick seabird observations.

Ray highlighted that he is working with the Refuge Information Technicians to go to all of the villages on the Kuskokwim River and talk to them about salmon management. They hold listening sessions to hear questions, concerns and observations people want to share about anything related to fish or wildlife. They try to answer questions and seek local knowledge and observations to help inform the Refuge. They hope to reach each village within the Refuge at least once a year.

Ray provided a handout and overview on the ADAPT Y-K Project, which is working to address climate change resilience and adaptation strategies for communities in the Yukon-Kuskokwim Delta region. It is an interagency effort and partnership with the Association of Village Council Presidents to figure out ways to adapt to some of the climate change effects going on within the region. There will be a large summit in Bethel this fall to hear from people about all the issues associated with climate change and some of the strategies to address them.

Chris Tulik, Refuge Information Technician for the Yukon Delta National Wildlife Refuge, was joined by acting Refuge Manager Ray Born and ADF&G Regional Wildlife Manager Phillip Perry to report on the migratory bird apology letter. A copy of the letter was provide to the Council. The ADF&G and USFWS together want to reconcile the past and acknowledge that those regulations harmed hunters and their families. As the letter expresses, they seek to continue rebuilding relationships with Alaska's Indigenous peoples who were affected by the unintended consequences of past harvest regulations.

Togiak National Wildlife Refuge. Pat Walsh, Supervisory Biologist for the Togiak NWR, called in via teleconference to present an overview of Togiak NWR programs. A detailed summary was provided to the Council in their meeting books. Pat reported on the recent seabird die-offs. The Refuge has been monitoring Black-legged Kittiwakes, Pelagic Cormorants, and Common Murres at Cape Pierce for over 25 years. The past three years have seen the most extreme decline in survival and production with the lowest population size ever recorded. Since these bird species are long-lived, they hope the population can recover.

Pat discussed the challenges that climate change poses, including good snow cover in the winter, which is critical to conducting moose surveys. The past several low/no snow years have prevented the Refuge from being able to conduct an accurate moose population count because they blend into the background and are difficult to see from the air. In response to this, the Refuge has developed a new survey method that allows them to count moose even when there is no snow, and in the fall of 2018 they had a successful survey using this new methodology. Pat highlighted that the Togiak Refuge moose population is still growing and the highest rate of growth is on the Game Management Unit 18 side of the Refuge. Moose have now reached the point where they can be sustainably harvested throughout all of the Refuge. They plan to submit a wildlife proposal to open a moose hunt in the Kenektok River drainage. They plan to work with the village of Quinhagak on this—similar to how they have managed the Unit 17A Togiak River drainage moose hunt with the community of Goodnews Bay. The Refuge plans to work with ADF&G to administer the hunt under a State registration permit so that the entire hunt area is covered by just one permit so users have just one set of rules to follow for hunting on State lands on the river or on the Federal lands in the uplands.

North Pacific Fisheries Management Council. Steve MacLean, Fisheries Analyst for the North Pacific Fisheries Management Council (NPFMC), addressed the Council briefly via teleconference. They had planned to provide the Council with a full report on the Bering Sea Chinook Salmon and Halibut bycatch; however, the government shutdown caused the NPFMC meetings and workshops to be rescheduled after the Council meeting so no information was available at this time. They will plan to provide a full report to the Council at the fall meeting. Steve reported that the NPFMC very much appreciates the opportunity to reach out to the local communities through the Regional Advisory Council meetings.

Steve highlighted that the NPFMC has established a Community Engagement Committee because they recognize the need to fully engage rural Alaska and Alaska Native communities in order to make sure that their perspectives are heard and considered through all parts of the marine fisheries management process. They will hold their first meeting next week and will begin work on developing a protocol for how this committee will develop strategies for the

NPFMC to better engage in two-way communication and engagement opportunities with rural Alaska and Alaska Native communities.

Bureau of Land Management. Bonnie Million, Field Manager for BLM, Anchorage Field Office, provided an overview of their current work along with a power point presentation and handouts focused on the Bering Sea-Western Interior Resource Management Plan. Bonnie reported on the BLM Resource Management Planning process as an overarching document that the BLM uses to guide future projects and develop proposals as they are submitted. The planning area covers 13.5 million acres of BLM land that includes the Kuskokwim River Valley area, up through the Nulato Hills nearly to the Seward Peninsula area. She highlighted that the BLM received 12 requests for cooperating agency participation on the Bering Sea-Western Interior Resource Management Plan. They are working with the requesting Tribes and agencies on the requests and what a cooperating agency role entails in the management plan process. Chuathbaluk has been a cooperating agency on this project since 2013 and in 2015 BLM reached out to all of the 76 tribes that are within the planning area. BLM just recently had a government-to-government meeting with Nulato and are moving forward with processing that cooperating agency status now. They just sent out newsletters to all interested persons that the Draft Environmental Impact Statement for the Resource Management Plan is currently available online. They are currently scheduling public meetings and government-to-government consultations throughout the planning area. Bonnie encouraged the public and Tribes to contact her with any questions, support with submitting comments, or request for Tribal consultation and public hearings regarding the management plan.

Bonnie provided a brief update on the Red Devil Mine remediation, acknowledging the importance of the clean-up of the abandoned mine waste to communities on the Kuskokwim River Drainage. She reported that there is additional groundwater monitoring being conducted in the area and the project manager for that is hoping to get out to communities in the spring of 2020 to provide the final report and presentation.

Office of Subsistence Management. Tom Doolittle, OSM Acting Assistant Regional Director, provided the Council with a brief update on the status of the Kuskokwim Fisheries special action request submitted by the Native Village of Akiak. The Board will review this request and take action on it following Tribal Consultation and public hearings to be scheduled later this spring.

Tom provided a brief overview of the OSM programs and thanked the Council for their good work.

Katerina Wessels, OSM Council Coordinator, reported on the Real ID Act that will become the law in Alaska on October 1, 2020. This Act will require a new type of ID to travel on any airline, even a small airline. The "Real ID" can to be obtained at the Department of Motor Vehicles (DMV), so OSM is offering to make time and assist Council members to get this ID during the next RAC meeting held in a hub community.

Concluding Council Actions and Recommendations

The Council voted 9-0-0 to send a letter expressing their concern to the Board regarding likely impacts to subsistence from the development of the Donlin Mine in light of the ANILCA Section

810 analysis that predicts impacts to subsistence in nearly all communities on the Kuskokwim River. Chair Alissa Rogers offered to begin work on a draft letter for the Councils' review and refinement at the fall 2019 meeting.

The Council voted 9-0-0 to send a letter of support for the Native Village of Napaimute Salmon River weir and the Aniak Test Fishery FRMP projects.

The Council voted 9-0-0 to send a letter of support for the YRDFA in-season salmon surveys and in-season Teleconference FRMP projects.

The Council discussed concerns with migratory birds and asked about the number of dead Common Murres that were washing up along the coast and requested this issue be on the agenda for the next Council meeting.

The Council also requested to have a report from the Yukon River Watershed Council and the Yukon River Inter-Tribal Watershed Council at their fall 2019 meeting.

Future Meeting Dates

The Council confirmed the fall meeting dates for November 5-6, 2019 to be held in St. Mary's and selected Bethel on February 11 and 12 for the winter 2020 meeting.

Closing Comments

The Council thanked staff and all the meeting participants. Council members further shared personal closing comments reflecting on their role in advocating for a subsistence way of life in the region and acknowledging their elders.

The meeting adjourned by unanimous consent at 6:05 p.m.

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

_____

Eva Patton, Designated Federal Officer
USFWS Office of Subsistence Management

_____

Alissa Rogers, Chair
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

These minutes will be formally considered by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council at its next public meeting, and any corrections or notations will be incorporated in the minutes of that meeting.

FEDERAL WILDLIFE CLOSURE REVIEW
WCR20-38

Closure Location: Unit 18—Moose

Current Federal Regulation

Unit 18−Moose

Unit 18—that portion east of a line running from the mouth of the Ishkowik River to the closest point of Dall Lake, then to the east bank of the Johnson River at its entrance into Nunavakanukakslak Lake (60°59.41' N. Latitude; 162°22.14' W. Longitude), continuing upriver along a line 1/2 mile south and east of, and paralleling a line along the southerly bank of the Johnson River to the confluence of the east bank of Crooked Creek, then continuing upriver to the outlet at Arhymot Lake, then following the south bank east of the Unit 18 border and then north of and including the Eek River drainage—1 antlered bull by State registration permit; quotas will be announced annually by the Yukon Delta National Wildlife Refuge Manager	*Sep. 1 – 30*
Federal public lands are closed to the taking of moose except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Kalskag	

Closure Dates: Year-round

Current State Regulation

Unit 18−Moose

Residents: Unit 18, Kuskokwim area, that portion easterly of a line from the mouth of the Ishkowik River to the closest point of Dall Lake, then to the east bank of the Johnson River at its entrance into Nunavakanukakslak Lake (60°59.41' N. Latitude; 162°22.14' W. Longitude), continuing upriver along a line 1/2 mile south and east of, and paralleling a line along the southerly bank of the Johnson River to the confluence of the east bank of Crooked Creek, then continuing upriver along the east bank of Crooked Creek, then continuing upriver	*RM615*	*Sep. 1 – 20*

> *along the east bank of Crooked Creek to the outlet at Arhymot Lake, then following the south bank of Arhymot Lake easterly to the Unit 18 boundary, and north of and including the Eek River drainage—one antlered bull by permit available in person at ADF&G in Bethel and villages within the hunt area from Aug. 1 – Aug. 25. Quota to be announced. Season will be closed by emergency order when quota is reached.*

Regulatory Year Initiated: 1991

Regulatory History

Federal public lands in the Kuskokwim area have been closed to non-Federally qualified users since 1991, when the Federal Subsistence Board (Board) acted on Proposal P91-124. Submitted by the Togiak National Wildlife Refuge, P91-124 requested that the moose season in the southern portion of Unit 18, including the Kanektok and Goodnews River drainages, be closed to allow establishment of a harvestable population. The Board adopted this proposal with modification to close Federal public lands throughout Unit 18 to moose harvest, except by Federally qualified subsistence users, given low moose densities throughout Unit 18.

Until 2004, Federal and State moose harvest limits for the lower Kuskokwim River area were one bull or one antlered bull, and the fall seasons were approximately one month. The State winter season varied widely from a continuous fall/winter season (Sep. 1–Dec. 31) to a 10-day December season and a winter "to be announced" season. The Federal winter season has varied from a 10-day season to a "to be announced" season.

Both the Federal and State seasons were closed in the fall of 2004 as part of a coordinated effort to build the Kuskokwim moose population. In 2003, at the request of local residents, the Alaska Board of Game (BOG) established a five-year moratorium on moose hunting under State regulations. The Board adopted Proposal WP04-51 in April 2004 that established a five-year moratorium on Federal public lands. The intent of the moratorium was to promote colonization of underutilized moose habitat. The moratorium was largely instigated by the Lower Kuskokwim Fish and Game Advisory Committee, which worked with the Alaska Department of Fish and Game, USFWS, and area residents to close the moose season for five years or when a population of 1,000 moose was counted in the lower Kuskokwim survey unit. Considerable outreach efforts were made to communicate the impact of the moratorium on the growth potential of the affected moose population to local communities.

In March 2009, the BOG established a registration hunt (RM615), in preparation for ending the moratorium on June 30, 2009. A Sep. 1 – 10 season was established, with a harvest limit of one antlered bull by registration permit. The season was closed when the quota was met. In November 2009, the BOG adopted a proposal that changed the boundary separating the Unit 18 lower Kuskokwim area from the Unit 18 remainder area.

In May 2010, the Board adopted Proposals WP10-58 and WP10-62, with modification to make boundary changes similar to the BOG actions. Adoption of these proposals helped to clarify the boundary for moose hunters and law enforcement. At the same meeting in May 2010, the Board adopted Proposal WP10-54 with modification to reduce the pool of Federally qualified subsistence users eligible to hunt moose on Federal public lands within the lower Kuskokwim. This was necessary because of the small number of moose available to harvest relative to the large number of subsistence users with a customary and traditional use determination for moose (42 communities including Bethel).

Special action requests were approved to establish Federal moose seasons in the lower Kuskokwim hunt area in 2010 and 2012. In 2010, Emergency Wildlife Special Action WSA10-02 was approved to establish a Sep. 1 –5 moose season. In 2012, Emergency Wildlife Special Action WSA12-06 was approved to establish a Sep. 1 – 30 moose season. The harvest quota was set prior to the start of the season and the harvest limit was one antlered bull via a State registration permit.

In April 2014, the Board adopted WP14-27 with modification, establishing a Federal moose season in the lower Kuskokwim area. The Sep. 1 – 30 season had a harvest limit of one antlered bull by State registration permit. The Yukon Delta National Wildlife Refuge manager was delegated the authority to establish an annual quota and close the season once the quota was met.

In August 2018, the Tuluksak Native Community submitted Emergency Special Action Request WSA18-02, requesting that the Board open the moose season early in the Kuskokwim hunt area to accommodate a food shortage emergency. The Board approved this request with modification to open an Aug. 18 – 31 emergency season only to residents of Tuluksak, with a quota of seven antlered bulls by Federal registration permit.

Unit 18 is comprised of 67% Federal public lands and consists of 64% U.S. Fish and Wildlife Service managed lands and 3% Bureau of Land Management managed lands (**Figure 1**).

Closure last reviewed: 2014 – WP14-27

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

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

Given low moose densities throughout Unit 18, closure of Federal public lands except to Federally qualified subsistence users provided rural users a subsistence priority.

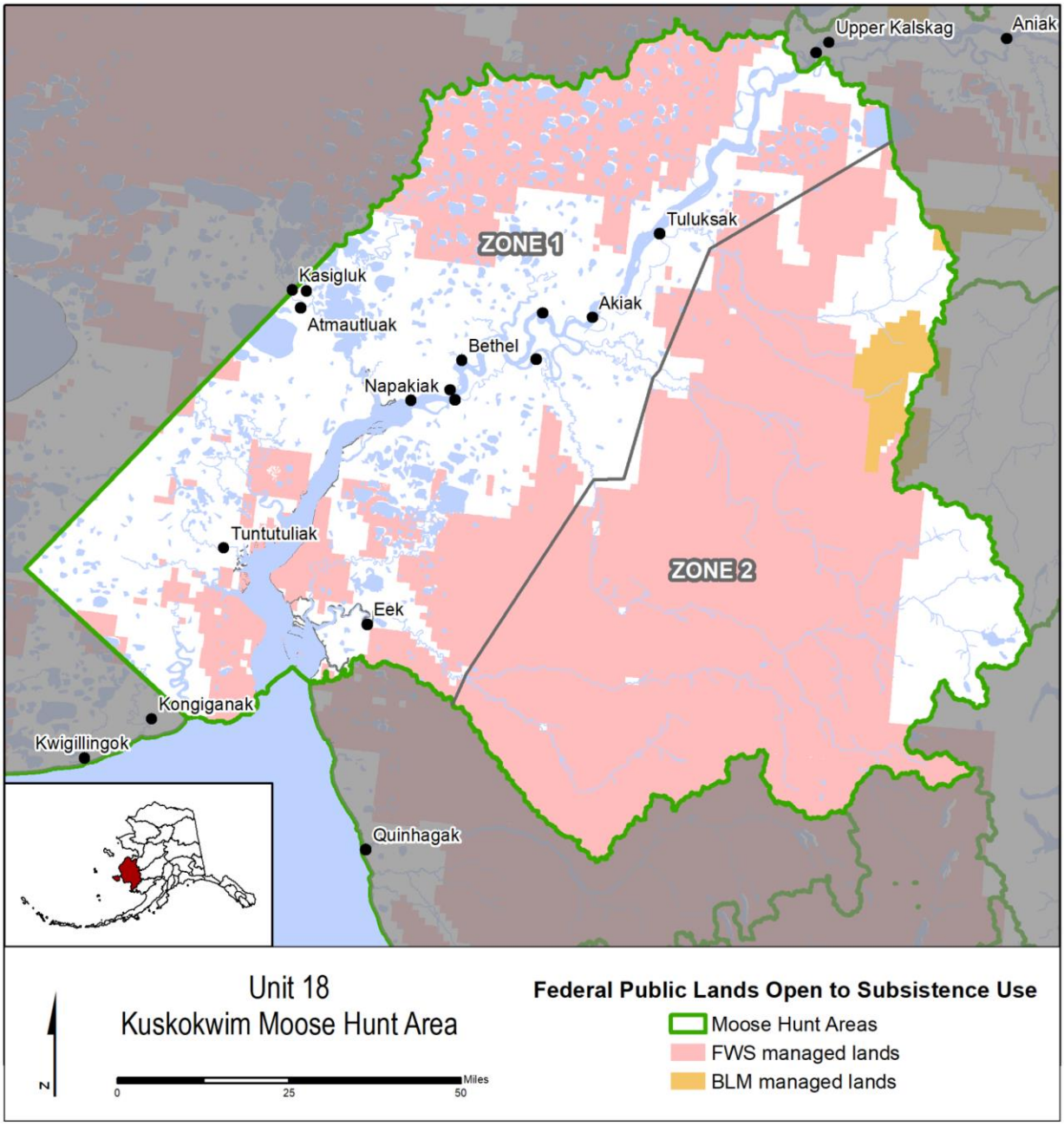

Figure 1. Land status and hunting zones in the Unit 18 Kuskokwim moose hunt area.

Council Recommendation for Original Closure:

This closure was initiated prior to the formation of the Regional Advisory Councils in 1993.

State Recommendation for Original Closure:

Apart from the southernmost drainages, the State did not support closure of Federal public lands in Unit 18 to non-Federally qualified users, arguing that a closure was not warranted in terms of biological information or demands for moose by local users.

Biological Background

Moose are believed to have begun colonizing the Yukon-Kuskokwim Delta in the 1940s (Perry 2014). By the 1990s, when this closure was initiated, moose densities throughout much of Unit 18 were very low. While established populations existed in the far eastern portions of Unit 18, moose were only sparsely distributed throughout much of the unit. Harvested moose were likely to be immigrants from other areas, rather than part of a local breeding population (FSB 1991), and hunting pressure was effective in limiting growth of the moose population along the Kuskokwim corridor (Perry 2014). The 2004 – 2008 hunting moratorium was effective in establishing a harvestable population, and current indicators suggest that the population along the Kuskokwim main stem and in its tributaries continues to grow.

The most recent population survey of the lower Kuskokwim survey area, which includes the main stem riparian corridor between Kalskag and Kwethluk, occurred in 2015. At that time, the population was estimated to be 1,378 moose, or 1.6 moose/mile^2 (**Figure 2**). This represents an annual growth rate of 20% between 2011 and 2015. At last count, the Kuskokwim moose population remained below the State's population objective of at least 2,000 moose in this area (Perry 2014). Browse surveys indicate that the population is about half of what it could be (YKDRAC 2017a).

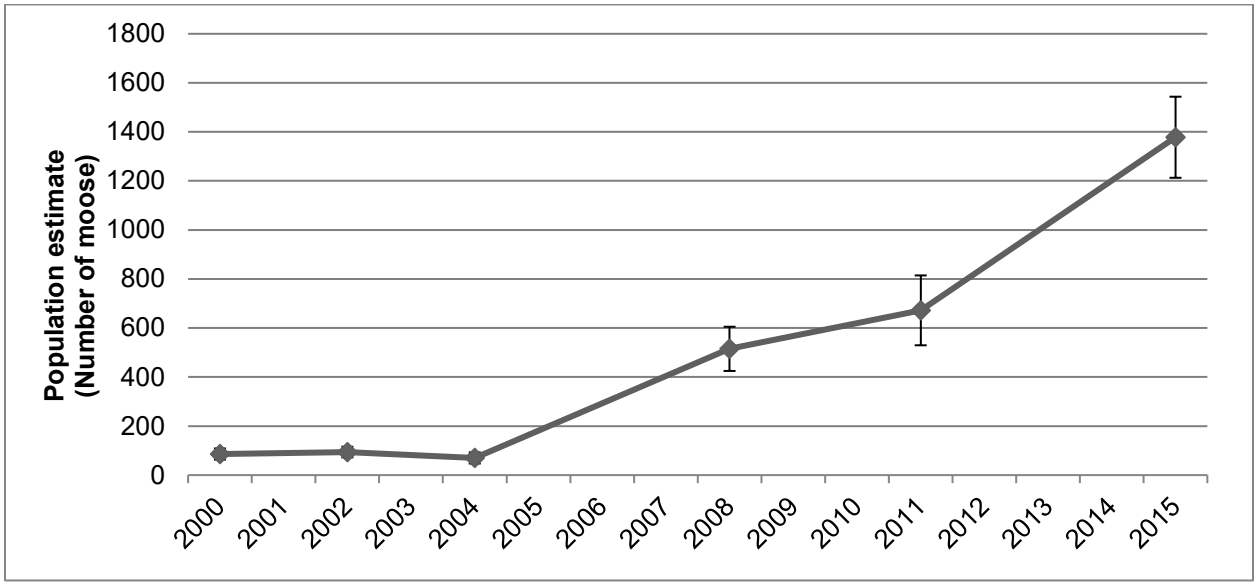

Figure 2. Estimated moose population size along the main stem of the Kuskokwim River, 2000 – 2015 (Perry 2014; Jones 2018, pers. comm.)

Composition estimates for the main stem were last obtained in 2016, when there were 70 bulls:100 cows and 56 calves:100 cows (Jones 2018, pers. comm.). The bull:cow ratios, which were quite high during the harvest moratorium, declined when harvest resumed in 2009 but have remained consistently above the minimum objective of 30 bulls:100 cows (**Table 1**). Bull:cow ratios in the Kuskokwim tributaries are also reported to be high (Rearden 2018, pers. comm.).

Table 1. Composition estimates for moose along the main stem of the Kuskokwim River, 2007 – 2016 (YDNWR 2015, Jones 2018, pers. comm.).

Year	Bulls:100 cows	Calves:100 cows
2007	98	73
2009	52	49
2010	51	49
2013	41	71
2016	70	56

Harvest History

Following the harvest moratorium, moose harvest on non-Federal lands was allowed under State regulation, beginning in 2009. In 2010, harvest on Federal public lands was opened to a subset of Federally qualified subsistence users, including residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautluak, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Kalskag. In this analysis, this user group will be referred to as local users.

Since 2009, reported harvest has averaged 151 moose annually (ADF&G 2019a). Notably, reported harvest has increased over the past several years, doubling between 2014 and 2017 (**Figure 3**). Local users have taken 95% of the reported moose harvest in the Kuskokwim hunt area since 2009, with 30% of the harvest attributable to residents of Bethel. However, non-local use is increasing, from 2 harvest reports in 2013 to 16 in 2017 (**Figure 3**). Non-local users that report harvesting moose are primarily Federally qualified subsistence users from coastal communities of Unit 18, but also include a few users from southcentral Alaska (ADF&G 2019a).

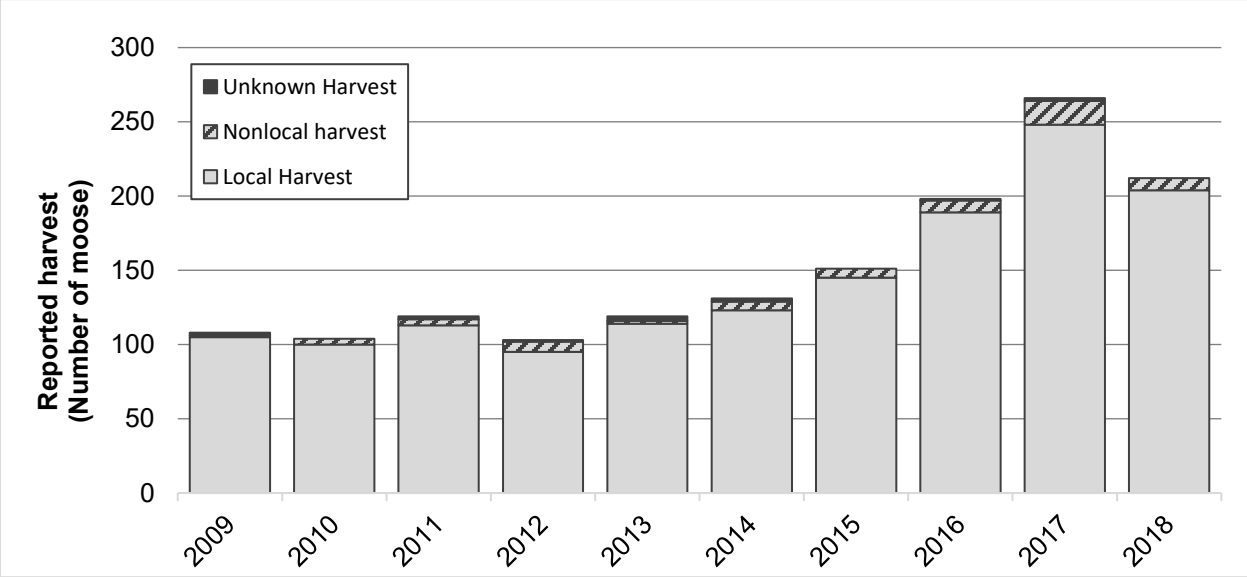

Figure 3. Reported moose harvest by RM615 in the Kuskokwim hunt area, 2009 – 2018 (ADF&G 2019a).

Despite increases in quotas and harvest, demand still outweighs moose availability. Since 2009, an average of approximately 1,450 hunters have obtained permits to harvest moose in the Kuskokwim hunt area each year, but only 10% of permit holders have successfully harvested moose (ADF&G 2019a). The disparity between demand and the relatively small quotas has routinely resulted in emergency closure of the State season within days of its opening (**Table 2**). This has resulted in some frustration among locals, who note that short unpredictable seasons make planning difficult. Local residents have also commented on the challenges of hunting in early September in recent years, given warm conditions that make proper meat care difficult. To this end, many subsistence users have advocated for a later moose season (YKDRAC 2017b).

Table 2. State and Federal moose seasons, 2011 – 2018 (Rearden 2018, pers. comm.; ADF&G 2019b; Jones 2019, pers. comm.).

	Scheduled season dates		Actual season dates		Actual season length (number of days)	
Year	State	Federal	State	Federal	State	Federal
2011	Sep. 1 - 10	Sep. 1 - 5	Sep 1 - 6	Sep 1 - 6	6	6
2012	Sep. 1 - 10	Sep. 1 - 10	Sep. 1 - 8	Sep. 1 - 8	8	8
2013	Sep. 1 - 10	Sep. 1 - 10	Sep. 1 - 6	Sep. 1 - 6	6	6
2014	Sep. 1 - 10	Sep. 1 - 10	Sep. 1 - 4	Sep. 1 - 4	4	4
2015	Sep. 1 - 10	Sep. 1 - 8	Sep. 1 - 4	Sep. 1 - 8	4	8
2016	Sep. 1 - 10	Sep. 1 - 15	Sep. 1 - 5	Sep. 1 - 15	5	15
2017[a]	Sep. 1 - 10	Sep. 1 - 25	Sep. 1 - 5	Sep. 1 - 25	5	25
2018[a]	Sep. 1 - 10	Sep. 1 - 30	Sep. 1 - 7	Sep. 1 - 30	7	30

[a] The State season corresponds to Zone 1 and the Federal season corresponds to Zone 2.

In an effort to better serve users in an area of checkerboard land status, State and Federal managers adjusted the structure of the hunt in 2017, introducing a zone-based hunt (**Figure 1**). An important feature of the zones is that, while they correspond roughly to State and Federal lands, they are delineated by easily identifiable geographical features (e.g. river confluences). Each of the two zones is managed with its own harvest quota. Zone 1, which is comprised primarily of State lands, is located along the main stem of the Kuskokwim River. The season and harvest quota for the main stem hunt are managed by ADF&G. Zone 2 is comprised primarily of Federal public lands, including those in the Tuluksak, Kisaralik, Kasigluk and Eek river drainages ("tributaries"). The season and harvest quota in the tributary hunt is managed by the Refuge (Rearden 2018, pers. comm.; YKDRAC 2017a).

There is more demand for moose in Zone 1, along the main stem, compared to Zone 2, in the tributaries. This is evidenced by the rate at which the quota is met within each zone, and the corresponding season length. On average, the main stem hunt has been open fewer than six days annually since 2011, and the quota has been met or exceeded most years. For the hunt in the tributaries, the quota has only been met one time, in 2014, despite increasing season lengths (**Tables 2 and 3**). Local managers report that hunting in the tributaries is difficult, requiring specialized boats, longer travel times, and more fuel.

Heavy vegetation along the banks contributes to the difficulty. It is believed that the unmet quota is a function of these difficulties, rather than lack of need for moose meat (YKDRAC 2017a, YKDRAC 2017b, Rearden 2018, pers. comm.).

Table 3. State and Federal moose quotas and harvest, 2011 – 2018 (Rearden 2018, pers. comm.; ADF&G 2019b; Jones 2019, pers. comm.).

	Quota (number of moose)			Harvest (number of moose)			
Year	State	Federal	Total	State	Federal	Unknown	Total
2011	81	19	100	93	11	15	119
2012	81	19	100	82	17	4	103
2013	81	19	100	89	21	9	119
2014	81	19	100	93	15	23	131
2015	110	45	155	105	31	15	151
2016	150	90	240	136	44	14	194
2017[a]	170	110	280	186	80	0	266
2018[a]	170	110	280	142	70	0	212

[a] The State season corresponds to Zone 1 and the Federal season corresponds to Zone 2.

OSM Preliminary Conclusion:

X maintain status quo

_ modify or eliminate the closure

Justification

Despite recent increases in population size and harvest quotas, demand for moose still far outweighs the harvestable surplus of the Kuskokwim moose population. The problem of unmet demand is exacerbated by the difficulty of the hunt in the tributaries, as evidenced by unmet Federal quotas over the past three years. Retaining the Federal public lands closure ensures that the fifteen communities who have demonstrated the most dependence on this resource continue to have a subsistence priority on Federal public lands. It also provides an opportunity for the Federal manager to explore options for improving access to moose for Federally qualified subsistence users on Federal public lands.

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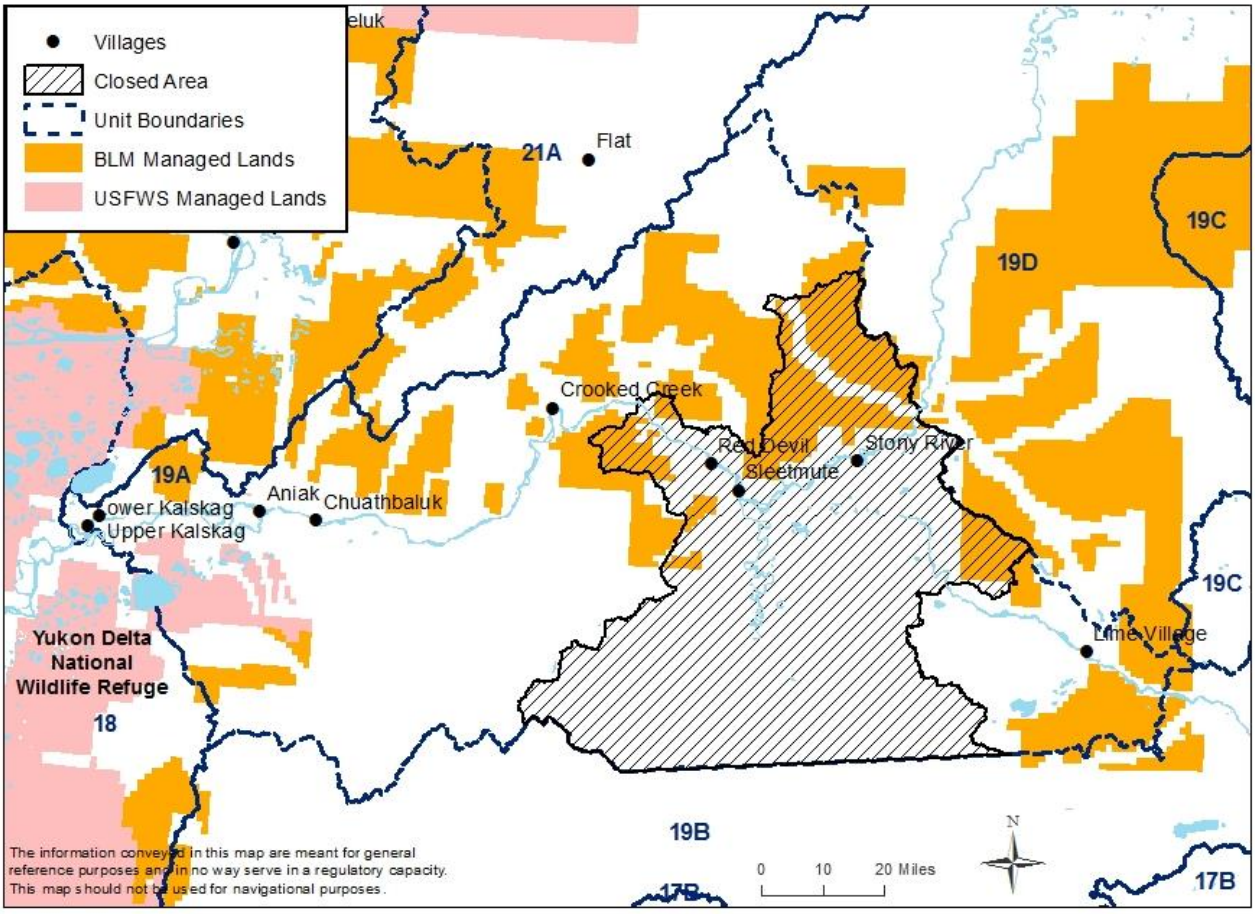
SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATION

Yukon Kuskokwim Subsistence Regional Advisory Council

Maintain status quo for WCR20-38. The Council had lengthy discussion with staff about this Kuskokwim drainage hunt area of Unit 18 and the effected villages. The Council voted to maintain the closure to all but Federally qualified subsistence users on Federal public lands in this hunt area in support of the communities in this region that have a greater need for moose then they can currently harvest. The Council learned that while the moose population is growing, the current subsistence demand for moose if far greater than the current harvest quota. The Council stressed Federal subsistence priority should be maintained and any additional moose available to harvest should go to local residents of the communities in this hunt area before opening the area to non-federally qualified users.

FEDERAL WILDLIFE CLOSURE REVIEW
WCR20-39

Closure Location: Eastern portion of Unit 19A (**Map 1**) – Moose



Map 1. Federal hunt area closure for moose in Unit 19A, north of the Kuskokwim River, upstream from (but excluding) the George River drainage, and south of the Kuskokwim River upstream from (and including) the Downey Creek drainage, not including the Lime Village Management Area.

Current Federal Regulation

Unit 19A–Moose

Unit 19A, north of the Kuskokwim River, upstream from (but excluding) the George River drainage, and south of the Kuskokwim River upstream from (and including) the Downey Creek drainage, not including the Lime Village Management Area.	*No Federal open season*

Federal public lands are closed to the harvest of moose.

Closure Dates: Year round

Current State Regulation

Unit 19A−Moose

Unit 19A remainder

Residents – One antlered bull by permit available in Sleetmute and Stony River on July 24. Permits issued on a first-come, first-served basis (number of permits to be announced annually).	*RM682*	*Sept. 1-Sept. 5*
Nonresidents		*No open season*

Regulatory Year Initiated: 2007

Regulatory History

In 1990, Federal hunting regulations were adopted from State regulations. The moose season in Unit 19A was Sept. 1-Sept. 20, Nov. 20-Nov. 30, and Feb. 1-Feb. 10. The harvest limit was one moose, although antlerless moose could be taken only from Nov. 20-Nov. 30 and from Feb. 1-Feb. 10.

In 1992, the Federal Subsistence Board (Board) adopted Proposal P92-111 with modification to change the Unit 19A moose season to Sept. 5-Sept. 25, Jan. 1-Jan. 10, and Feb. 1-Feb. 5 to provide harvest opportunity during Russian orthodox holidays in January (FSB 1992). Antlerless moose could only be taken during the winter seasons. The Board rejected Proposal P92-66 to liberalize moose hunting regulations in several units including Unit 19A because moose densities were too low to sustain increased harvests.

In April 1994, the Board deferred Proposal P94-54 to align Unit 19A Federal harvest limits and seasons with State regulations because not all affected Subsistence Regional Advisory Councils (Councils) had considered the proposal. In November 1994, the Board adopted P94-54 with modification, aligning Unit 19A Federal moose regulations with State regulations with the exception of retaining the January season (FSB 1994). Unit 19A was divided into two hunt areas: that portion north of the Kuskokwim River upstream from, but not including the Kolmakof River drainage and south of the Kuskokwim River upstream from, but not including the Holokuk River drainage (Unit 19A east) and Unit 19A remainder. The seasons in both hunt areas were Sept. 1-Sept. 20, Nov. 20-Nov. 30, Jan. 1-Jan. 10, and Feb. 1-Feb. 10. The harvest limit in Unit 19A east was one moose, although antlerless moose could only be taken during the February season. The harvest limit in Unit 19A remainder was one bull.

In 2003, the Board adopted Proposal WP03-31 to shorten the February season in Unit 19A east to Feb. 1-Feb. 5 and eliminate the antlerless moose season because of declines in the Unit 19A moose population.

In 2004, the Board adopted Resolution 04-1 to support the Central Kuskokwim Moose Management Plan (Management Plan) (ADF&G 2004). The Board also adopted Proposal WP04-58 to eliminate the November, January, and February moose seasons in Unit 19A. Additionally, the Board adopted Proposal WP04-59 with modification to combine the Unit 19A hunt areas, require a State registration permit, and change the harvest limit to one antlered bull. These restrictions addressed severe declines in the Unit 19A moose population and complied with the Management Plan.

In 2006, the Alaska Board of Game (BOG) closed moose hunting in Unit 19A remainder (same as Federal hunt area Unit 19A east below) due to conservation concerns (OSM 2006). Subsequently, the Alaska Department of Fish and Game (ADF&G) submitted Special Action WSA06-01b to close moose hunting in Unit 19A, North of the Kuskokwim River, upstream from but excluding the George River drainage, and south of the Kuskokwim River upstream from and including the Downey Creek drainage, not including the Lime Village Management Area (Unit 19A east). (WSA06-01a requested limiting hunter numbers in Unit 19A remainder). The Board approved WSA06-01b to conserve the moose population and align with State regulations.

In 2007, the Board adopted Proposal WP07-35 with modification to close moose hunting in Unit 19A east (the modifications applied to Unit 19A remainder) because of continued conservation concerns for the Unit 19A moose population including low productivity, bull:cow ratios, and density combined with historically high hunting pressure (OSM 2007). The Western Interior Alaska Subsistence Regional Advisory Council (Western Interior Council) submitted and supported the proposal because of conservation concerns over the moose resource. The Yukon-Kuskokwim Council also supported WP07-35 for conservation reasons (OSM 2007).

Moose hunting in Unit 19A east has remained closed under Federal and State regulations since 2007. In 2008, the Board rejected Proposal WP08-35 to establish a moose season in Unit 19A east due to continued conservation concerns. The closure was reviewed in 2011 by WCR10-39 and in 2014 by WCR14-39. The Western Interior Council recommended continuing the closure during both reviews.

In March 2019, the BOG adopted Proposal 127 as amended by the Stoney-Holitna Fish and Game Advisory Committee (Stoney-Holitna AC). Proposal 127 requested opening a Tier I registration hunt for moose in Unit 19A east. (This hunt area is Unit 19A remainder under State regulations). The Stoney-Holitna AC's amendment included establishing a 5 day season from Sept. 1-5, limiting permits to 75 permits per year with only 30 permits issued in 2019/20, issuing permits only within the hunt area during July, not allowing permit holders to hold any other moose permit in the Kuskokwim River drainage, allowing only one permit per household, prohibiting proxy hunting, and requiring successful hunters to report within 15 days of harvest. Additionally, the hunt area will close if the 2-year average bull:cow ratio drops below 35 bulls:100 cows, or if the harvestable surplus drops below the lower range of the State-determined amount necessary for subsistence (ADF&G 2019). These regulations became effective July 1, 2019.

Unit 19A east is comprised of 18% Federal public lands and consist of 18% Bureau of Land Management (BLM) managed lands (**Map 1**).

Closure last reviewed: 2014 – WCR14-39

Justification for Original Closure:

§815(3) of ANILCA states:

> *Nothing in this title shall be construed as – (3) authorizing a restriction on the taking of fish and wildlife for nonsubsistence uses on public lands (other than national parks and monuments) unless necessary for the conservation of healthy populations of fish and wildlife, for the reasons*

> *set forth in section 816, to continue subsistence uses of such populations, or pursuant to other applicable law…*

A portion of §816(b) of ANILCA states:

> *The Secretary….may temporarily close any public lands (including those within any conservation unit) or any portion thereof, to subsistence uses of a particular fish and wildlife population only if necessary for the reasons of public safety, administration, or to assure the continued viability of such population.*

The combination of low moose population densities, low calf production and survival, low bull:cow ratios and high hunting pressure contributed to declines in the Unit 19A moose population. In response to these conservation concerns, the Board closed moose hunting in Unit 19A east in 2007.

Council Recommendation for Original Closure:

The Yukon-Kuskokwim Delta and Western Interior Councils supported the closure to protect the moose resource for future generations.

State Recommendation for Original Closure:

The State supported the closure due to continued conservation concerns for the Unit 19A moose population. The BOG closed State managed lands in Unit 19A remainder (same as the Unit 19A east Federal hunt area) to moose hunting at its March 2006 meeting.

Biological Background

In 2004, ADF&G in cooperation with the Central Kuskokwim Moose Management Planning Committee published the Central Kuskokwim Moose Management Plan (Management Plan) (ADF&G 2004). State management objectives for the composition of the moose population in Unit 19A are the same as those in the Management Plan (Peirce 2018, ADF&G 2004):

- Maintain a minimum fall post hunt bull:cow ratio of 20-30 bulls:100 cows.
- Maintain a minimum fall post hunt calf:cow ratio of 30-40 calves:100 cows.
- Maintain no fewer than 20% calves (short-yearlings) in late winter.

ADF&G has the additional intensive management objectives for both Units 19A and 19B (Peirce 2018, Seavoy 2014):

- Achieve a moose population of 13,500-16,500 moose (7,600-9,300 in Unit 19A) with 750-950 moose available for harvest annually.

Predation by wolves, black bears, and brown bears influences moose abundance in Unit 19 and may be limiting population growth (Peirce 2018, Keech et al. 2011). ADF&G conducts intensive management in Unit 19A to reduce predation on moose. Wolf control has been ongoing in the wolf control focus area since 2006. In 2013 and 2014, black and brown bears were removed from the Bear Control Focus Area

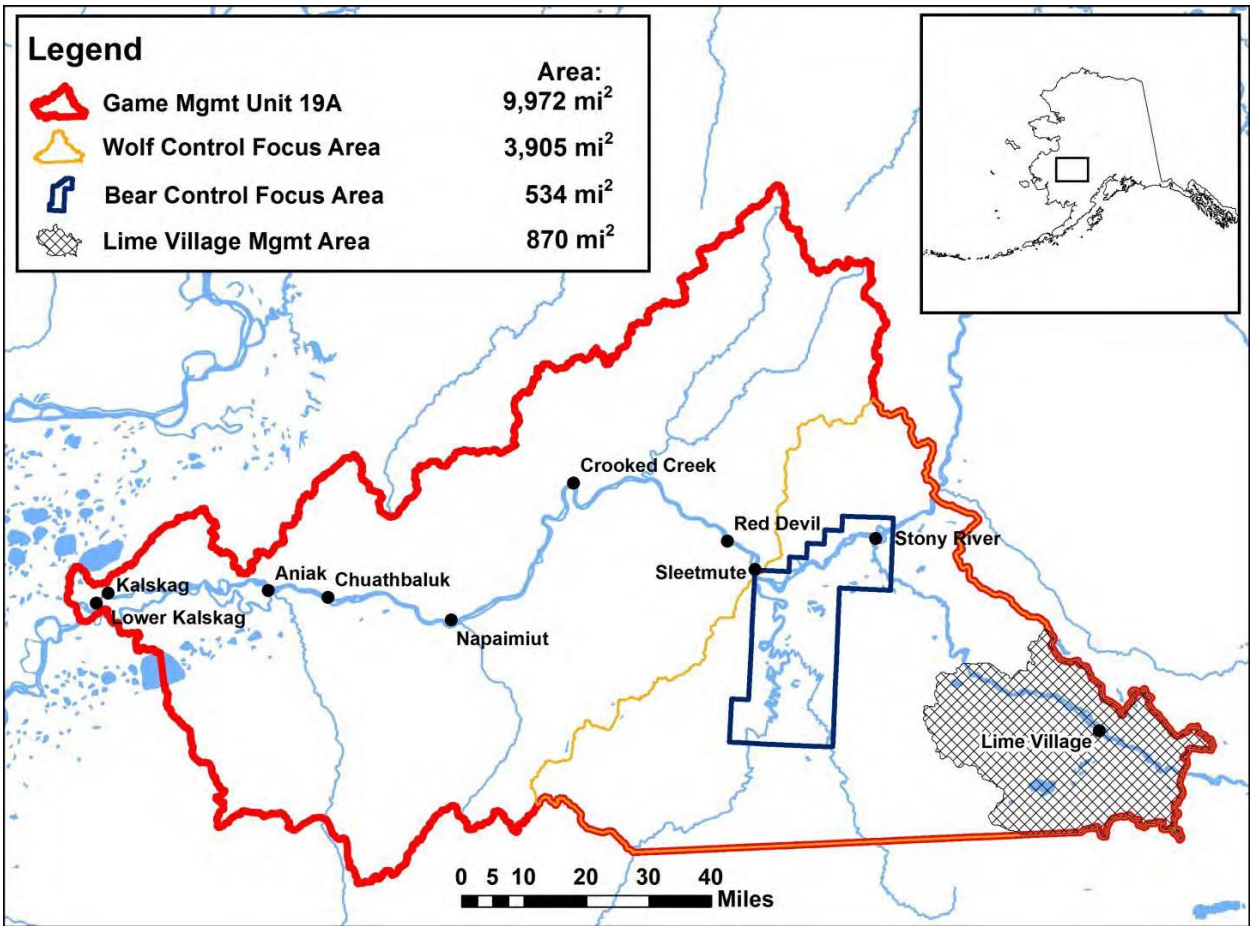
(BCFA) (**Map 2**) (Peirce 2018). ADF&G removed 89 bears (84 black and 5 brown) and 64 bears (54 black and 10 brown) in 2013 and 2014, respectively (ADF&G 2014).

ADF&G conducts aerial surveys in Unit 19A to estimate the moose population in March (**Map 3**) (Peirce 2018, Seavoy 2014). The Federal closed area, Unit 19A east, primarily falls into the Unit 19A east (Holitna) moose survey area (MSA). ADF&G surveys the Holitna MSA every three years and the Aniak MSA opportunistically (Seavoy 2014). Since 2005, the Unit 19A moose population has appeared relatively stable due to overlapping confidence intervals, but remained well below the State's management objective of 7,600 moose (**Figure 1**).

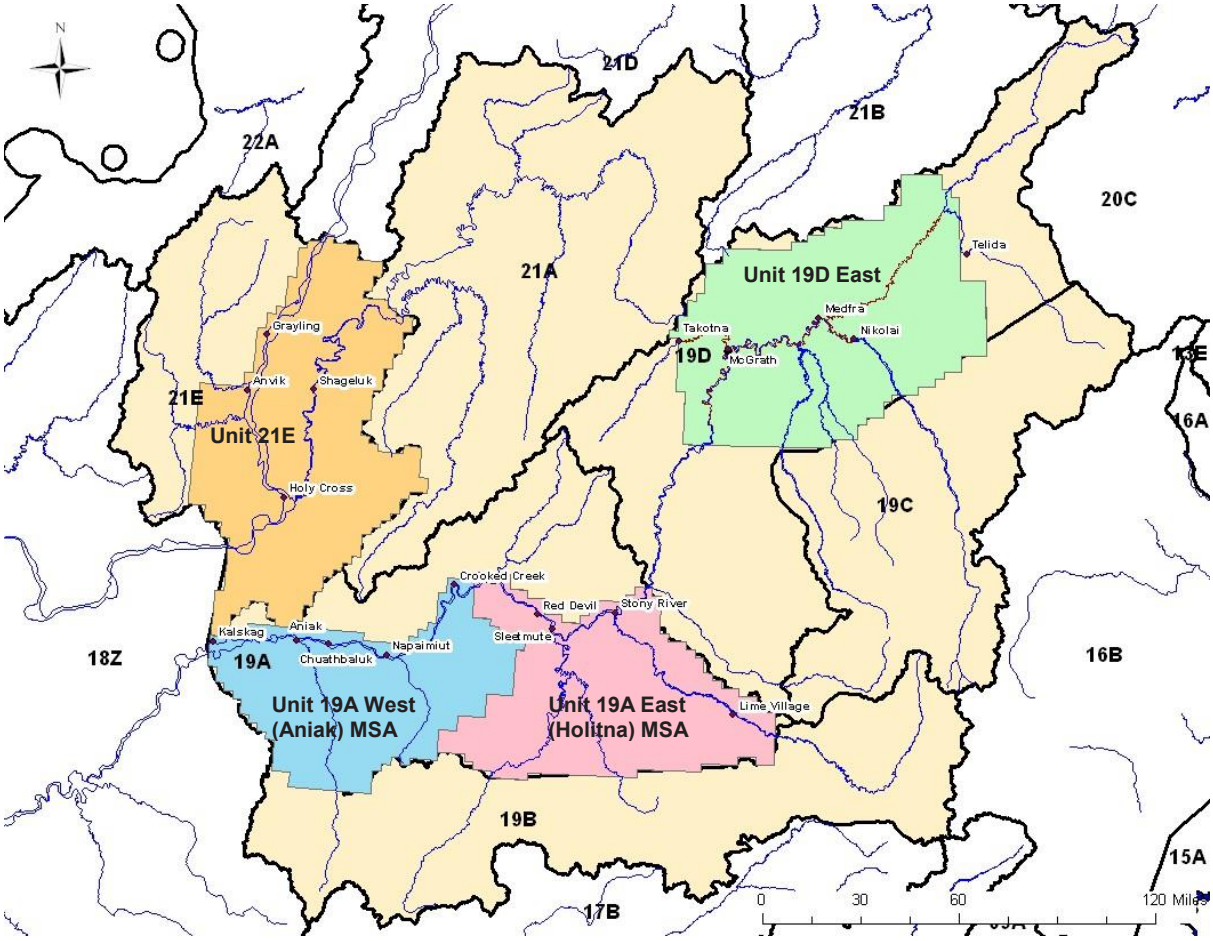
Moose densities of 0.75-0.93 moose/mi^2 are required to meet State population objectives (Seavoy 2014). Between 1998 and 2017, estimated moose density in Unit 19A ranged from 0.25 moose/mi^2 to 1.5 moose/mi^2 (**Table 1**). The highest densities occurred in the BCFA, which comprises only 14% of the Holitna MSA (**Maps 2-3**) (ADF&G 2018a, Peirce 2018). The BCFA estimates are not representative of the entire Holitna MSA or the Federal Unit 19A east hunt area due to the limited survey area and because bear removal likely influenced moose abundance in that area. Additionally, most radio-collared moose in Unit 19A display limited movements (Seavoy 2014).

ADF&G conducts aerial surveys to estimate the composition of the Unit 19A moose population in November (Peirce 2018). Between 1987 and 2018, the bull:cow ratio in the Holitna MSA ranged from 6 bulls:100 cows to 58 bulls:100 cows (**Figure 2**). The lowest bull:cow ratio occurred in 2001, but has exceeded management objectives since 2007. Intense hunting pressure and predation likely contributed to the low bull:cow ratio in 2001 (Boudreau 2004). Over the same time period, the calf:cow ratio in the Holitna MSA ranged from 8 calves:100 cows to 72 calves:100 cows (**Figure 2**). The lowest calf:cow ratio also occurred in 2001. Since 2011, the calf:cow ratio has been within or above management objectives (Peirce 2018, ADF&G 2018a, Seavoy 2014).

Twinning rates indicate nutritional status and habitat quality (Peirce 2018). Twinning rates in the BCFA were 56% and 63% in 2013 and 2014, respectively, suggesting habitat is not limiting the moose population in the BCFA (Peirce 2018).



Map 2. Unit 19A wolf control focus area and bear control focus area (ADF&G 2018a).



Map 3. Units 19, 21A, and 21E showing the 3 scheduled moose survey areas (MSA): Unit 19D East moose survey area, Unit 19A East (Holitna), and Unit 21E moose survey area. Also shown is the Unit 19A West (Aniak) moose survey area which is surveyed opportunistically. The area south of the Kuskokwim River includes both the Unit 19A East (Holitna) and Unit 19A West (Aniak) survey areas (Seavoy 2014).

Table 1. Moose density estimates in Unit 19A (moose/mi^2). See Maps 2-3 for survey areas (ADF&G 2018a, Peirce 2018, Seavoy 2014, ADF&G 2004).

Year	South of Kuskokwim	Unit 19A West (Aniak)	Unit 19A East (Holitna)	Bear Control Focus Area
1998			1.25	
2001		0.7		
2005	0.27			
2006		0.39		
2008			0.44	
2010		0.33		
2011			0.25	
2011			0.43[a]	
2014				1.50[a]
2017		1.3	0.52[a]	1.36[a]

[a] Includes a sightability correction factor

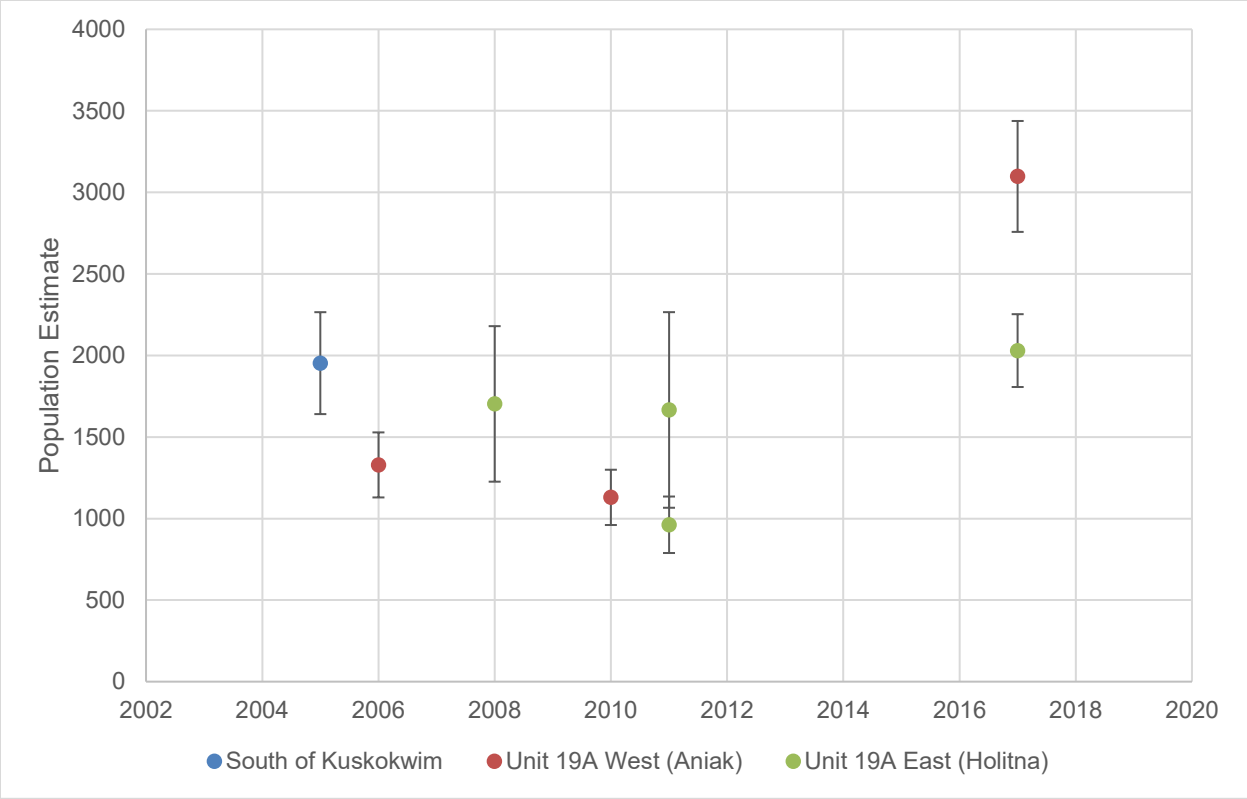


Figure 1. Population estimates for moose in Unit 19A with 90% confidence intervals. The higher estimate in 2011 and the 2017 estimate in the Unit 19A East (Holitna) survey area include sightability correction factors. See Map 3 for survey areas (ADF&G 2018a, Seavoy 2014).

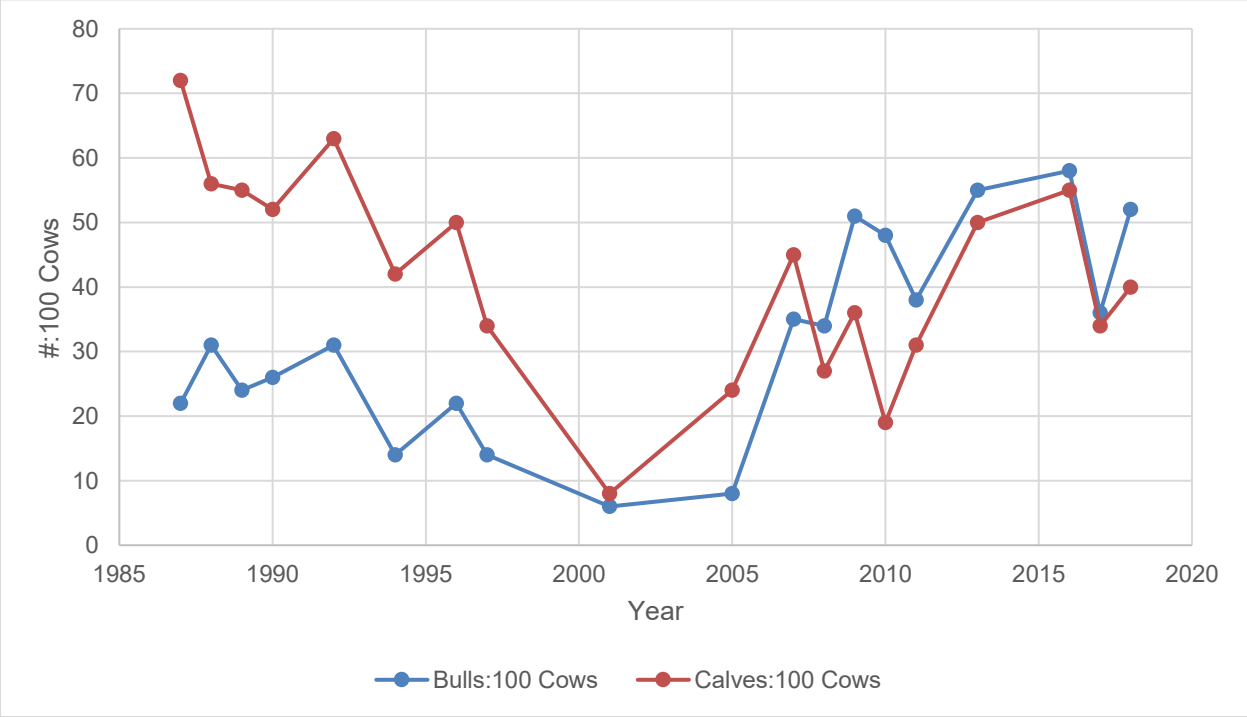


Figure 2. Fall bull:cow and calf:cow ratios for the Unit 19A East (Holitna) moose survey area (Peirce 2018, ADF&G 2018a, Seavoy 2014).

Harvest History

No legal moose harvest has occurred in Unit 19A east since 2006 when the season was closed under both Federal and State regulations. Between 1994 and 2005, reported annual moose harvest in Unit 19A ranged from 67-184 moose and averaged 127 moose (**Figure 3**). Over the same time period, local residents (defined as residents of Units 19A and 19B) harvested 30% of the total reported harvest on average (ADF&G 2004, 2018b). However, harvest reporting is low in many areas of rural Alaska. ADF&G (2004) estimated actual harvest in rural areas as 50-72% greater than reported harvest, resulting in an estimated 57-66 moose/year being harvested by local residents between 1994 and 2005 in Unit 19A.

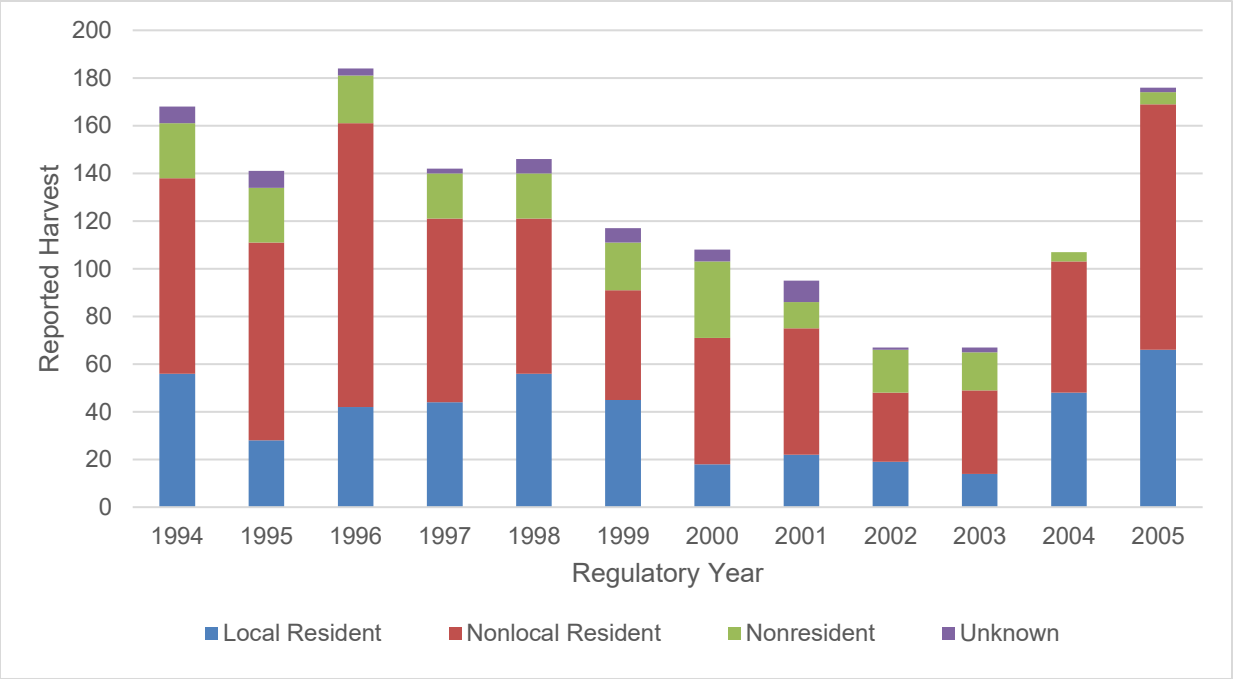


Figure 3. Reported moose harvest in Unit 19A by residency (ADF&G 2004, 2018b). Moose hunting in Unit 19A East was closed in 2006 and has remained closed under State and Federal regulations.

OSM Preliminary Conclusion:

X maintain status quo
_ modify or eliminate the closure

Justification

Moose abundance in Unit 19A east has not significantly changed since the hunt area closed in 2007 because of conservation concerns. Therefore, the Federal lands closure in Unit 19A East should be retained.

ANALYSIS ADDENDUM

OSM Conclusion:

_ maintain status quo
X modify or eliminate the closure

Eliminate the closure for WCR20-39 to mirror recently adopted State regulations.

The modified regulation should read:

Unit 19A−Moose

Unit 19A, north of the Kuskokwim River, upstream from (but excluding) the George River drainage, and south of the Kuskokwim River upstream from (and including) the Downey Creek drainage, not including the Lime Village Management Area – ***One antlered bull by State registration permit available in Sleetmute and Stony River on July 24. Permits issued on a first-come, first-served basis (number of permits to be announced annually).***	~~*No Federal open season*~~ ***Sept. 1-Sept. 5***

~~*Federal public lands are closed to the harvest of moose.*~~

Justification

The BOG recently established a limited Tier I registration hunt in Unit 19A East. At the 2019 winter meeting of the Western Interior Council, the ADF&G area biologist stated that continuing the Federal closure could have a negative effect on Federally qualified subsistence users from Red Devil, Sleetmute, and Stoney River who hoped to hunt on Federal public lands during the State's new season (WIRAC 2019). Federal public lands comprise 18% of Unit 19A East and are accessible across the Kuskokwim River from the local communities.

The ADF&G area biologist also stated the lower bull:cow ratio in 2017 was likely due to bull distribution during surveys rather than an actual change in bull abundance. Additionally, a large number of large bulls, which are important for breeding, are present in the hunt area due to years of no human harvest (WIRAC 2019). The ADF&G area biologist stated that the harvestable surplus for the Unit 19A moose population is currently 70 moose. As ADF&G will only issue 30 permits during the 2019/20 regulatory year, less than half the harvestable surplus would be used if every permit holder was successful, which is unlikely given the short season (WIRAC 2019).

Establishing a Federal hunt increases harvest opportunity for Federally qualified subsistence users and prevents Federal regulations from being more restrictive than State regulations. The State and Federal hunts are extremely conservative with a short season and limited number of permits available. Additionally, the Unit 19A moose population can sustain a limited harvest due to a sufficient number of large bulls and high bull:cow ratios. The Western Interior Council recommended a joint Federal/State permit. However, just requiring a State registration permit under Federal regulations simplifies regulations while still achieving the Council's intent of all users hunting under a single permit.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Western Interior Alaska Subsistence Regional Advisory Council

Eliminate the closure for WCR20-39. The Council voted unanimously to eliminate the closure in Unit 19A East and to mirror recently adopted State regulations, which established a Tier I registration permit hunt in the area. The permit would be a joint Federal/State permit that is only available in local communities during July and allow the harvest of one antlered bull per household. The number of available permits will be announced annually.

There was extensive discussion between the Council, the Office of Subsistence Management (OSM) and the Alaska Department of Fish and Game (ADF&G) regarding this closure The Council believes the Unit 19A moose population can support a limited bull harvest due to high bull:cow ratios. The Council commented that only issuing permits in local communities gives local people the first opportunity at obtaining those permits.

Yukon Kuskokwim Delta Subsistence Regional Advisory Council

The Council voted to **defer** to the Western Interior Council. The Council noted that both the Y-K Delta and Western Interior Councils supported the original closure in 2007 as well as continuing the closure in 2014 when it was last reviewed. The Council mentioned that some Unit 18 residents do hunt in this area, and that the Council would be comfortable keeping it closed and maintaining the status quo until they heard the Western Interior Council's decision. The Council hopes to consider this closure again at is Fall 2019 meeting after hearing the Western Interior Council's recommendation.

FEDERAL WILDLIFE CLOSURE REVIEW
WCR20-40

Closure Location: Unit 18—Moose

Current Federal Regulation

Unit 18−Moose

Unit 18—south of and including the Kanektok River drainages to the Goodnews River drainage. Federal public lands are closed to the taking of moose by all users	*No open season*

Closure Dates: Year-round

Current State Regulation

Unit 18−Moose

Residents: Unit 18—south of the Eek River drainage and north of the Goodnews River drainage—one antlered bull	*HT*	*Sep. 1 – 30*

Regulatory Year Initiated: 1991

Regulatory History

Federal public lands in the Kanektok and Arolik River drainages have been closed to the harvest of moose since 1991. That year, the Federal Subsistence Board (Board) considered Proposal P91-124, submitted by the Togiak National Wildlife Refuge. P91-124 requested that the moose season in the southern portion of Unit 18, including the Kanektok and Goodnews River drainages, be closed to allow for the establishment of a harvestable moose population. The Board adopted this proposal with modification to close Federal public lands to moose harvest throughout Unit 18, resulting in the original Federal public lands closure in this area.

The closure in its current form was established in 2008, following the Board's action on proposal WP08-34. Prior to 2008, the portion of Unit 18 south of and including the Kanektok River drainage was a single hunt area. The Board's action divided the hunt area into two, rescinding the Federal public lands closure in the southernmost portion of Unit 18 south of and including the Goodnews River drainage, and retaining it in the portion of Unit 18 including the Kanektok and Arolik River drainages.

Since then, there have been two attempts to establish a Federal moose season in this area. Proposal WP10-61 and special action request WSA14-01 were both submitted by the Native Village of Quinhagak IRA Council. Each requested the establishment of a Sep. 1 – 30 moose season with a harvest limit of one antlered bull by State registration permit. However, these requests were rejected due to ongoing conservation concerns. If these changes had been adopted, the Federal regulations for this hunt would have mirrored the State regulations, which were initiated in 2005 and have not changed.

Unit 18 is comprised of 67% Federal public lands and consists of 64% U.S. Fish and Wildlife Service managed lands and 3% Bureau of Land Management managed lands (**Figure 1**).

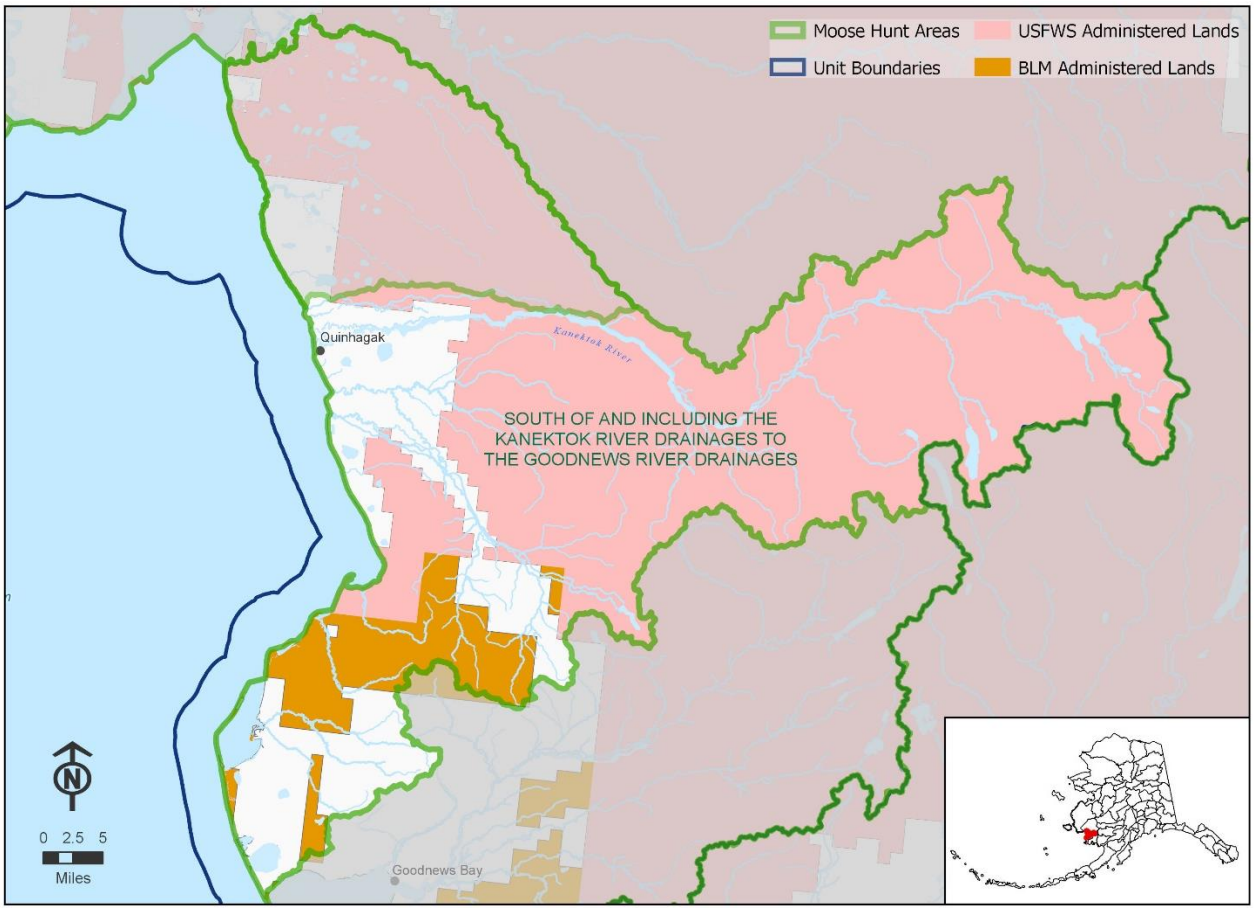

Figure 1. Moose hunt area in the portion of Unit 18 south of and including the Kanektok River drainage to the Goodnews River drainage.

Closure last reviewed: 2014 – WSA14-01

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

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

In 1991, there were few moose in the southern portion of Unit 18. Most moose that were harvested from the area were immigrants from other areas to the north and east. The existing seasons that allowed for the harvest of one bull by subsistence users, other residents and non-residents did not allow for the assurance of a stable and continuing population. It was believed that management should be directed towards rebuilding and establishing a harvestable population, given that the available habitat in this area was capable of supporting more moose than were present.

Council Recommendation for Original Closure:

This closure was initiated prior to the formation of the Regional Advisory Councils in 1993.

State Recommendation for Original Closure:

The State supported closing the moose season in southern Unit 18 in principle, given the desire to establish a resident moose population in the area. However, they were concerned about implementation without local concurrence, and recommended deferring closure decisions until local buy-in was secured.

Biological Background

Prior to the early 2000s, moose were not commonly observed in southern Unit 18. Early population growth is attributed to emigration from adjacent Unit 17A, with high calf recruitment sustaining growth (Aderman 2014). Minimum population counts, obtained by the Togiak National Wildlife Refuge as part of their Refuge-wide moose monitoring program, show substantial recent growth of the moose population in this area (**Figure 2**). In 2002, only 3 moose were observed in the Kanektok and Arolik drainages, and at last count, in 2018, 173 moose were observed (Aderman 2018, pers. comm.). This represents a 42% annual growth rate between 2013 and 2018.

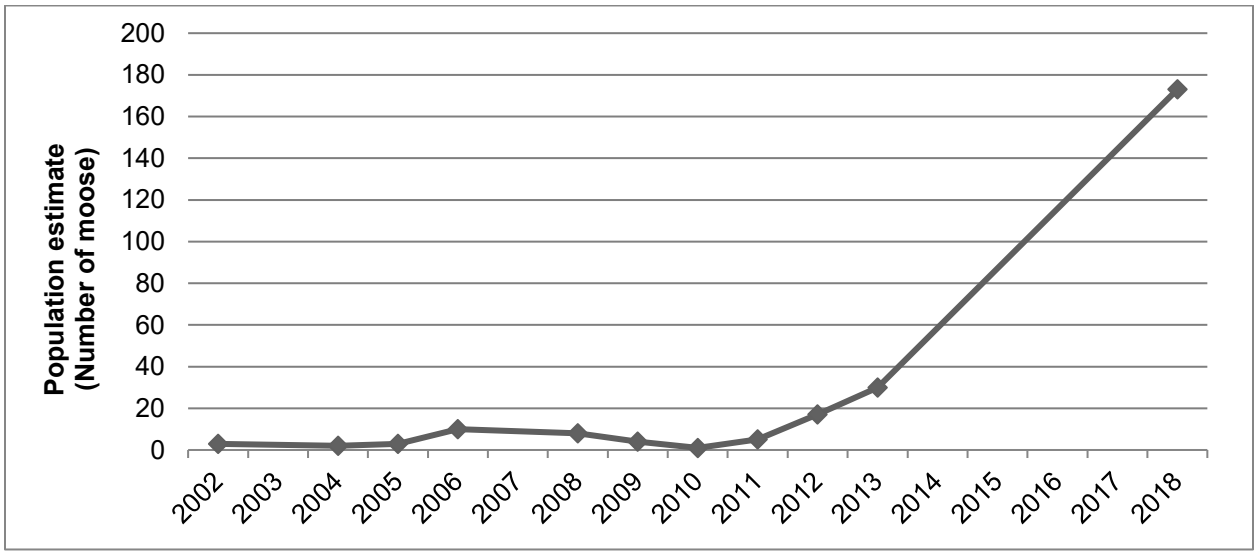

Figure 2. Estimated moose population size (minimum count) in the Kanektok and Arolik river drainages, 2002 – 2018 (Aderman 2014, Aderman 2018, pers. comm.).

Recent composition surveys showed that there were 48 bulls:100 cows in 2016 and 43 bulls:100 cows in 2017. These surveys showed 41 calves:100 cows in 2016 and 29 calves:100 cows in 2017. Refuge

biologists believe that these estimates are likely biased high for bulls and biased low for calves (Aderman 2019, pers. comm.)

Recent growth of the Kanektok/Arolik moose population is similar to that previously exhibited by the Unit 17A and Goodnews River moose populations. In these areas, early surveys revealed few to no moose. Then, over a period of several years, the population increased rapidly and now supports harvest on both Federal and State lands. The population in the Goodnews hunt area, in particular, may provide context for understanding when it is appropriate to modify the Federal public lands closure in the Kanektok/Arolik hunt area, given similarities in size, location, land status, and human population size. In the Goodnews hunt area, State and Federal seasons were established in 2008, when the population exceeded a threshold of 100 moose. Subsequent population growth was sufficient to establish may-be-announced winter seasons in 2017 and 2018. This appears to validate that the timing for initiating harvest was not premature.

Harvest History

Harvest within the Kanektok and Arolik drainages is allowed under State regulation, by harvest ticket. Reported harvest is dominated by local users, defined here as Federally qualified subsistence users (residents of Unit 18, Upper Kalskag and Lower Kalskag). Between 2003 and 2018, reported harvest was 61 moose (**Figure 3**). Of those, 90% (55 moose) were taken by local users. Residents of Quinhagak, the only community located within the hunt area, harvested 70% (43 moose) of the total reported harvest during this time period. Only 2 moose were reported harvested by residents of Eek, the nearest community to the proposed Federal addition (ADF&G 2019b). While reported harvest is low, averaging just four moose per year, observations by local biologists in the past decade indicate that at least some illegal harvest occurs (Aderman 2014). The magnitude of noncompliance is unknown.

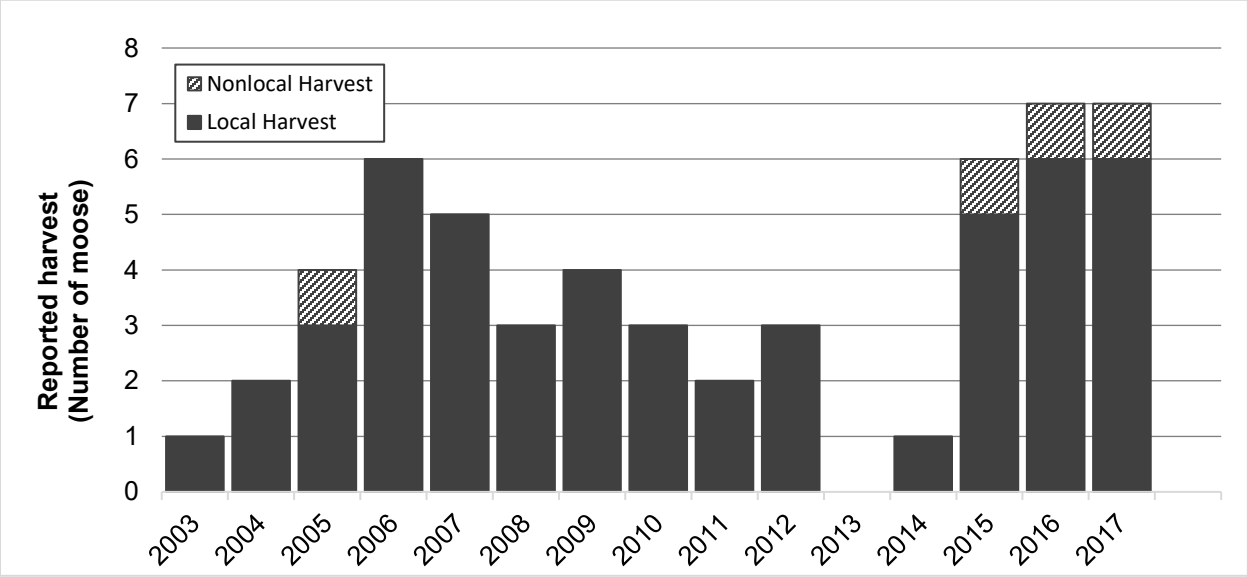

Figure 3. Reported harvest in the Kanektok and Arolik river drainages, 2003 – 2017 (ADF&G 2017, Jones 2018, pers. comm.).

OSM Preliminary Conclusion:

_ maintain status quo
X modify or eliminate the closure

Justification

The moose population in the Goodnews/Arolik hunt area has increased significantly in recent years. Reported harvest is low, and moose in this hunt area are taken almost exclusively by Federally qualified subsistence users. While unreported harvest is believed to occur and may be significant, it has not outpaced production or prevented population growth.

Given the relative newness of this population, the small area it occupies, and the lack of published population objectives, it can be difficult to find context for assessing future management actions. However, the adjacent Goodnews moose population likely provides an adequate model. Assuming so, establishing a season on Federal lands is appropriate at this time. The first step is modifying or rescinding the Federal public lands closure.

Full rescission of the Federal public lands closure will allow for development of parallel Federal and State regulations, which will ease the burden of compliance for Federally qualified subsistence users. The approach used in all neighboring moose hunts, from the Kuskokwim River drainage to Bristol Bay, is to require a State registration permit in both State and Federal regulation. If administered similar to adjacent hunts, where permits are only available locally, this approach runs little risk of attracting an influx of non-local hunters and thus poses little risk to the moose population. This approach would require concurrence from local State and Federal managers, and would also require changes in the State hunt structure.

An intermediate approach could be considered if there is reluctance to require a State registration permit. In that case, Federal public lands could be opened only to Federally qualified subsistence users, giving them an definitive priority on Federal lands. This approach requires no changes in State regulations, but would increase regulatory complexity in this hunt area.

Neither of the above approaches are likely to result in significant additional harvest, given the current user base and the availability of mechanisms to prevent an influx of non-local users. Either approach could be combined with the use of quotas, which would further guard against overharvest. Finally, both approaches represent an increase in subsistence opportunity and pose little threat to the conservation status of this population.

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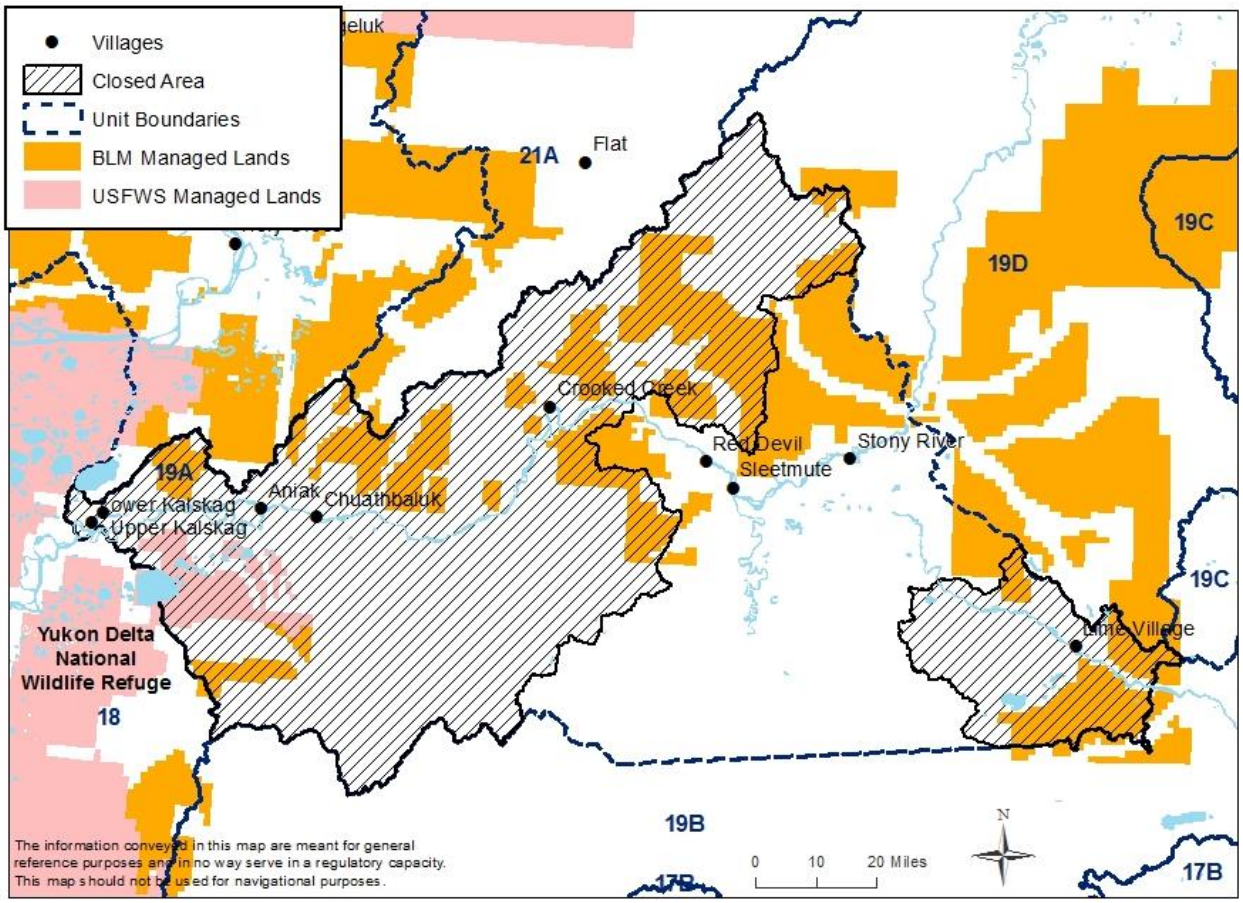
SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATION

Yukon Kuskokwim Subsistence Regional Advisory Council

Modify the closure for WCR20-40 to open Unit 18 south of the Kanektok River to only Federally qualified subsistence users. The Council discussed that this area has been closed with no moose hunt allowed on Federal public lands. The Council believes that now that the moose population has been growing slowly enough to support a hunt, the subsistence communities in the hunt area should have the first priority to harvest moose and open to only Federally qualified subsistence users at this time. The Council also suggests further consultation with the effected communities in this hunt area: Eek, Quinhagak and Goodnews Bay.

FEDERAL WILDLIFE CLOSURE REVIEW
WCR20-43

Closure Location: Unit 19A remainder (**Map 1**)—Moose



Map 1. Federal hunt area closure for moose in Unit 19A remainder.

Current Federal Regulation

Unit 19A—Moose

Unit 19A, remainder—1 antlered bull by Federal drawing permit or a State permit.	*Sept. 1-20.*

Federal public lands are closed to the taking of moose except by residents of Tuluksak, Lower Kalskag, Upper Kalskag, Aniak, Chuathbaluk, and Crooked Creek hunting under these regulations. The Refuge Manager of the Yukon Delta NWR, in cooperation with the BLM Field Office Manager, will annually establish the harvest quota and number of permits to be issued in coordination with the State Tier I hunt. If the allowable harvest level is reached before the regular

season closing date, the Refuge Manager, in consultation with the BLM Field Office Manager, will announce an early closure of Federal public lands to all moose hunting

Closure Dates: Year round

Current State Regulation

Unit 19A−Moose

Kuskokwim River drainage downstream from, and including, the George River drainage, and downstream from and excluding the Downey Creek drainage	*One antlered bull by permit*	*Sept. 1- 20*

Regulatory Year Initiated: 2007

Regulatory History

In 1990, Federal hunting regulations were adopted from State regulations. The moose season in Unit 19A was Sept. 1-Sept. 20, Nov. 20-Nov. 30, and Feb. 1-Feb. 10. The harvest limit was one moose, although antlerless moose could be taken only from Nov. 20-Nov. 30 and from Feb. 1-Feb. 10.

In 1992, the Federal Subsistence Board (Board) adopted Proposal P92-111 with modification to change the Unit 19A moose season to Sept. 5-Sept. 25, Jan. 1-Jan. 10, and Feb. 1-Feb. 5 to provide harvest opportunity during Russian orthodox holidays in January (FSB 1992). Antlerless moose could only be taken during the winter seasons. The Board rejected Proposal P92-66 to liberalize moose hunting regulations in several units including Unit 19A because moose densities were too low to sustain increased harvests.

In April 1994, the Board deferred Proposal P94-54 to align Unit 19A Federal harvest limits and seasons with State regulations because not all affected Subsistence Regional Advisory Councils (Councils) had considered the proposal. In November 1994, the Board adopted P94-54 with modification, aligning Unit 19A Federal moose regulations with State regulations with the exception of retaining the January season (FSB 1994). Unit 19A was divided into two hunt areas: that portion north of the Kuskokwim River upstream from, but not including the Kolmakof River drainage and south of the Kuskokwim River upstream from, but not including the Holokuk River drainage (Unit 19A east) and Unit 19A remainder. The seasons in both hunt areas were Sept. 1-Sept. 20, Nov. 20-Nov. 30, Jan. 1-Jan. 10, and Feb. 1-Feb. 10. The harvest limit in Unit 19A east was one moose, although antlerless moose could only be taken during the February season. The harvest limit in Unit 19A remainder was one bull.

In 2003, the Board adopted Proposal WP03-31 to shorten the February season in Unit 19A east to Feb. 1-Feb. 5 and eliminate the antlerless moose season because of declines in the Unit 19A moose population.

In 2004, the Board adopted Resolution 04-1 to support the Central Kuskokwim Moose Management Plan (Management Plan) (ADF&G 2004). The Board also adopted Proposal WP04-58 to eliminate the November, January, and February moose seasons in Unit 19A. Additionally, the Board adopted Proposal WP04-59 with modification to combine the Unit 19A hunt areas, require a State registration permit, and

change the harvest limit to one antlered bull. These restrictions addressed severe declines in the Unit 19A moose population and complied with the Management Plan.

In 2006, the Alaska Board of Game (BOG) established a Tier II only moose hunt in Unit 19A, Kuskokwim River drainage downstream from, and including, the George River drainage, and downstream from and excluding the Downey Creek drainage (same as the Federal Unit 19A remainder hunt area) and eliminated the registration permit hunt to conserve the moose resource (OSM 2006). Subsequently, the Alaska Department of Fish and Game (ADF&G) submitted Special Action WSA06-01a to require a permit in Unit 19A remainder that worked in concert with the State's Tier II hunt (WSA06-01b requested closing moose hunting in eastern Unit 19A). The Board approved WSA06-01a with modification, requiring a Federal drawing or State Tier II permit and closing moose hunting in Unit 19A remainder except by residents of Tuluksak, Lower Kalskag, Upper Kalskag, Aniak, Chuathbaluk, and Crooked Creek (OSM 2007). A limited harvestable surplus required a §804 analysis, which determined these six communities to be the most dependent on the Unit 19A moose population (OSM 2006).

In 2007, the Western Interior Alaska Subsistence Regional Advisory Council (Western Interior Council) submitted Proposal WP07-35, requesting the same changes as WSA16-01. The Board adopted Proposal WP07-35 with modification because of continued conservation concerns for the Unit 19A moose population including low productivity, bull:cow ratios, and density combined with historically high hunting pressure (OSM 2007). The modification was to delegate authority to the Yukon Delta National Wildlife Refuge manager to annually establish the harvest quota and number of available draw permits. The Western Interior and Yukon-Kuskokwim Councils and ADF&G supported the proposal because of conservation concerns over the moose resource (OSM 2007).

Federal regulations for moose in Unit 19A remainder have not changed since 2007. In 2008, the Assistant Regional Director for the Office of Subsistence Management (OSM), with unanimous consent of the Interagency Staff Committee, rejected WSA08-07 to extend the Unit 19A remainder moose season by 10 days, ending Sept. 30 because the request did not meet the criteria in §___.19(b) and (c) of ANILCA for accepting Special Action requests. Specifically, there was not an unusual, significant, or unanticipated change in resource abundance or hunting conditions (OSM 2008).

Unit 19A remainder is comprised of 27% Federal public lands and consist of 23% Bureau of Land Management (BLM) managed lands and 4% U.S. Fish and Wildlife Service (USFWS) managed lands (**Map 1**).

Closure last reviewed: 2007 – WP07-35

Justification for Original Closure:

§815(3) of ANILCA states:

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

The combination of low moose population densities, low calf production and survival, low bull:cow ratios and high hunting pressure contributed to declines in the Unit 19A moose population. In response to these conservation concerns, the Board closed moose hunting in Unit 19A remainder except by residents of Tuluksak, Lower Kalskag, Upper Kalskag, Aniak, Chuathbaluk, and Crooked Creek in 2007.

Council Recommendation for Original Closure:

The Yukon-Kuskokwim Delta and Western Interior Councils supported the closure to protect the moose resource for future generations.

State Recommendation for Original Closure:

The State supported the closure due to continued conservation concerns for the Unit 19A moose population and to better align with State regulations. The State established a Tier II only hunt in a portion of Unit 19A in 2006.

Biological Background

In 2004, ADF&G in cooperation with the Central Kuskokwim Moose Management Planning Committee published the Central Kuskokwim Moose Management Plan (Management Plan) (ADF&G 2004). State management objectives for the composition of the moose population in Unit 19A are the same as those in the Management Plan (Peirce 2018, ADF&G 2004):

- Maintain a minimum fall posthunt bull:cow ratio of 20-30 bulls:100 cows.
- Maintain a minimum fall posthunt calf:cow ratio of 30-40 calves:100 cows.
- Maintain no fewer than 20% calves (short-yearlings) in late winter.

ADF&G has the additional intensive management objectives for both Units 19A and 19B (Peirce 2018, Seavoy 2014):

- Achieve a moose population of 13,500-16,500 moose (7,600-9,300 in Unit 19A) with 750-950 moose available for harvest annually.

ADF&G conducts aerial surveys in Unit 19A to estimate the moose population in March (**Map 2**) (Peirce 2018, Seavoy 2014). The Federal closed area, Unit 19A remainder, primarily falls into the Unit 19A West (Aniak) moose survey area (MSA). ADF&G only surveys the Aniak MSA opportunistically, but surveys eastern Unit 19A every 3 years (**Map 2**) (Seavoy 2014). While the moose population in the Unit 19A West (Aniak) MSA appeared relatively stable between 2006 and 2010, it increased significantly in 2017 (**Figure 1**). ADF&G also surveyed the entire Unit 19A West hunt area (TM680) for the first time in 2017, estimating 4,135 moose (Peirce 2018, pers. comm.). ADF&G plans to conduct another population survey in winter 2020 and anticipates the Unit 19A West population to continue increasing based on the excellent status of adjacent Unit 18 moose populations (WIRAC 2019).

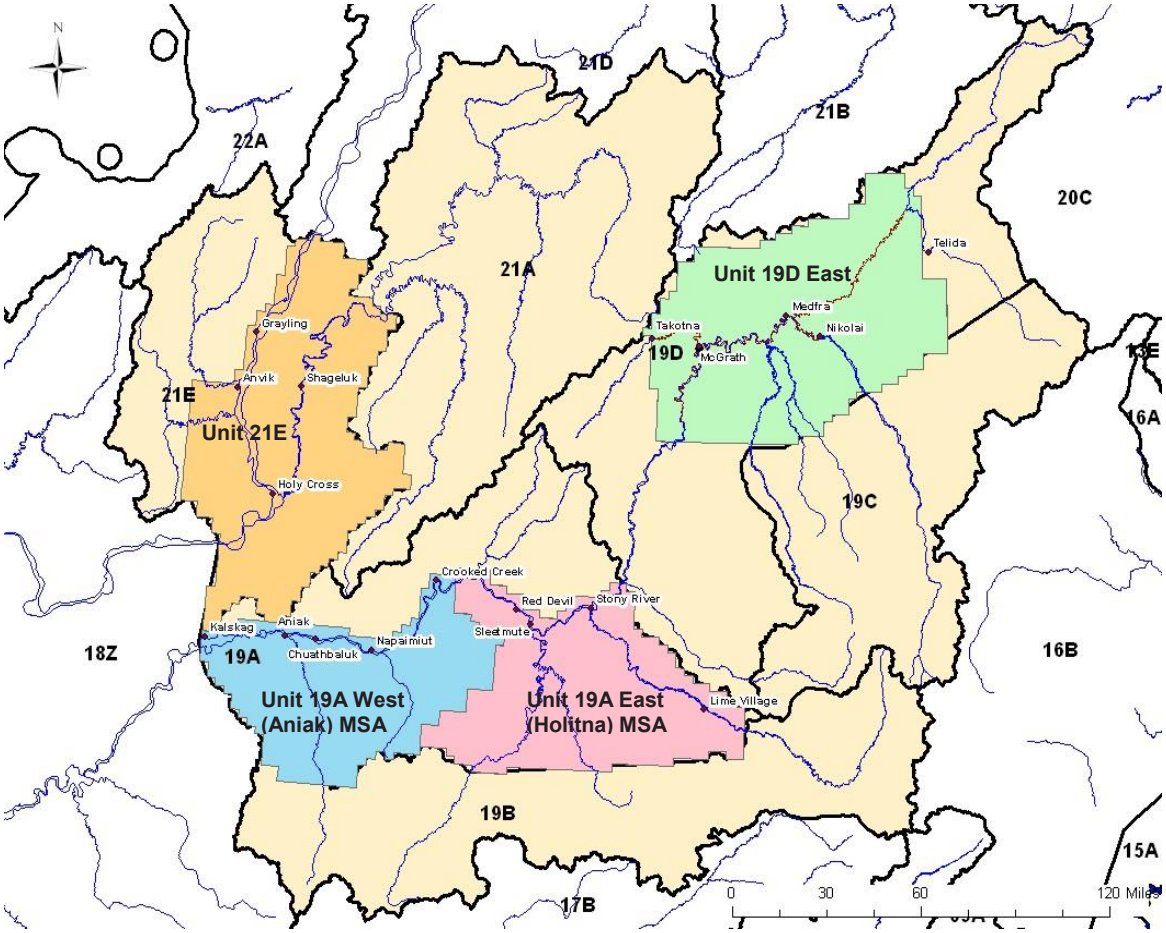
Moose densities of 0.75-0.93 moose/mi^2 are required to meet State population objectives (Seavoy 2014). Between 1998 and 2017, estimated moose density in Unit 19A ranged from 0.25 moose/mi^2 to 1.3 moose/mi^2 (**Table 1**) (ADF&G 2018a, Peirce 2018, Seavoy 2014, ADF&G 2004, Peirce 2018, pers. comm.). While the 2017 density estimate for the Unit 19A West (Aniak) MSA of 1.3 moose/mi^2 is the highest ever recorded for this area and is well above State population objectives, the 2017 density

estimate for the entire Unit 19A West hunt area is only 0.7 moose/mi^2, which is just below State management objectives (**Table 1**).

ADF&G conducts aerial surveys to estimate the composition of the Unit 19A moose population in November (Peirce 2018). Between 1987 and 2018, the bull:cow ratio in Unit 19A ranged from 6 bulls:100 cows to 58 bulls:100 cows (**Figure 2**). Between 2004 and 2018, the bull:cow ratio in the Aniak MSA ranged from 20 bulls:100 cows to 42 bulls:100 cows. The lowest bull:cow ratio occurred in 2001, but has met or exceeded management objectives since 2007. However, the 2017 bull:cow ratio in the Aniak MSA just met management objectives (20 bulls:100 cows). While the 2018 bull:cow ratio increased to 26 bull:100 cows, the number of large bulls in the population is fairly low (WIRAC 2019). Intense hunting pressure and predation likely contributed to the low bull:cow ratio in 2001 (Boudreau 2004).

Between 1987 and 2017, the calf:cow ratio in Unit 19A ranged from 8 calves:100 cows to 72 calves:100 cows (**Figure 3**) (Peirce 2018, Seavoy 2014). Between 2004 and 2017, the calf:cow ratio in the Aniak MSA ranged from 23 calves:100 cows to 64 calves:100 cows. The lowest calf:cow ratio also occurred in 2001. Since 2011, the calf:cow ratio has been within or above management objectives. The 2017 calf:cow ratio in the Aniak MSA is the highest ever recorded (Peirce 2018, pers. comm.).

Predation by wolves, black bears, and brown bears influences moose abundance in Unit 19 and may be limiting population growth (Peirce 2018, Keech et al. 2011). ADF&G conducts intensive management in Unit 19A to reduce predation on moose. However, management activities only occur in eastern Unit 19A, although the Lime Village Management Area is included in the wolf control focus area (ADF&G 2018a).



Map 2. Units 19, 21A, and 21E showing the 3 scheduled moose survey areas (MSA): Unit 19D East moose survey area, Unit 19A East (Holitna), and Unit 21E moose survey area. Also shown is the Unit 19A West (Aniak) moose survey area which is surveyed opportunistically. The area south of the Kuskokwim River includes both the Unit 19A East (Holitna) and Unit 19A West (Aniak) survey areas (figure from Seavoy 2014).

Table 1. Moose density estimates in Unit 19A (moose/mi^2). See Map 2 for survey areas. The TM680 State hunt area is similar to the Federal Unit 19A remainder hunt area, but does not include the Lime Village Management Area (ADF&G 2018a, Peirce 2018, Seavoy 2014, ADF&G 2004, Peirce 2018, pers. comm.).

Year	South of Kuskokwim River	Unit 19A West (Aniak)	Unit 19A East (Holitna)	Unit 19A West hunt area (TM680)
1998			1.25	
2001		0.7		
2005	0.27			
2006		0.39		
2008			0.44	
2010		0.33		
2011			0.25	
2011			0.43[a]	
2014				
2017		1.3[a]	0.52[a]	0.7[a]

[a] Includes a sightability correction factor

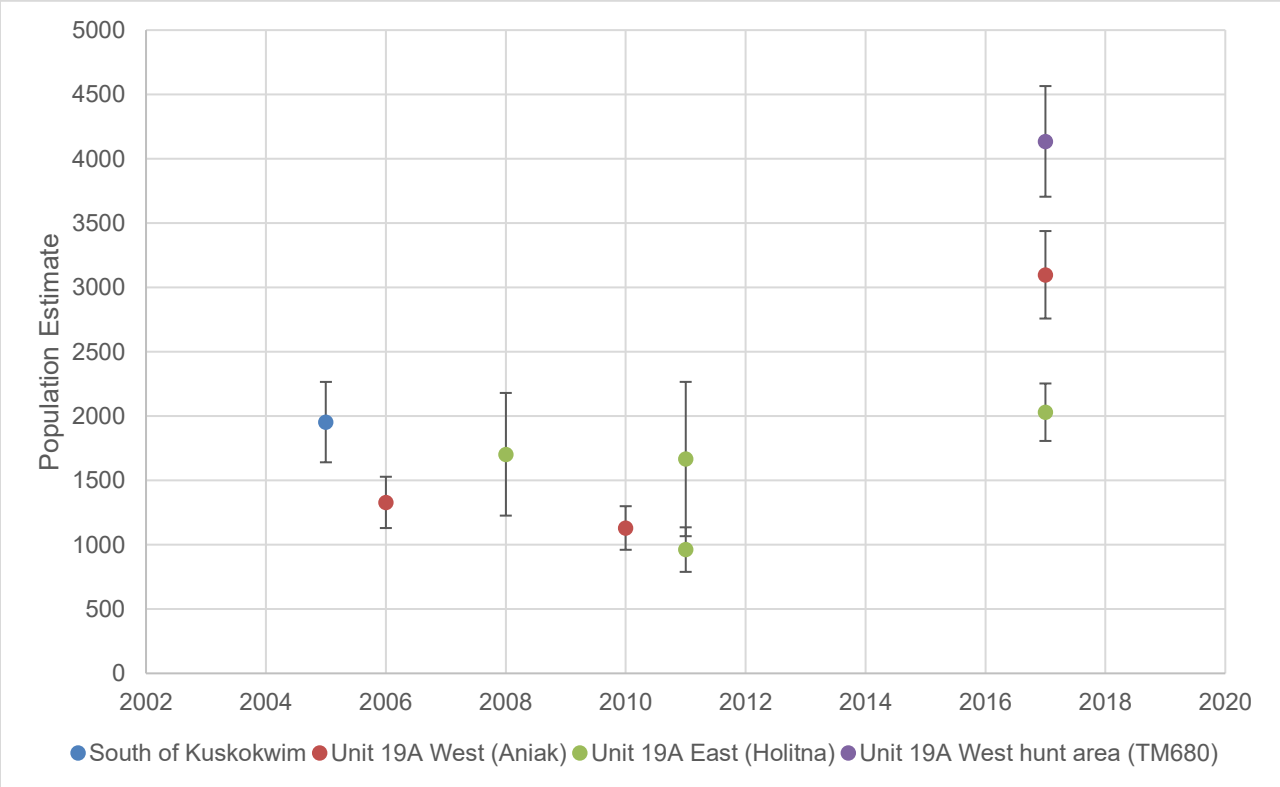


Figure 1. Population estimates for moose in Unit 19A with 90% confidence intervals. The higher estimate in 2011 and the 2017 estimate in the Unit 19A East (Holitna) survey area include sightability correction factors. See Map 2 for survey areas. The TM680 State hunt area is similar to the Federal Unit 19A remainder hunt area, but does not include the Lime Village Management Area (ADF&G 2018a, Seavoy 2014, Peirce 2018, pers. comm.).

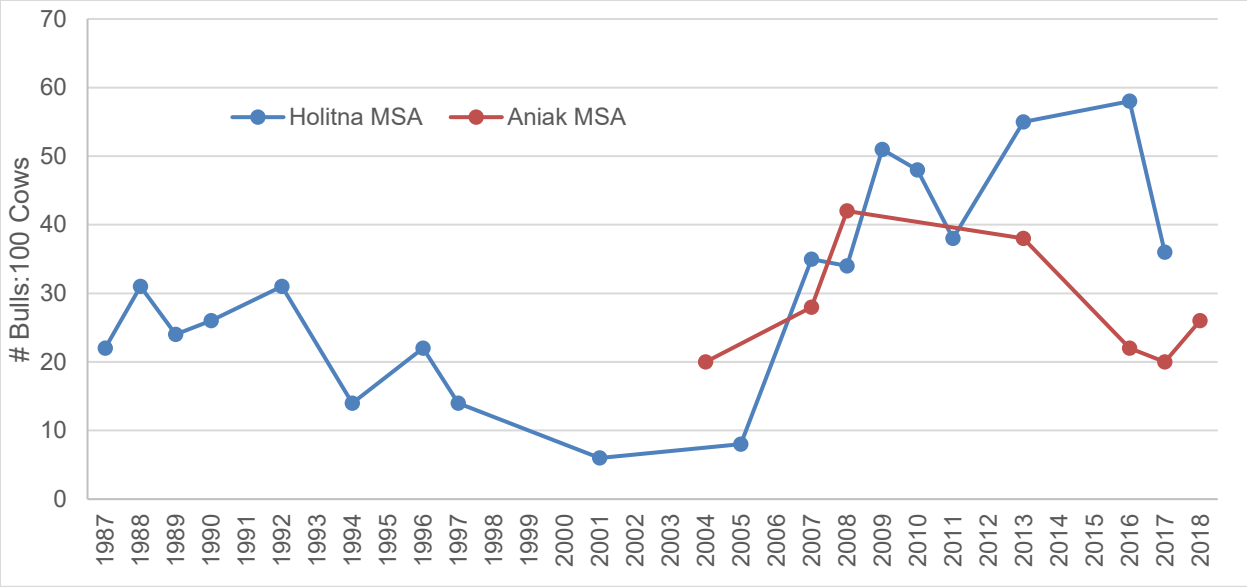


Figure 2. Fall bull:cow ratios for the Unit 19A East (Holitna) and Unit 19A West (Aniak) moose survey areas (Peirce 2018, ADF&G 2018a, Seavoy 2014, Peirce 2018, pers. comm., WIRAC 2019). See Map 2 for survey areas.

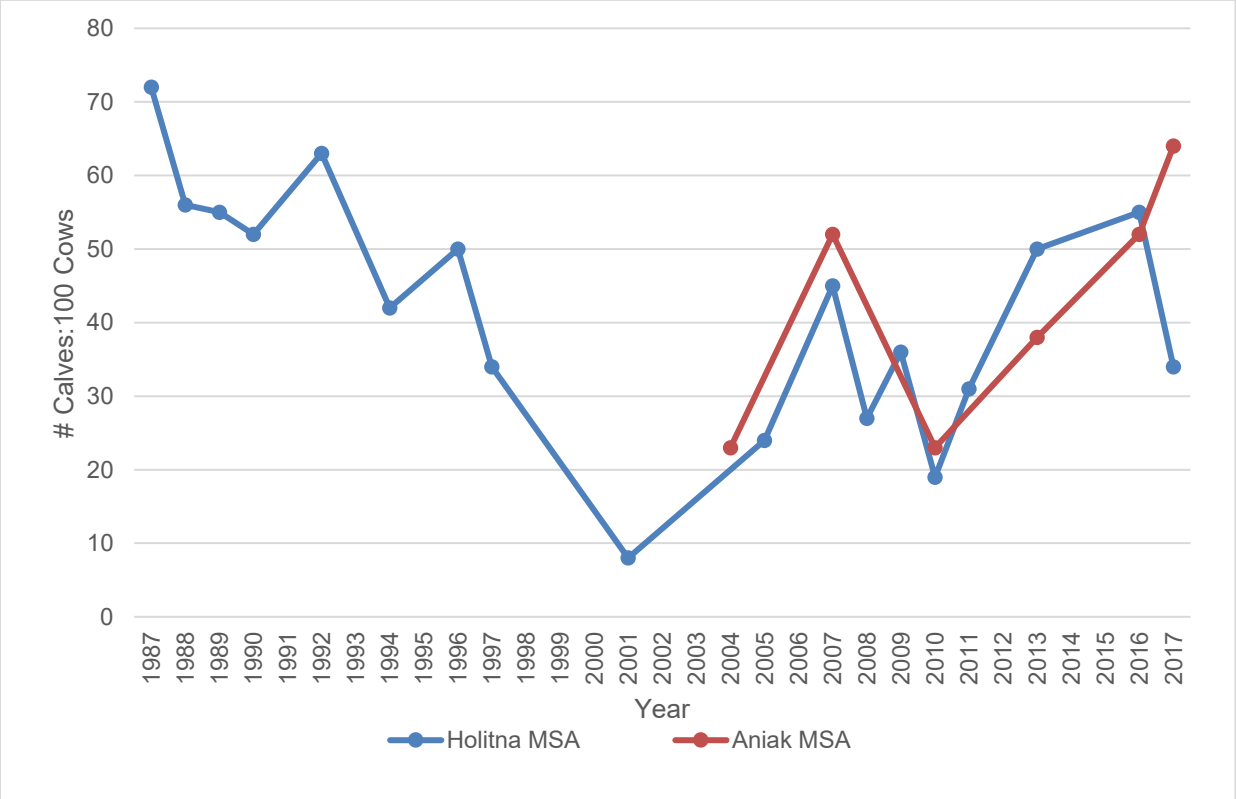


Figure 3. Fall calf:cow ratios for the Unit 19A East (Holitna) and Unit 19A West (Aniak) moose survey areas (Peirce 2018, ADF&G 2018a, Seavoy 2014, Peirce 2018, pers. comm.). See Map 2 for survey areas.

Harvest History

Since 2006, moose harvest in Unit 19A remainder has only occurred under a State Tier II hunt, TM680, and a Federal drawing permit hunt, FM1901. Harvest for both hunts is limited to antlered bulls and restricted to Alaska residents. Harvest on Federal public lands is restricted to residents of Tuluksak, Lower Kalskag, Upper Kalskag, Aniak, Chuathbaluk, and Crooked Creek.

Between 1994 and 2005, prior to any closures, annual reported moose harvest in all of Unit 19A ranged from 67-184 moose and averaged 127 moose (ADF&G 2004, 2018b). Between 2006 and 2017, annual reported moose harvest in Unit 19A remainder averaged 98 moose, ranging from 32-157 moose (**Figure 4**) (ADF&G 2018b, OSM 2018). Over the same time period, annual reported harvest on Federal public lands averaged 22 moose, ranging from 6-45 moose (OSM 2018). On average, 19% of the Unit 19A remainder moose harvest between 2006 and 2017 has occurred on Federal public lands.

In 2006, ADF&G estimated the harvestable surplus of moose as 60 bulls for all of Unit 19A remainder (TM680 hunt area) and as 20 bulls on Federal public lands only (ADF&G 2006, OSM 2007). Most moose harvest on Federal public lands in Unit 19A remainder occurred on Yukon Delta National Wildlife Refuge (NWR) (ADF&G 2006). ADF&G estimated the harvestable surplus of moose for the Yukon Delta NWR portion of Unit 19A remainder as 16 bulls with a few additional harvests from BLM lands (ADF&G 2006).

Between 2006 and 2016, the moose population in the Unit 19A West (Aniak) MSA appeared stable, suggesting the harvestable surplus had not changed (**Figure 1**). Since 2007, annual reported harvest has exceeded 60 bulls, the harvestable surplus. Since 2012, annual reported harvest has exceeded 110 moose (**Figure 4**). On Federal public lands, harvest has exceeded 20 bulls/year since 2014. While the number of available Tier II and Federal drawing permits has not changed substantially, hunter success rates have steadily increased since 2006 (**Table 2**).

The significant increase in the 2017 population estimate for the Unit 19A West (Aniak) MSA suggests a parallel increase in the harvestable surplus. At the 2019 winter meeting of the Western Interior Council, the ADF&G area biologist stated that the harvestable surplus is currently 160-165 moose per year while total reported harvest is roughly 150 moose per year (100 from Tier II permits and 50 from Federal permits) (WIRAC 2019). However, low 2016 and 2017 bull:cow ratios in the Unit 19A West (Aniak) MSA indicate few surplus bulls.

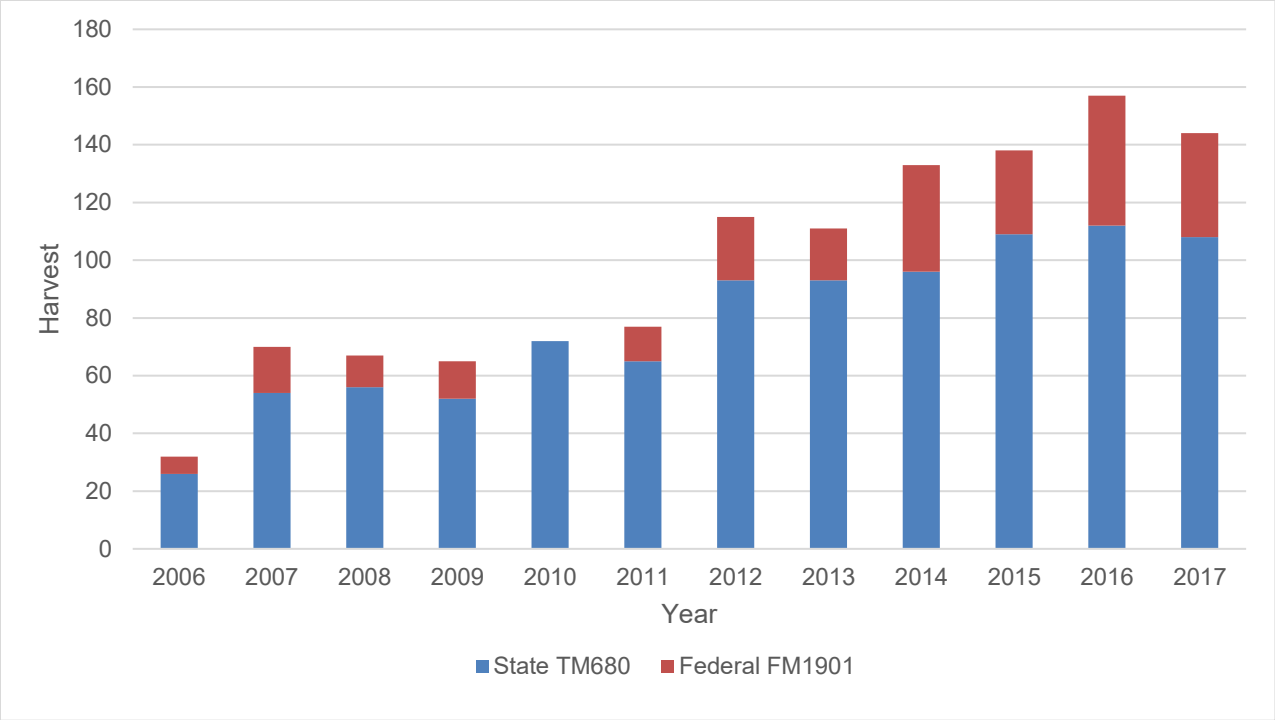


Figure 4. Reported moose harvest in Unit 19A remainder (ADF&G 2018b, OSM 2018).

Table 2. Number of permits issued and success rates for the State Tier II, TM680 hunt and the Federal drawing permit, FM1901 hunt (ADF&G 2018b, OSM 2018).

Year	TM680 Issued	TM680 Success (%)	FM1901 Issued	FM1901 Success (%)
2006	197	13	92	13
2007	227	24	92	25
2008	230	24	97	14
2009	231	23	92	22
2010	200	36	*	*
2011	200	33	72	29
2012	165	47	82	43
2013	222	42	74	32
2014	191	50	92	64
2015	200	55	77	73
2016	197	57	96	65
2017	195	55	96	62
* No data available				

OSM Preliminary Conclusion:

_ maintain status quo
X modify or eliminate the closure

Justification

No change to the closure is currently recommended. While Federal harvest may have exceeded the harvestable surplus on Federal public lands between 2014 and 2016, harvest can be adjusted by the in-season Federal manager who can set the quota, number of available permits, and close the season when the quota is met. While the 2017 moose density estimate for the Unit 19A West (Aniak) MSA increased significantly and is above State management objectives, the density estimate for the entire Unit 19A West hunt area is much lower and just within State management objectives. Additionally, the 2016 and 2017 bull:cow ratios for the Unit 19A West (Aniak) MSA are low, just meeting State management objectives. As moose harvest in Unit 19A West is restricted to bulls only, a robust bull:cow ratio is recommended before relaxing the closure. For these reasons, no change to the closure is recommended at this time.

While Lime Village Management Area is a separate hunt area under State regulations, it is part of Unit 19A remainder under Federal regulations. The §804 analysis (part of Proposal WP07-35) failed to realize this. Currently, residents of Tuluksak, Lower Kalskag, Upper Kalskag, Aniak, Chuathbaluk, and Crooked Creek (§804 communities) can hunt in the Lime Village Management Area while residents of Lime Village cannot. OSM recommends establishing a new hunt area for the Lime Village Management Area or adding Lime Village to the §804 communities. Submittal of a regulatory proposal is necessary to make these changes.

OSM also recommends removing the regulatory language referring to establishing quotas and permit numbers and delegating authority to a Federal land manager to set quotas and permit numbers via a delegation of authority letter only. Creation of a delegation of authority letter for the Federal in-season manager will serve to simplify regulations and allow for management flexibility through adjustment of in-season winter hunt parameters. Submittal of a regulatory proposal is also necessary to delegate authority.

ANALYSIS ADDENDUM

OSM Conclusion:

_ maintain status quo
X modify or eliminate the closure

Modify the closure for WCR20-43 to maintain the closure in the western portion of Unit 19A, eliminate the closure for the Lime Village Management Area, establish seasons, harvest limits, and permit requirements for the Lime Village Management Area hunt area, and remove the regulatory language referring to establishing quotas and permit numbers, and delegate authority to the Yukon Delta NWR manager to set quotas and permit numbers via a delegation of authority letter only (**Appendix 1**).

The modified regulation should read:

Unit 19A—Moose

Lime Village Management Area—2 bulls by State or Federal registration permit ***Aug. 10-Sept. 25***

	Nov. 20-Mar. 31
Unit 19A, remainder—1 antlered bull by Federal drawing permit or a State permit.	*Sept. 1-Sept. 20.*

Federal public lands are closed to the taking of moose except by residents of Tuluksak, Lower Kalskag, Upper Kalskag, Aniak, Chuathbaluk, and Crooked Creek hunting under these regulations.

~~*The Refuge Manager of the Yukon Delta NWR, in cooperation with the BLM Field Office Manager, will annually establish the harvest quota and number of permits to be issued in coordination with the State Tier I hunt. If the allowable harvest level is reached before the regular season closing date, the Refuge Manager, in consultation with the BLM Field Office Manager, will announce an early closure of Federal public lands to all moose hunting*~~

Justification

At the 2019 winter meeting of the Western Interior Council, the ADF&G area biologist stated that ADF&G issues seven Tier II permits within the State's Lime Village Management Area each year. As the harvest limit is two bulls, a maximum of 14 bulls could be harvested each year from this area. However, an average of two bulls per year have been harvested in recent years. He is also not aware of any Lime Village residents utilizing the moose or caribou community harvest system under Federal regulations (WIRAC 2019). However, given the current Federal closure in Unit 19A remainder, residents of Lime Village cannot hunt on Federal public lands within the Lime Village Management Area under the State's Tier II hunt or the Federal community hunt.

The Western Interior Council recommended eliminating the Federal closure for the Lime Village Management Area, but did not specify harvest limits or season dates. The Council did express interest in aligning with State regulations and in maintaining the year-round season and community hunt for Lime Village residents (WIRAC 2019). The proposed harvest limit and seasons for the new Federal hunt area around Lime Village mirror the current State hunting regulations for this area. Additionally, the Lime Village community hunt will not be affected by this modification, except that eliminating the Federal closure will allow moose hunting on Federal public lands within the Lime Village Management Area under both State and Federal regulations.

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SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Western Interior Alaska Subsistence Regional Advisory Council

Modify the closure for WCR20-43. The Council voted unanimously to maintain the current moose hunting closure in the western portion of Unit 19A and to eliminate the closure for the Lime Village Management Area in the southeastern portion of Unit 19A, agreeing with OSM's recommendation. The bull:cow ratio in the western portion of Unit 19A remainder is relatively low, the number of large bulls is fairly depressed, and the harvestable surplus is almost met under the current harvest regime. Thus, the Council supported maintaining the status quo for the closure in this area.

The Council also agreed with OSM's conclusion that including the Lime Village Management Area in the Unit 19A remainder closure was a mistake that should be corrected. The Council expressed interest in aligning Federal regulations with State regulations for the Lime Village Management Area and in maintaining the Lime Village community hunt. Additionally, the Council requested that OSM review the community harvest regulation for Lime Village and report back to the Council at its next meeting.

Yukon Kuskokwim Delta Subsistence Regional Advisory Council

The Council voted to **defer** to the Western Interior Council. The Council hopes to consider this closure again at its Fall 2019 meeting after hearing the Western Interior Council's recommendation.

Appendix 1

Yukon Delta National Wildlife Refuge Manager
U.S. Fish and Wildlife Service
807 Chief Eddie Hoffman Road 346
Bethel, AK 99559

Dear Refuge Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the manager of the Yukon Delta National Wildlife Refuge (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 a wildlife population. This delegation only applies to the Federal public lands subject to Alaska National Interest Lands Conservation Act (ANILCA) Title VIII jurisdiction within Unit 19A remainder for the management of moose on these lands.

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

DELEGATION OF AUTHORITY

1. Delegation: The Yukon Delta NWR manager is hereby delegated authority to issue emergency or temporary special actions affecting moose on Federal lands as outlined under the **Scope of Delegation**. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by Federal regulation at 36 CFR 242.19 and 50 CFR 100.19.

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

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

- To establish annual harvest quotas and number of permits to be issued in coordination with the State Tier I hunt.

- To close the Federal hunt early if the harvest quota is reached before the regular season closing date.

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

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

The Federal public lands subject to this delegated authority are those within Unit 19A 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 provide subsistence users in the region a local point of contact about Federal subsistence issues and regulations and facilitate a local liaison with State managers and other user groups.

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

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

You will immediately notify the Board through the Assistant Regional Director for OSM, and coordinate with the Chair(s) or alternate of the affected Council(s), local ADF&G managers, and other affected Federal conservation unit managers concerning emergency and temporary special actions being considered. You will ensure that you have communicated with OSM to ensure the

special action is aligned with ANILCA Title VIII, Federal Subsistence regulations and policy, and that the perspectives of the Chair(s) or alternate of the affected Council(s), OSM, and affected State and Federal managers have been fully considered in the review of the proposed special action.

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

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

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

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

Sincerely,

Anthony Christianson
Chair

Enclosures

cc: Federal Subsistence Board
Assistant Regional Director, Office of Subsistence Management
Deputy Assistant Regional Director, Office of Subsistence Management
Subsistence Policy Coordinator, Office of Subsistence Management
Wildlife Division Supervisor, Office of Subsistence Management

Subsistence Council Coordinator, Office of Subsistence Management
Chair, Western Interior Alaska Subsistence Regional Advisory Council
Chair, Yukon-Kuskokwim Delta Subsistence Regional Advisory Council
Commissioner, Alaska Department of Fish and Game
Special Assistant to the Commissioner, Alaska Department of Fish and Game
Interagency Staff Committee
Administrative Record

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

SEP 13 2019

OSM 19058.KW

Alissa Rogers, Chair
Yukon-Kuskokwim Delta
Subsistence Regional Advisory Council
c/o Office of Subsistence Management
1011 East Tudor Road, MS 121
Anchorage, Alaska 99503-6199

Dear Chairwoman Rogers:

This letter responds to the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council's (Council) fiscal year 2018 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. Warmer and wet weather effects on the fall moose hunt

The Council discussed the experience of the fall Unit 18 moose hunt on the Kuskokwim River and relayed feedback from communities that warmer weather in recent years is making it difficult to harvest and protect the meat from spoilage during the early part of the season. Cooler temperatures are needed to adequately dry and preserve the meat for the winter. Local observations indicate that increasingly warm and wet weather in the early fall has made it more difficult to locate moose since they tend to be less active in the heat, and high water covers up normally exposed river banks that moose would otherwise frequent. In warmer weather, moose tend to be far up the tributary rivers in the foothills of the Kilbuck Mountains where it is cooler. These headwater areas are far away and difficult for Federally qualified subsistence users to reach, hindering most from hunting moose there during the current season. Shifting the fall moose hunt opening back by two weeks from the current September 1 opening date would allow for a hunt to occur when the weather conditions may be cooler and more conducive to a successful hunt and safe preservation of the meat.

Additionally, the moose population in Unit 19A is growing and expanding into and around the Kalskag area with many cow sightings. Communities in this area of the Kuskokwim have been experiencing very rainy fall weather conditions that make it very difficult to get out and hunt moose. A second moose hunt in November for this area would be beneficial, as the moose population is expanding and weather is more likely to be conducive to a successful hunt.

The Council will pursue these matters to change the moose harvest season dates through the Federal subsistence regulatory process. The Council raises these issues in its annual report so that the Board is aware of these widely shared experiences about impacts to subsistence due to changing weather in order to help build flexibility into the subsistence management process.

Response:

The Board appreciates bringing these valuable observations to its attention. As the Council has noted, the best way to address these concerns is to submit one or more proposals to change the Federal subsistence regulation to the Federal Subsistence Board. Given the coordinated nature of Federal and State moose hunts in the Kuskokwim area, the Council may also consider engaging in the Alaska Board of Game's regulatory process, now or in the future. The Alaska Board of Game will consider regulatory proposals for Units 18 and 19 during their 2019/2020 meeting cycle.

2. <u>Abundance of moose on the lower Yukon River causing habitat decline</u>

Council members who live and hunt on the Yukon River in Unit 18 note the abundance of moose increasing in the region and signs of related habitat destruction, such as trampled berry bushes and over-browsed trees. Moose browse is becoming scarce to support such a large population. Even areas where subsistence greens are traditionally harvested have seen a decline in subsistence plants due to concentrated amounts of moose feces and ammonia from moose urine. The Council is interested in exploring management options for Yukon River moose to ensure the population does not continue to increase and risk further habitat destruction, which could result in a population crash.

Response:

Growth of moose populations can often be limited through careful harvest management. Long seasons, liberal harvest limits and few antler/sex restrictions can all be effective in limiting growth. However, these regulatory conditions already exist along the Yukon River in Unit 18, where the Federal season is nine months long and the harvest limit is two moose. Further liberalization of harvest regulations may not have a significant impact on the growth rate of this population, given the number of moose available for harvest and the relatively limited user base.

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Shifting the harvest toward females, which is possible within the existing regulatory framework, may be somewhat effective in limiting population growth. Female moose have a disproportionate influence on population growth, due to their contribution of calves to the population. In the most recent three years for which harvest information is available (2015 – 2017), fewer than 25 percent of the moose taken in the Unit 18 general season were cows. Encouraging cow harvest may have an effect on population growth in the lower Yukon area.

3. Interest in fisheries research focused on important but lesser studied subsistence fish

The Council discussed the Fisheries Resource Monitoring Program priorities and made recommendations on a wide range of subsistence research topics for the Yukon and Kuskokwim regions. While it is recognized that there is limited funding for all the broad and varied research needs in the region, the Council would like to emphasize the importance of some research to focus on the lesser studied fish species that are important to subsistence.

The Council discussed declines in humpback whitefish and would like to see research on the population, reproduction, and health of spawning habitat for this important subsistence fish. The Council also raised concerns about recent declines in Coho Salmon returns on the Kuskokwim and a need for ongoing monitoring of this increasingly important subsistence fishery. Decline in Coho Salmon numbers raises some alarm, since it has been an important secondary subsistence fish in the fall if subsistence salmon fishing is restricted earlier in the season for Chinook Salmon conservation. The Council requests that surveys be conducted to accurately record the number of Coho Salmon being harvested to compare with Coho Salmon harvest increases after imposing Chinook Salmon restrictions. This will assist with developing run reconstruction statistics. According to the Council's observations, the Coho Salmon run comes later in the year up to freeze up. Therefore, the Council requests that State and Federal governments conduct research at the appropriate time to account for this change.

Last, the Council would like to see research focused on Bering Cisco, which has been a historically abundant and important subsistence fish on both the Yukon and Kuskokwim Rivers, but very little is known about its population and spawning habitat.

Response:

In 2008, a strategic plan was initiated for whitefish in the Yukon-Kuskokwim region though Fisheries Resource Monitoring Program (FRMP) project 08-206. The end product of that project was the report *Whitefish Biology, Distribution, and Fisheries in the Yukon and Kuskokwim River Drainages in Alaska: a Synthesis of Available Information*. The report provided information known about these species, and also noted data gaps for future research needs.

Since 2010, the FRMP has funded the following projects related to whitefish and Sheefish in the Yukon and Kuskokwim drainages:

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- Project 10-209 – Yukon River Commercial Harvest Genetics of Bering Cisco
- Project 10-205 – Kuskokwim River Sheefish Radio Telemetry
- Project 12-200 – Alatna River Sheefish
- Project 12-312 – Highpower Creek Sheefish
- Project 12-313 – Kuskokwim River Bering Cisco
- Project 14-252 – Lower Yukon Whitefish
- Project 14-301 – Kuskokwim River Broad Whitefish
- Project 16-203 – Yukon Flat Bering Cisco Spawning Abundance
- Project 16-303 – Upper Kuskokwim Sheefish Enumeration and Spawning Characteristics

If you would like to obtain a copy of any of these research reports, please give this request to your Council Coordinator.

The FRMP is a Federal grant program for funding research and monitoring that is needed to sustain subsistence fisheries. The best way for the Council to direct research on these species is to identify them in your Priority Information Needs for the FRMP. For the 2020 FRMP Priority Information Needs on the Yukon, two PINs related to Coho Salmon research, one proposal was submitted and one PIN related to Bering Cisco, no proposals were received. For the Kuskokwim region, seven PINs related to salmon research in general, two proposals were submitted for Coho Salmon and two PINs related to whitefish, two proposals were submitted that addressed these PINs.

4. <u>Increasing observations of fish with deformities and disease</u>

The Council is concerned about increasing observations of fish with deformities or indications of disease in both Yukon and Kuskokwim salmon and other species of subsistence-caught fish. Council members have shared pictures of some of the latest examples with fisheries biologists who concur that they had never seen such strange deformities before. The Council would like to see a systematic way to track these observations and be able to submit pictures or send specimens to a lab for pathology testing.

Response:

The Board shares the Council's concern related to the increase in fish with deformities or indications of disease in Western Alaska salmon stocks. There is a program already in place called the Local Environmental Observer (LEO) Network where individuals report unusual environmental events. This can be found online at www.leonetwork.org. It is searchable, and past events such as the early arrival of trumpeter swans in Anchorage in 2019, or fungal infection of Smelt near Bethel in 2018, are recorded.

Residents in rural communities and elsewhere can send their images and detailed observations of fish kills or fish abnormalities, as well as other unusual observations, to a LEO coordinator who then sends this information to agency experts for comments, including the fish pathology labs if

applicable. The State's fish pathology lab can request samples if necessary. Generally, 95 percent of the observations are common problems that do not require processing samples and can be diagnosed by images and descriptions. The State pathology lab also has field guides on fish and shellfish diseases that LEO coordinators can provide to the public. There is a short video provided on the website to learn more about the program and participation.

The State pathology lab also takes direct inquiries from area agency biologists who have received reports of various fish abnormalities. They always request good quality images first and then evaluate whether samples are necessary.

The Board hopes that this information is useful to the Council for future tracking of the uncharacteristic events.

5. Increasing observations of sick and injured seals and other marine life

The Council has concerns about increasing observations of sick and injured seals with blood in the fat and meat as though they had suffered major trauma. Many coastal communities are seeing increasing incidents of seals and other marine creatures washing up on shore, either sick or dead. While the Council recognizes that the marine environment is outside the jurisdiction of the Federal Subsistence Board, marine resources are essential for the life and livelihood of most communities in the region. Seal oil is central to the diet of nearly all communities in the Yukon-Kuskokwim Delta. It is used for dipping dry fish and dry meat, as well as mixing with traditional wild greens and berries for agutak. Seal oil is traded widely for other subsistence foods such as salmon, moose, and caribou. Some coastal communities are seeing a shift in the migration of salmon through marine waters where they have fished for generations. The Council requests support from the Federal Subsistence Management Program to get more information on changes to critical marine resources—what is causing these injuries and illnesses to marine life, and what can be done to mitigate the impacts to subsistence communities.

Response:

The Board appreciates hearing Council observations about all subsistence species and environmental changes effecting subsistence resources and activities. Management of marine mammals is outside the jurisdiction of the Board; however, the Federal Subsistence Management Program can facilitate connections with other agencies that can directly address sick and injured marine mammals. Your Council Coordinator has reached out to marine mammals experts at the National Oceanic and Atmospheric Administration (NOAA) and the National Marine Fisheries Service (NMFS) and they have responded with information and offered to attend your next meeting to hear reports about marine mammal observations and answer questions. NOAA indicated that while they received many reports of sick or dead seals from the North Slope and Bering Strait regions, they have not yet received reports from the Yukon-Kuskokwim Delta region and are very interested to engage with communities in the region on this issue. A more detailed response from the Marine Mammal Stranding biologists and procedures for submitting

samples from subsistence caught animals is attached as an enclosure to this letter. NOAA and NMFS are not able to address human health concerns associated with subsistence food consumption but other agencies can. The Alaska Native Tribal Health Consortium (ANTHC) Food Security and Contamination Support Program is one such group that can provide testing of subsistence foods and assist with guidelines and support for continuing to eat healthy traditional foods. More information and contacts for this ANTHC program are also enclosed.

6. Elders teachings and the story about famine

Council member David Bill, Sr. of Toksook Bay shared a story about the teachings of his elders and their observations about the changing environment. The Council shares this story to help convey to the Board and others to be aware of what the changes in the environment and shifting animal populations may foreshadow.

During his childhood in Hooper Bay and Nelson Island, David was taught that when a famine is about to begin the fish will swim in areas where they are not normally present and animals will start to go where they do not normally roam. He was told when trees start to appear and moose and caribou become abundant and come into coastal areas (not their normal habitat) that a famine will follow. Then animal numbers will decrease and go underground for a while.

Now an elder himself, David has seen a lifetime of changes to the environment and the weather. He shared his observations of changing habitat, shifting animal migrations, and changing weather. Even the stars they rely on for navigation are changing. He further recounted how his grandmother used to say "poor you, you're still alive to see all these changes and even the weather is changing." David concluded; however, that even though the older generations have been gone and so many changes are happening to the land and sea and air, if people care for one another and live within traditional Yup'ik values they will be able to continue to live their subsistence way of life. It is important to remember that according to traditional Yup'ik values, one should respect subsistence resources and "not play with them," otherwise they will be diminished.

Response:

The Board values awareness of changes on the land and how these changes could affect the future. Knowing that Yup'ik cultural traditions are based on thousands of years of observation, and many people have first-hand knowledge of food shortages; the Board is grateful for the knowledge and wisdom shared by each Council member and encourages the Council to continue to educate staff and the public by offering these observations.

7. Engaging youth in subsistence management

The Council has enjoyed working with students, and hearing their reports about internship experiences through the Alaska Native Science and Engineering Program (ANSEP) and the Fisheries Resource Monitoring Program. The Council would like to further engage with local

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students at the grade school and high school levels to hear their observations and subsistence concerns and then work with them to address them. Young people need to be taught and encouraged to get involved in subsistence management.

The Council would like to share with the Board two success stories of the young people being involved with the Council and subsistence management at an early age. Alissa Nadine Rogers, the current Council Chair, was brought as a little girl to many Council meetings by her grandfather John Hanson and was able to learn how to advocate for the moose moratorium when she was as young as 9 years old. Growing up, she continued taking interest in management issues and eventually graduated from the ANSEP. Soon thereafter, the late Greg Roczicka, Yukon Kuskokwim Delta RAC Vice Chairman, became Ms. Rogers' mentor and taught her about the laws and regulation process. Then, Ms. Rogers became an intern with ONC Fisheries and learned about weirs, fishwheels, tagging/recapture, sonars, water quality, ecology, juvenile salmon studies, and science and culture camps with ADF&G and USFWS. Aaron Moses, Subsistence Specialist for the Yukon Delta National Wildlife Refuge, is another example of successful engagement of youth in subsistence management. Mr. Moses was an ANSEP graduate as well and worked as an intern with USFWS, which built a foundation for him to continue his career in subsistence management.

The Council requests the assistance of the Federal Subsistence Management Program staff to engage with local schools and help facilitate more in-depth youth involvement with the Regional Advisory Council meetings and Federal subsistence regulatory proposal development process.

Response:

The Board agrees on the value of youth participation in the Federal Subsistence Management Program (FSMP). Several Federal Subsistence Regional Advisory Councils (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.

In September 2018, OSM's Tribal Liaison held a video conference with a class in Dillingham High School to introduce OSM staff to students and discuss the Federal Subsistence Management Program. OSM would be happy to set up similar video or teleconferences in the Yukon-Kuskokwim Delta (Y-K Delta) region in the future. Additionally, with the Council's input, OSM staff could reach out to specific Y-K Delta region schools and invite teachers to encourage class participation in the Federal Subsistence Management Program and practice with proposal or comment development in conjunction with the Council meeting. Staff could also send notices to schools announcing the calls for proposals to change Federal Subsistence regulation, or upcoming Council meetings. At the Council's request, the Council Coordinator can make arrangements to add time to future Council meeting agendas to hear from local high school or grade school students. The Council members can also play a role in making those

invitations and connections with youth. The Program can help facilitate student engagement with the Council through in person attendance when possible or by teleconference to hear their ideas and answer questions about getting involved in the FSMP.

OSM's Subsistence Outreach Coordinator is available to work with the Y-K Delta Council Coordinator to assist in coordinating specific outreach projects, and can provide outreach materials upon request. The Board also encourage youth to visit the FSMP website (www.doi.gov/subsistence), or follow the FSMP Facebook page (www.facebook.com/subsistencealaska), to learn more about the program.

8. Need for full and balanced membership on the Council

The Council is very concerned about the number of vacancies created due to the lack of sufficient Council appointments in 2017. Most importantly, the Council lost a lifetime of knowledge and experience when four incumbent Council members were not reappointed to serve another term. The Yukon-Kuskokwim Delta Subsistence Regional Advisory Council serves a large and diverse region with over 40 communities and several of the largest rivers and coastal deltas in both size and importance for subsistence fishing. The Council cannot adequately represent the many communities of the region and address resource management on the diverse subsistence hunting and fishing issues from the Yukon to the Kuskokwim, Kenektok, and Goodnews Rivers and Deltas and everything in between without a full membership of the 13-seat Council. The Council desperately needs a balanced membership and representation from throughout the region. The complexity of fisheries management on the Yukon and Kuskokwim Rivers in particular truly requires having representatives who are residents of at least several villages along each river in order to adequately inform the Council's recommendations. The Council wishes to convey to the Board and Secretaries the great loss and importance of having the expertise, knowledge and leadership when so many incumbents were not reappointed last year. The Council requests the Board's support to ensure ample outreach in the region to recruit a balance of applications from the 41 villages and to ensure that the Secretary of the Interior appoints highly qualified applicants in a timely manner.

Response:

The Board acknowledges the Council's concerns regarding its membership and vacancies and wants to remind the Council about the Nominations process. Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA) provides rural residents who have personal knowledge of local conditions and requirements the opportunity to actively participate in subsistence management. Title VIII of ANILCA established the Federal Subsistence Regional Advisory Councils (Councils) to ensure participation. The work of the Councils is guided by the purpose of the statute—specifically to provide a priority for rural subsistence users.

All of the Councils were established under the Federal Advisory Committee Act (FACA), which requires that all Federal committees have a membership that is "fairly balanced in terms of points

of view and functions." This means that the residents of each region with knowledge of fish and wildlife resources, subsistence uses, and commercial and sport uses must be fairly represented on the Councils. Therefore, the Board's goal is to seat seventy percent subsistence use representatives and thirty percent commercial or sport use representatives on each Council.

The Office of Subsistence Management (OSM) provides administrative support to the Councils' member selection process. The process is composed of multiple stages and takes about sixteen months to complete. The process begins in the early fall of each year with a public notice that the Board is accepting applications and nominations to serve three-year terms on the Councils. The call for applications and nominations is typically open four to five months and is accompanied by an extensive outreach effort through public newspaper and radio announcements, mass mailing and distribution of the applications, and targeted outreach regarding this opportunity with key contacts in the regions.

The second stage of the process begins upon receipt of the applications by OSM when an independent group of panelists conducts interviews of the applicants and their references and prepares Nomination Panel reports for the Interagency Staff Committee (ISC) recommendations to the Board. The Board considers all the information and ISC recommendations before making its recommendations to the Secretaries of the Department of the Interior and Department of Agriculture. The Secretary of the Interior's office reviews the nominations packet, which includes each applicant's information, and oversees the vetting process. Upon the completion of the latter, the Secretary of the Interior makes appointments with the concurrence of the Secretary of Agriculture.

The Board wants to assure the Council that when it makes its recommendations, it will take into consideration the Council's request to have a balanced membership and representation from the Yukon and Kuskokwim areas. However, the Board notes that the appointees selection process largely depends on the number and diversity of applications received from the region and on the results of the vetting process by the office of the Secretaries of the Interior and Agriculture. The Board fully supports extensive outreach efforts in the region to get a diverse applicant pool.

In closing, I want to thank you and your Council for your 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 am confident that the subsistence users of the Yukon-Kuskokwim Delta Region are well represented through your work.

Sincerely,

Anthony Christianson
Chair

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Enclosures

cc: Federal Subsistence Board
Thomas Doolittle, Acting Assistant Regional Director, Office of Subsistence Management
Thomas Whitford, Acting Deputy Assistant Regional Director
Office of Subsistence Management
Jennifer Hardin, PhD, Subsistence Policy Coordinator, Office of Subsistence Management
Steven Fadden, Acting Council Coordination Division Supervisor,
Office of Subsistence Management
Chris McKee, Wildlife Division Supervisor, Office of Subsistence Management
Greg Risdahl, Fisheries Division Supervisor, Office of Subsistence Management
George Pappas, State Subsistence Liaison, Office of Subsistence Management
Eva Patton, Council Coordinator, Office of Subsistence Management
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council
Benjamin Mulligan, Deputy Commissioner, Alaska Department of Fish and Game
Mark Burch, Special Project Coordinator, Alaska Department of Fish and Game
Interagency Staff Committee
Administrative Record

2018 Email reply from Mandy Migura, Marine Mammal Stranding Coordinator, NOAA.
mandy.migura@noaa.gov

The National Marine Fisheries Service (NMFS) and multiple partners have been monitoring seals in Alaska (primarily the Arctic and Bering Strait regions, but also some seals from the Yukon-Kuskokwim region) for several years that have been observed with similar symptoms as you described. In 2011 there was a large number of seals (mostly ringed) and walrus observed with these and other symptoms, with elevated numbers of dead animals reported. That prompted our agency to declare an official Northern Pinniped Unusual Mortality Event (UME) for ice seals and walrus in December 2011, and a team of experts was convened to investigate the situation. In 2014 it was determined that walrus would be removed from the UME investigation due to a lack of new cases. We are still receiving report of ice seals with patchy fur loss, skin sores on the flippers or face, and some animals exhibiting unusual behavior (such as allowing humans to approach closely). However, we are not receiving reports of the elevated mortality levels like those observed in 2011, and we are now in the process of compiling the data into a report and recommending that the UME event be closed. The information will be submitted to the Working Group on Marine Mammal Unusual Mortality Events, and they will review the data and decide if the UME should be closed or remain open.

NMFS and our partners have developed fliers, fact sheets, and news releases regarding this UME; many of those documents have been posted on our NMFS Alaska Region website. Below I have included links to where those documents can be viewed, as well as a link to our national webpage which explains the UME process and what it means. We would appreciate it if you could help circulate this information (especially the fliers, fact sheets, and news releases) to interested community members in an effort to help answer some of their questions and concerns. I do note that NMFS is not a public health agency, and while we do collect and share information on the health of the marine mammals, our agency does not provide advice regarding human consumption of marine mammals.

What is an Unusual Mortality Event (UME), and other UME program topics: http://www.nmfs.noaa.gov/pr/health/mmume/events.html

Information about the Alaska Ice Seal UME from NMFS and partners (you will need to click the tab labeled "Diseased Ice Seals"): https://alaskafisheries.noaa.gov/pr/ice-seals

https://www.fisheries.noaa.gov/alaska/marine-life-distress/diseased-ice-seals

Thank you and I hope this information is helpful,
Mandy

Mandy Migura
Marine Mammal Stranding Coordinator
Cook Inlet Beluga Whale Recovery Coordinator
NOAA Fisheries, Alaska Region, Protected Resources Division
mandy.migura@noaa.gov
907-271-1332
AK Stranding Hotline: 877-925-7773

Spring 2019 email response from Barbara Mahoney, Marine Mammals Biologist, NOAA. barbara.mahoney@noaa.gov

If you see sick, injured, or beached dead marine mammals:

IF beached marine mammals are sick, alive or dead, then NMFS would like to know. Lots of pictures, especially of the injury and/or sickness, is best.

IF subsistence hunted animals are sick (dead), then NMFS would like to know. Hunters can take lots of pictures, provide tissue samples from the area that hunters are concerned: 1) bloody blubber and/or 2) trauma bones, muscles, organs, etc.

Everyone can call our NMFS stranding hotline at: 877-925-7773.
Everyone can send/text pictures with minimal information to: barbara.mahoney@noaa.gov and/or kate.savage@noaa.gov

Please include your name and contact information, date, location, species, and what is not normal (behavioral or physical difference).

If you wish to provide tissue samples Barbara Mahoney has provided the guidelines for shipping samples to NOAA free of charge and a full detailed instruction and forms can be provided to the Council to help get the information out to communities in the region.

Alaska Native Tribal Health Consortium Food Security and Contamination Support Program. https://anthc.org/what-we-do/community-environment-and-health/brownfield-contaminated-sites/climate-change-food-security/

Food Security

Studying the connection between changes in our environment and traditional food and water sources

Food Security
(907) 729-4008
(907) 729-4043

Many individuals and families in Alaska rely on subsistence activities for food and nutrition. The warming climate is causing changes to our environments, which impact traditional food and water sources. Strong oceanic and atmospheric currents worldwide transport chemicals, pesticides and contaminants that are produced, used and disposed of at lower latitudes to the waters in the Arctic. These contaminants eventually enter the food chain and make their way to wildlife species that are our traditional food sources.

To address these concerns, ANTHC's Community Environment and Health program offers training through the 7 Generations Education Program. It also provides sampling and monitoring of water sources and traditional foods for contaminants and disease causing microorganisms using two different monitoring programs:

Rural Alaska Monitoring Program (RAMP)

The Rural Alaska Monitoring Program is an EPA grant funded monitoring program, operated by ANTHC in partnership with Kawerak, Inc. and the communities of the Bering Strait region. RAMP provides training to residents who wish to participate in testing their subsistence-harvested marine and land mammals and traditional water sources for wildlife infections that might be a risk. Communities can elect to participate and submit a resolution requesting to participate in the RAMP study.

Maternal Organics Monitoring Study (MOMS)

In response to a concern of the people from the Yukon-Kuskokwim Delta Region, the Maternal Organics Monitoring Study was developed to determine contaminants present in residents that regularly consume traditional foods. It is a monitoring study aimed at Alaska Native mothers and their newborn infants who are most likely to be exposed through a subsistence diet. The results of the MOM Study also show the benefit of the nutrients in the traditional diet and their health benefits to mothers and infants.

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**

WP20–32/33 Executive Summary	
General Description	WP20-33 requests that the Federal moose hunt area in the portion of Unit 18 south of and including the Kanektok River drainages to the Goodnews River drainage be enlarged to match the existing State hunt area boundary. The existing Federal hunt area consists of Federal public lands south of and including the Kanektok River to the Goodnews River drainage. The proposed addition consists of Federal public lands between the Kanektok and Eek River drainages. WP20-32 requests that the Federal public lands closure within this hunt area be rescinded and that a Federal season be established. *Submitted by: Togiak National Wildlife Refuge*
Proposed Regulation	**Unit 18—Moose** *Unit 18—south of ~~and including the Kanektok River drainages to~~* ***the Eek River drainage and north of*** *the Goodnews River drainage****—1 antlered bull by State registration permit****.* — ~~*No open season*~~ ***Sep. 1 – Sep. 30*** ~~*Federal public lands are closed to the taking of moose by all users*~~ *Unit 18, remainder—2 moose, only one of which may be antlered. Antlered bulls may not be harvested from Oct. 1 through Nov. 30* — *Aug. 1 – Apr. 30*
OSM Preliminary Conclusion	**Support**
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	**None**

DRAFT STAFF ANALYSIS
WP20-32/33

ISSUES

Proposals WP20-32 and WP20-33 were submitted by the Togiak National Wildlife Refuge (Refuge). WP20-33 requests that the Federal moose hunt area in the portion of Unit 18 south of and including the Kanektok River drainages to the Goodnews River drainage be enlarged to match the existing State hunt area boundary. The existing Federal hunt area consists of Federal public lands south of and including the Kanektok River to the Goodnews River drainage. The proposed addition consists of Federal public lands between the Kanektok and Eek River drainages (**Figure 1**). WP20-32 requests that the Federal public lands closure within this hunt area be rescinded and that a Federal season be established.

DISCUSSION

Currently, the hunt area that includes the Kanektok drainage of Unit 18 is different in State and Federal regulation. The State hunt area encompasses the entire area between the Eek River drainage to the north and the Goodnews River drainage to the south. Most of this area is drained by the Kanektok and Arolik Rivers. However, the northernmost portion of the hunt area is drained by several smaller creeks that are not part of the Kanektok watershed, including Kuskokwak and Tungak Creeks (**Figure 1**). The Federal hunt area excludes these drainages. Rather, these drainages are a noncontiguous portion of the Federal Unit 18 remainder moose hunt area, which occurs in northern Unit 18 and includes the lower Yukon River, where moose abundance is very high and season and harvest limits are liberal. WP20-33 requests that the Federal Kanektok/Arolik hunt area be enlarged to include these minor drainages, consistent with the State's hunt area.

WP20-32 requests that, within this newly described hunt area, the Federal public lands closure be rescinded, and a Sep. 1 – Sep. 30 season be opened with a harvest limit of 1 antlered bull by State registration permit. The Refuge notes that recent surveys show that the moose population within the Kanektok and Arolik drainages has increased significantly since 2013. The Refuge believes that the proposed changes will not have a negative impact on the moose population in the area. They also note that the changes will result in alignment of State and Federal regulation, which will allow Federally qualified subsistence users to hunt moose throughout the hunt area with a single permit, regardless of land status.

Proposal WP20-32/33 is also associated with a Wildlife Closure Review (WCR20-40), which reviewed the current closure of Federal lands to moose hunting by all users. This closure review was considered by the Yukon Kuskokwim Subsistence Regional Advisory Council at its Spring 2019 meeting.

Existing Federal Regulation

Unit 18—Moose

Unit 18—south of and including the Kanektok River drainages to the Goodnews River drainage.	*No open season*
Federal public lands are closed to the taking of moose by all users	
Unit 18, remainder—2 moose, only one of which may be antlered. Antlered bulls may not be harvested from Oct. 1 through Nov. 30	*Aug. 1 – Apr. 30*

Proposed Federal Regulation

Unit 18—Moose

Unit 18—south of ~~and including the Kanektok River drainages to~~ ***the Eek River drainage and north of*** *the Goodnews River drainage****—1 antlered bull by State registration permit****.*	*~~No open season~~* ***Sep. 1 – Sep. 30***
~~Federal public lands are closed to the taking of moose by all users~~	
Unit 18, remainder—2 moose, only one of which may be antlered. Antlered bulls may not be harvested from Oct. 1 through Nov. 30	*Aug. 1 – Apr. 30*

Existing State Regulation

Unit 18—Moose

Residents: Unit 18—south of the Eek River drainage and north of the Goodnews River drainage— one antlered bull by permit available in Quinhagak Aug. 1 – Sep. 30.	*RM617*	*Sep. 1 – Sep. 30*
Nonresidents: Unit 18—south of the Eek River drainage and north of the Goodnews River drainage		*No open season*

Extent of Federal Public Lands/Waters

Federal public lands comprise approximately 79% of the existing Kanektok/Arolik moose hunt area, and consist of 69% U.S. Fish and Wildlife Service (USFWS) managed lands and 10% Bureau of Land Management managed lands. Federal public lands comprise approximately 87% of the proposed addition (the area including the Kuskokwak and Tungak Creek drainages), all of which are managed by USFWS (**Figure 1**).

Customary and Traditional Use Determinations

Residents of Unit 18 and Lower Kalskag and Upper Kalskag have a customary and traditional use determination for moose in Unit 18 remainder.

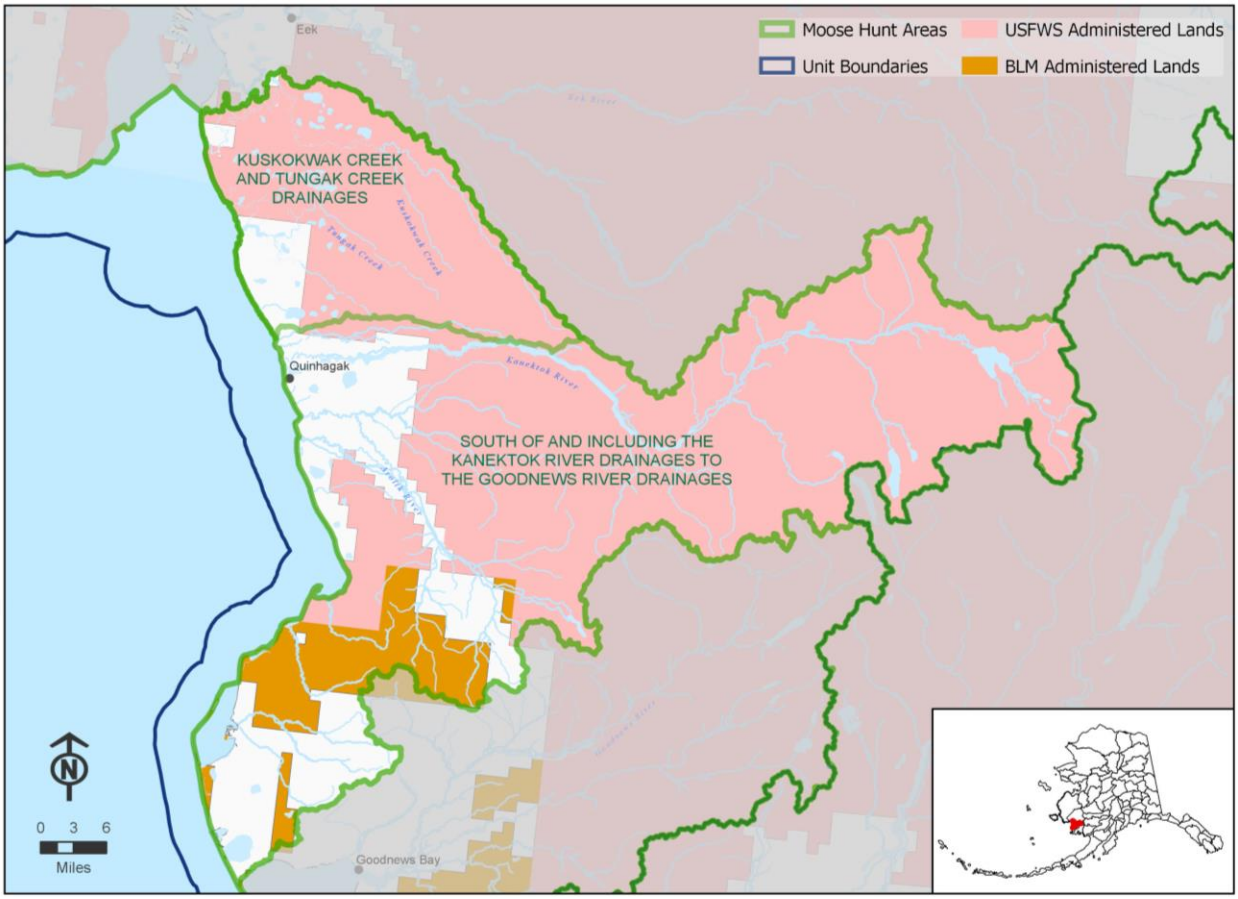

Figure 1. The existing Federal hunt area includes only the area south of and including the Kanektok River drainage to the Goodnews River drainage. This proposal requests the addition of the area including the Kuskokwak Creek and Tungak Creek drainages to the existing Federal hunt area. These minor drainages are currently a noncontiguous portion of the Unit 18 remainder hunt area.

Regulatory History

Federal public lands in this hunt area have been closed to the harvest of moose since 1991. That year, the Federal Subsistence Board (Board) considered Proposal P91-124, submitted by the Refuge. Proposal

P91-124 requested that the regulations for portions of Unit 18 in the Kanektok and Goodnews river drainages be consolidated with the regulation for the lower Yukon hunt area, which had no open moose season at that time. The Refuge believed that closing the season was necessary to allow for the establishment of a harvestable moose population in the Kanektok/Goodnews area. The Board adopted this proposal with modification to close Federal public lands to moose harvest throughout Unit 18.

Separate regulations were established for the Kanektok/Goodnews hunt area and the lower Yukon hunt area in 1994, when Proposal P94-45 was adopted by Board. This proposal initiated a moose season in the lower Yukon hunt area, but Federal public lands in the Kanektok/Goodnews River hunt area remained closed.

In 1998, as a result of the Board's adoption of WP98-63, the hunt area descriptor for the Kanektok/Goodnews area was modified to include the portion of Unit 18 "south of and including the Kanektok River drainage". The change clarified that the hunt area included the Arolik River drainage, which is located between the Kanektok and Goodnews drainages, as originally intended. It did not address the minor drainages north of the Kanektok drainage, which remained part of the lower Yukon hunt area.

In 2008, the Board considered WP08-34, which requested that a season be established in the southern portion of the Kanektok/Arolik/Goodnews hunt area. The Board adopted the proposal with modification and established the contemporary Federal hunt areas. In the portion of Unit 18 in the "Goodnews River drainage and south to the Unit 18 boundary", the Federal public lands closure was rescinded and a season was established. In the portion of Unit 18 "south of and including the Kanektok River drainages to the Goodnews River drainage", the closure was retained. The Board's action followed a 2005 decision by the Alaska Board of Game (BOG) on Proposals 21 and 22 to similarly create two distinct hunt areas; the portion "south of and including the Goodnews River drainage" and the portion "south of the Eek River drainage and north of the Goodnews River drainage". While the boundary dividing the two hunt areas was identical in State and Federal regulation, discrepancies persisted in the Kanektok/Arolik hunt areas due to the existing exclusion of the minor drainages north of the Kanektok River drainage in Federal regulation.

There have been two previous attempts to establish a Federal moose season in the Kanektok/Arolik hunt area. Proposal WP10-61 and special action request WSA14-01 were both submitted by the Native Village of Quinhagak IRA Council. Each requested the establishment of a Sep. 1 – Sep. 30 moose season with a harvest limit of one antlered bull by State registration permit. However, these requests were rejected due to ongoing conservation concerns.

The existing Sep. 1 – Sep. 30 State resident season has been in place since 2005 and has been limited to one antlered bull since 2006.

Current Events Involving the Species

As outlined in the Board's closure policy (**Appendix 1**), closures should be rescinded as soon as practicable when the conditions that originally justified the closure no longer exist. The Federal public

lands closure in the Kanektok/Arolik hunt area was reviewed in 2018 with WCR20-40 (formerly identified as WCR18-40). At their March 12 – 13, 2019 meeting, the Yukon Kuskokwim Delta Subsistence Regional Advisory Council (Council) supported opening Federal public lands only to Federally qualified subsistence users.

At their March 14 – 19, 2019 meeting, the BOG adopted Proposal 150, which requested that a registration permit be required for the State moose hunt in the Kanektok/Arolik hunt area, rather than the existing harvest ticket. The proposal, submitted by the Alaska Department of Fish and Game (ADF&G), was one of a series of coordinated regulatory requests made to the Federal and State boards related to this hunt area. In addition to Proposal 150, these requests include Temporary Special Action Request WSA19-01 and Wildlife Proposal WP20-32/33. The latter two requests were submitted by the Refuge and asked that the Kanektok/Arolik Federal moose hunt area be enlarged to match the existing State hunt area boundary, that the Federal public lands closure within this hunt area be rescinded, and that a Federal season be opened.

On July 10, 2019, an ANCSA corporation consultation, a Tribal consultation, and a public hearing were held in Quinhagak to gather feedback on WSA19-01. Quinhagak is the sole community within the Kanektok/Arolik moose hunt area, though residents of neighboring communities of Eek and Goodnews Bay likely hunt there too.

There were no corporation representatives present for the ANCSA corporation consultation. However, OSM staff were invited to meet informally with the CEO and several board members of Qanirtuuq Inc. following the formal consultation. During this discussion, corporation representatives expressed some concern with the special action request. They noted that the popularity of the Kanektok River among sport anglers has impacted river banks. They were concerned that opening Federal land may result in an influx of non-local users that could exacerbate these impacts, including on corporation lands. They also expressed concern about the potential for increased air traffic, and the possibility that an increase in sport hunting may ultimately harm subsistence users if harvest quotas are met early.

The Tribal consultation with the Native Village of Kwinhagak was well attended, with the Tribal Administrator and eight Tribal Council members present. In addition to OSM staff, Togiak National Wildlife Refuge biological staff were also present for the discussion. Questions from Tribal Council members prompted discussion about the status of moose in the area, the geographic limits of the proposed hunt, and potential effects on subsistence users from neighboring communities, specifically residents of Eek. There was also a discussion, with staff and among Tribal Council members, about the implications of using a State registration permit for the proposed Federal hunt. Because this fall will be the first year that the State's registration permit will be implemented, there was some confusion about what the requirements for that hunt will be, and how those requirements would change with the addition of a Federal hunt. Though the Tribal Council did not offer a formal position, several individuals representing their own position expressed support for the special action request. Overall, comments included general support for more opportunity for the community to hunt moose in the area and to put food on the table. The Tribal Council members expressed appreciation for the information and for the opportunity to discuss the proposal. They also noted that if the Temporary Special Action is approved, there will be additional

opportunities to make recommendations on any needed adjustments when the associated wildlife regulatory proposal is considered.

The public hearing was held in the evening, with 22 members of the public attending in-person and one joining by teleconference. In addition to OSM and Refuge Staff, ADF&G biological staff were also present. Prior to opening the floor for public comment, there was a general discussion about hunting requirements. Echoing the Tribal Consultation, much of the discussion was focused on licensing and permitting requirements for hunting under the new State permit. One notable point that came from this discussion is that the State's Area Biologist has the discretion and willingness to expand distribution of State registration permits. This ameliorates one concern with the special action request—that residents of Eek, who have C&T for a Federal hunt in this area, would have to travel to Quinhagak to secure permits to hunt in drainages that are relatively close to their community.

Federal and State staff fielded several questions about allowances for proxy or designated hunts, as well as funerary hunts. There were also enquiries about how enforcement pressure was expected to change, given the new State permit and, potentially, a Federal hunt. There were several questions related to private lands such as Native Allotments and Alaska Native Corporation lands, including those that are inholdings within Federal public lands. This discussion focused on which regulations were applicable on these lands and whether it would change in the fall. This was a particular concern for Qanirtuuq Inc., which has allotments along the Arolik River corridor. The community of Quinhagak is familiar with the impact of sport and commercial activity on local resources, given the popularity of the Kanektok River among anglers and rafters, and they are cautious about inviting an additional influx of non-locals.

Among participants who spoke during the public comment portion of the meeting, there was support for the special action request. Participants noted that they have seen the moose population increase and that opening Federal lands would provide additional opportunities for Federally qualified subsistence users. One individual noted that this regulatory change would allow local hunters to hunt in the uplands in areas where the river is bounded by Federal lands, rather than be restricted to State-managed gravel bars. He also noted that having the same permit to hunt on Federal and State lands would allow for a seamless moose hunt during the established season, minimizing regulatory complexity. Some supporters suggested that the Federal hunt could be opened early, or that a winter hunt could be established if the moose population supported additional hunting opportunity. One teleconference participant from the Native Village of Eek said that the community has seen the moose population go up in their area. She noted that they mostly see residents of Eek and Quinhagak hunting along the river, along with a few hunters from Tuntutuliak. The Eek representative expressed her personal support for the proposal based on what she heard from the discussion, but did not offer a formal comment from the Tribe.

On August 15, 2019, the Board adopted Temporary Special Action WSA19-01 with modification to delegate authority to the manager of the Togiak National Wildlife Refuge to close Federal public lands to non-Federally qualified users if warranted. The Board noted that the action unifies State and Federal hunt area boundaries and regulations, decreasing confusion among subsistence users and enabling them to use a single permit regardless of land status. Rescinding the Federal public lands closure increases the land available for Federally qualified subsistence users, increasing their subsistence opportunity. The

Board acknowledges that, while its action also increases opportunity for non-Federally qualified users, non-local participation will likely be limited by local distribution of State registration permits. The Board believes that this decision is biologically appropriate and was made in accordance with the Board's closure policy. The modification to delegate authority to the Federal manager to close Federal public lands to non-Federally qualified users ensures that a Federal subsistence priority can be provided, if needed.

In their deliberations, the Board expressed concern about disenfranchising residents of Eek, who may have to travel to Quinhagak to obtain the required State registration permit. Follow-up communications with ADF&G confirmed that permits for RY2019-20, the period covered by the special action, had been distributed in Eek. However, for this practice to continue in future years, it would need to be endorsed by the BOG. There is an opportunity for this to occur in January 2020, when the BOG convenes in Nome for their Western/Arctic regulatory meeting.

Biological Background

Prior to the early 2000s, moose were not commonly observed in southern Unit 18. Early population growth is attributed to emigration from adjacent Unit 17A, with high calf recruitment sustaining growth (Aderman 2014). Minimum population counts, obtained by the Refuge as part of their Refuge-wide moose monitoring program, show substantial recent growth of the moose population in this area (**Figure 2**). In 2002, only 3 moose were observed in the Kanektok and Arolik drainages. More than 10 moose were observed for the first time in 2012, and at last count, in 2018, 173 moose were observed (Aderman 2018, pers. comm.). This represents a 42% annual growth rate between 2013 and 2018.

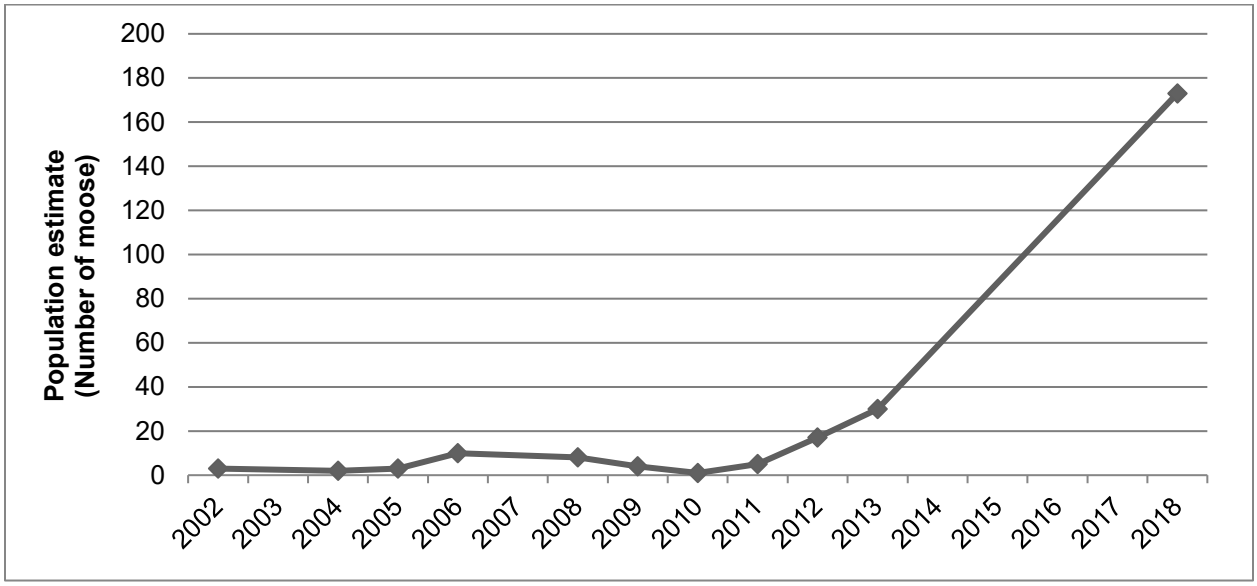

Figure 2. Estimated moose population size (minimum count) in the Kanektok and Arolik river drainages, 2002 – 2018 (Aderman 2014, Aderman 2018, pers. comm.).

Recent composition surveys showed that there were 48 bulls:100 cows in 2016 and 43 bulls:100 cows in 2017. These surveys showed 41 calves:100 cows in 2016 and 29 calves:100 cows in 2017. Refuge

biologists believe that these estimates are likely biased high for bulls and biased low for calves (Aderman 2019, pers. comm.)

Recent growth of the Kanektok/Arolik moose population is similar to that previously exhibited by the Unit 17A and Goodnews River moose populations. In these areas, early surveys revealed few to no moose. Then, over a period of several years, the population increased rapidly and now supports harvest on both Federal and State managed lands. The population in the Goodnews hunt area, in particular, may provide context for understanding when it is appropriate to modify the Federal public lands closure in the Kanektok/Arolik hunt area, given similarities in size, location, land status, and human population size. In the Goodnews hunt area, State and Federal seasons were established in 2008, when the population exceeded a threshold of 100 moose. Subsequent population growth was sufficient to establish may-be-announced winter seasons in 2017 and 2018. This appears to validate that the timing for initiating harvest was not premature in the Goodnews hunt area.

Cultural Knowledge and Traditional Practices

Over 20,000 rural residents, Federally qualified subsistence users, live in communities throughout Unit 18. The focus of this section is Federally qualified subsistence users harvesting moose in both the existing Federal hunt area and the proposed addition.

Quinhagak

Quinhagak is situated along the Kanektok River near the Bering Sea coast. About 700 people are residents of Quinhagak, the majority with Yup'ik cultural heritage (Ikuta et al. 2016). Quinhagak is the only community within the hunt area. Quinhagak residents hunt for moose primarily in this area because of its close proximity and accessibility by boat, for example up the Kanektok River drainage where myriad historical hunting, trapping, and fishing camps exist.

Wolfe et al. describe moose hunting patterns and locations used by Quinhagak residents in 1983: "From September through October, groups of three to six hunters go by skiffs on hunting trips up the Kanektok and Eek rivers in search of moose, brown bear, squirrel and beaver. Hunting trips last several days to several weeks. Hunters operate from traditional camps and tend to be mobile" (1984: 322–323). Wolfe et al. also note that residents of Quinhagak occasionally harvest moose during the winter (November–March) in the general area of the headwaters of the Kisaralik, Kanektok, Arolik, and Togiak Rivers (Wolfe et al. 1984: 326).

More recently, in 2013, Ikuta et al. described a Quinhagak hunting party of three people travelling inland by boat, setting up camp, and continuing on foot. Hunters recount collecting from a harvested moose, in addition to meat, the tongue, fat surrounding the gut, heart, liver, kidneys, and arteries. The moose was shared widely in Quinhagak (Ikuta et al. 2016:131–132).

Subsistence Harvest History

Residents of Quinhagak and nearby Eek and Tuntutuliak have documented their moose search and harvest areas, marking up maps to show areas where they harvested or searched for moose in 2013. Quinhagak residents searched and harvested moose "in areas as far north as the Yukon River and as far south as the Goodnews Bay area" (Ikuta et al. 2016:145). Quinhagak moose search and harvest areas included the Kanektok River drainage, and also middle and upper Kwethluk and Eek River drainages. In 2013, Eek and Tuntutuliak search and harvest areas did not extend into the existing or proposed hunt areas. A sample of households in each community completed mapping exercises describing their search and harvest areas for a one year period, and search and harvest areas likely extend beyond those reported by these households.

Ikuta and others describe harvest patterns in 2013:

> For moose, September was the most intense harvest period for Quinhagak residents. Of a total of 42 moose, 36 were harvested during this month. Two moose were harvested in the month of February. The month or months in which 4 moose were harvested were unknown. Of the moose harvested in September, 31 were bull moose, 5 were unknown, and no cow moose were reported. Quinhagak hunters did harvest 2 cow moose in February (Ikuta et al. 2016:132).

It should be noted that caribou is an important alternative resource to moose, and Quinhagak residents harvested an estimated 125 caribou in 2013. Their large land mammal harvest was 58% moose and 42% caribou in pounds edible weight in 2013 (Ikuta et al. 2016). This is a contrast to 1982 reports, when their harvest was on 33% moose and 67% caribou (ADF&G 2019a).

In 2013, the Quinhagak moose harvest estimate was similar to harvest estimates in other Kuskokwim area communities when comparing harvest rates in pounds per person based on ADF&G Division of Subsistence household surveys (**Table 1**).

Harvest History

In the existing Federal hunt area, all lands were closed to the harvest of moose in 1991. State-managed lands within this area were reopened in 2005. In the proposed Federal addition, Federal public lands were closed to the harvest of moose to all except Federally qualified subsistence users in 1991, and re-opened in 1994 as part of Unit 18 remainder. Within the proposed addition, Federal regulations currently allow the harvest of up to 2 moose during an 8 month season, by harvest ticket.

Within the State's hunt area, a harvest ticket was required for moose harvest through regulatory year 2018/19. Beginning in fall 2019, a State registration permit will be required, available in Quinhagak beginning August 1. Due to the Federal public lands closure, harvest under State regulation within Kanektok and Arolik drainages is currently limited to State managed lands. These lands comprise a significant length of the Arolik River corridor but only extend approximately 20 miles up the Kanektok River, a floatable river popular with sport anglers (BOG 2019).

Reported harvest is dominated by local users, defined here as Federally qualified subsistence users (residents of Unit 18, Upper Kalskag and Lower Kalskag). Between 2003 and 2018, reported harvest was 61 moose (**Figure 3**). Of those, 90% (55 moose) were taken by local users. Residents of Quinhagak, the only community located within the hunt area, harvested 70% (43 moose) of the total reported harvest during this time period. Only 2 moose were reported harvested by residents of Eek, the nearest community to the proposed Federal addition (ADF&G 2019b). While reported harvest is low, averaging just four moose per year, observations by local biologists in the past decade indicate that at least some illegal harvest occurs (Aderman 2014). Though the magnitude of unreported harvest is unknown, additional insights into harvest by locals can be gleaned from household harvest surveys conducted by ADF&G's Division of Subsistence. These surveys estimated that residents of Quinhagak harvested 33 moose (CI 95% 4–67) in 1983 and 42 moose (CI 95% 42–42) in 2013 (ADF&G 2019a).

Table 1. Estimated harvest of moose based on household surveys (CI 95%, lower harvest estimate is the lower bound of the estimate or the reported harvest, whichever is larger) (Source: ADF&G 2019a).

Community	Study Year	Estimated Moose Harvest (number of moose)	Lower Harvest Estimate (number of moose)	Upper Harvest Estimate (number of moose)	Harvest (pounds per person)
Tuluksak	2010	20	16	24	24.0
Akiak	2010	27	20	33	37.6
Akiachak	1998	106	93	119	145.4
Kwethluk	1986	33			45.3
Kwethluk	2010	33	25	42	25.2
Bethel	2011	279	220	338	24.5
Bethel	2012	357	294	419	33.9
Nunapitchuk	1983	12	3	22	18.9
Oscarville	2010	2	2	4	20.0
Napakiak	2011	13	13	13	28.7
Napaskiak	2011	29	29	29	43.4
Tuntutuliak	2013	17	17	0	22.3
Eek	2013	14	14	14	21.9
Quinhagak	2013	42	42	42	30.7
Quinhagak	1982	33	4	67	31.0

Other Alternatives Considered

Opening Federal public lands only to Federally qualified subsistence users may be a viable alternative to full rescission of the closure. This alternative was favored by the Council when they reviewed WCR20-40 (formerly identified as WCR18-40) at their March 2019 meeting in Bethel. As the Council noted, this

alternative would limit opportunity to harvest moose on Federal public lands to Federally qualified subsistence users. However, practically speaking, closing Federal public lands to non-Federally qualified users is probably not necessary to limit participation. The fact that State registration permits are available only in local communities is likely to exclude most hunters who do not live within or adjacent to the hunt area.

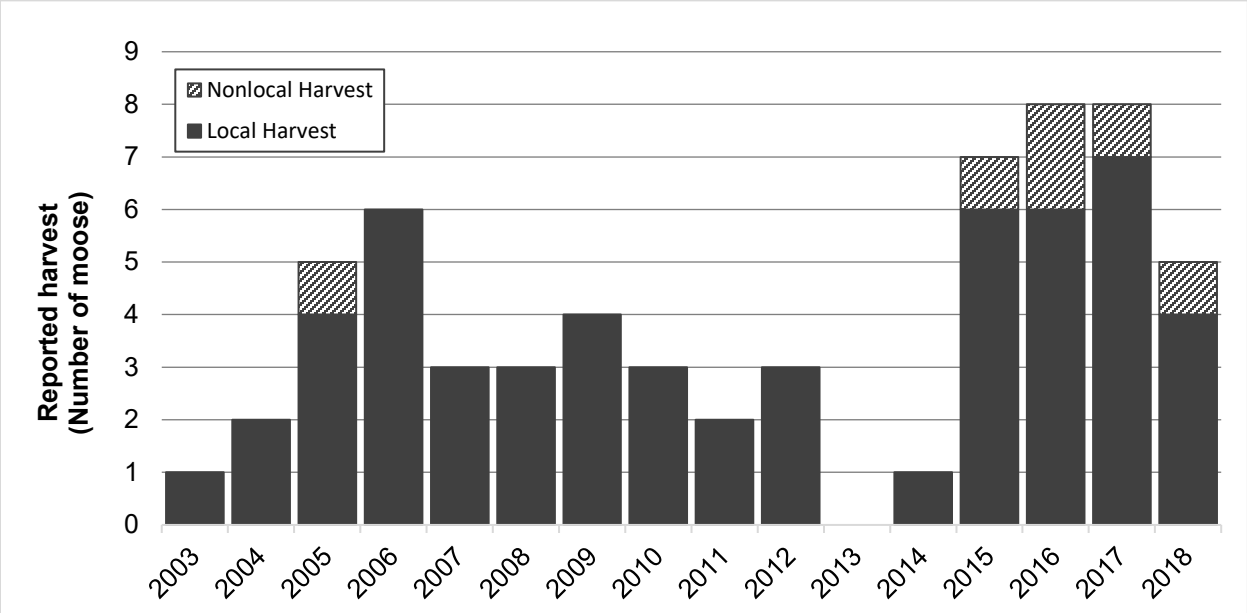

Figure 3. Reported harvest in the Kanektok and Arolik river drainages, 2003 – 2018 (ADF&G 2019b).

Effects of the Proposal

If these proposals are adopted, the Federal Kanektok/Arolik hunt area will be expanded to include the minor drainages situated between the Eek and Kanektok River drainages, including Kuskokwak Creek and Tungak Creek. Currently, these drainages are a non-contiguous part of the Unit 18 remainder hunt area, which primarily describes the area along the lower Yukon River and which has very high moose densities. If these drainages are incorporated in the Kanektok/Arolik hunt area, the Federal harvest limit in the proposed addition will be reduced from two moose to one antlered bull, and the season will be shortened from Aug. 1 – Apr. 30 to Sep. 1 – Sep. 30. In addition, hunters from Eek who may utilize these drainages will be required to comply with the conditions of the State's registration permit, which may only be distributed in Quinhagak. If realized, the latter drawback is expected to be small, given that reported harvest is low by residents of Eek, and that these drainages don't represent their primary moose search areas.

The newly described hunt area will be consistent with the hunt area described in State regulation. This reduction in regulatory complexity will benefit subsistence users, who may not be aware of the discrepancy between State and Federal hunt areas and are thus prone to inadvertent non-compliance. A uniform hunt area across jurisdictions will also simplify harvest management for State and Federal wildlife managers and simplifies enforcement of regulations.

Opening Federal public lands and establishing a Federal season within the Kanektok Arolik hunt area will result in additional subsistence opportunity by significantly expanding the area available for moose hunting by Federally qualified users. Full rescission of the closure will also provide additional opportunity to non-Federally qualified subsistence users hunting under State harvest regulation, though participation will likely be limited due to local permit distribution. A single permit will be required to hunt under both State and Federal regulation, which is consistent with joint State and Federal hunt administration in adjacent moose hunts in Units 17 and 18, and which should ease the burden of compliance within the dual management system. Adoption of this proposal is not expected to have a negative effect on the moose population, given recent population growth.

OSM PRELIMINARY CONCLUSION

Support Proposal WP20-32/33.

Justification

Dissimilar hunt areas in State and Federal regulation pose a problem for Federally qualified subsistence users. For these hunters, divergent hunt area boundaries are a burden that compounds the existing difficulty of hunting under two sets of harvest regulations in areas with complex land status. This reduction in regulatory complexity will also facilitate harvest management and reduce confusion associated with enforcement. Biologically, inclusion of these minor drainages in the Kanektok/Arolik hunt area is more appropriate than their current inclusion in the Unit 18 remainder hunt area, where harvest limits and season are liberal, due to high moose densities along the lower Yukon River.

As outlined in the Board's closure policy, closures should be rescinded as soon as practicable when the conditions that originally justified the closure no longer exist. The moose population in this hunt area has increased significantly in recent years. Given the relative newness of this population, the small area it occupies, and the lack of published population objectives, it can be difficult to find context for assessing future management actions. However, the adjacent Goodnews moose population likely provides an adequate model and suggests that additional harvest is sustainable. Assuming so, rescinding the Federal public lands closure and establishing a Federal season is appropriate at this time.

Rescinding the Federal public lands closure and establishing a season will significantly increase the land area available for moose hunting by Federally qualified subsistence users, representing an increase in subsistence opportunity. Although full rescission of the closure also provides additional opportunity to non-Federally qualified users, the conditions associated with the State registration permit are likely to limit participation by non-local users, mitigating the risk of competition with Federally qualified subsistence users.

At the outset, State registration permits may be more burdensome to Federally qualified subsistence users, who until the current regulatory year, have been required to use only a harvest ticket. However, a registration permit will be required for State hunts in the area beginning this fall. Requiring a State registration permit for the Federal hunt will further reduce regulatory complexity and will allow Federally qualified subsistence users to hunt seamlessly across Federal and State regulations. In addition, use of

registration permits will allow managers to better track harvest, while use of a State permit in both Federal and State regulation consolidates reporting within a single system. These are important features, considering that this is still a small population requiring close harvest management.

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APPENDIX 1

POLICY ON CLOSURES TO HUNTING, TRAPPING AND FISHING ON FEDERAL PUBLIC LANDS AND WATER IN ALASKA

FEDERAL SUBSISTENCE BOARD

Adopted August 29, 2007

PURPOSE

This policy clarifies the internal management of the Federal Subsistence Board (Board) and provides transparency to the public regarding the process for addressing federal closures (closures) to hunting, trapping, and fishing on Federal public lands and waters in Alaska. It also provides a process for periodic review of regulatory closures. This policy recognizes the unique status of the Regional Advisory Councils and does not diminish their role in any way. This policy is intended only to clarify existing practices under the current statute and regulations: it does not create any right or benefit, substantive or procedural, enforceable at law or in equity, against the United States, its agencies, officers, or employees, or any other person.

INTRODUCTION

Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA) establishes a priority for the taking of fish and wildlife on Federal public lands and waters for non-wasteful subsistence uses over the taking of fish and wildlife on such lands for other purposes (ANILCA Section 804). When necessary for the conservation of healthy populations of fish and wildlife or to continue subsistence uses of such populations, the Federal Subsistence Board is authorized to restrict or to close the taking of fish and wildlife by subsistence and non-subsistence users on Federal public lands and waters (ANILCA Sections 804 and 815(3)). The Board may also close Federal public lands and waters to any taking of fish and wildlife for reasons of public safety, administration or to assure the continued viability of such population (ANILCA Section 816(b)).

BOARD AUTHORITIES

- ANILCA Sections 804, 814.815(3), and 816.
- 50 CFR Part 100 and 36 CFR Part 242, Section .10(d)(4).

POLICY

The decision to close Federal public lands or waters to Federally qualified or non-qualified subsistence users is an important decision that will be made as set forth in Title VIII of ANILCA. The Board will not restrict the taking of fish and wildlife by users on Federal public lands (other than national parks and park monuments) unless necessary for the conservation of

healthy populations of fish and wildlife resources, or to continue subsistence uses of those populations, or for public safety or administrative reasons, or 'pursuant to other applicable law." Any individual or organization may propose a closure. Proposed closures of Federal public lands and waters will be analyzed to determine whether such restrictions are necessary to assure conservation of healthy populations of fish and wildlife resources or to provide a meaningful preference for qualified subsistence users. The analysis will identify the availability and effectiveness of other management options that could avoid or minimize the degree of restriction to subsistence and non-subsistence users.

Like other Board decisions, closure actions are subject to change during the yearly regulatory cycle. In addition, closures will be periodically re-evaluated to determine whether the circumstances necessitating the original closure still exist and warrant continuation of the restriction. When a closure is no longer needed, actions to remove it will be initiated as soon as practicable. The Office of Subsistence Management will maintain a list of all closures.

Decision Making

The Board will:

- Proceed on a case – by – case basis to address each particular situation regarding closures. In those cases for which conservation of healthy populations of fish and wildlife resources allows, the Board will authorize non-wasteful subsistence taking.

- Follow the statutory standard of "customary and traditional uses." Need is not the standard. Established use of one species may not be diminished solely because another species is available. These established uses have both physical and cultural components, and each is protected against all unnecessary regulatory interference.

- Base its actions on substantial evidence contained within the administrative record, and on the best available information; complete certainty is not required.

- Consider the recommendations of the Regional Advisory Councils, with due deference (ANILCA § 805 (c)).

- Consider comments and recommendations from the State of Alaska and the public (ANILCA § 816(b)).

Conditions for Establishing or Retaining Closures

The Board will adopt closures to hunting, trapping or fishing by non-Federally qualified users or Federally qualified subsistence users when one or more of the following conditions are met:

- Closures are necessary for the conservation of healthy populations of fish and wildlife:

a) When a fish or wildlife population is not sufficient to provide for both Federally qualified subsistence users and other users, use by non-Federally qualified users may be reduced or prohibited, or
b) When a fish or wildlife population is insufficient to sustain all subsistence uses, the available resources shall be apportioned among subsistence users according to their:

1) Customary and direct dependence upon the populations as the mainstay of livelihood.

2) Local residency, and

3) Availability of alternative resources, or

c) When a fish or wildlife population is insufficient to sustain any use, all uses must be prohibited.

- Closures are necessary to ensure the continuation of subsistence uses by Federally qualified subsistence users.
- Closures are necessary for public safety.
- Closures are necessary for administrative reasons.
- Closures are necessary "pursuant to other applicable law."

Considerations in Deciding on Closures

When acting upon proposals recommending closure of Federal public lands and waters to hunting, trapping, or fishing. The Board may take the following into consideration to the extent feasible:

- The biological history (data set) of the fish stock or wildlife population.
- The extent of affected lands and waters necessary to accomplish the objective of the closure.
- The current status and trend of the fish stock or wildlife population in question.
- The current and historical subsistence and non-subsistence harvest, including descriptions of harvest amounts effort levels, user groups, and success levels.
- Pertinent traditional ecological knowledge.
- Information provided by the affected Regional Advisory Councils and Alaska Department of Fish and Game.

- Relevant State and Federal management plans and their level of success as well as any relationship lo other Federal or State laws or programs.

- Other Federal and State regulatory options that would conserve healthy populations and provide a meaningful preference for subsistence, but would be less restrictive than closures.

- The potential adverse and beneficial impacts of any proposed closure on affected fish and wildlife populations and uses of lands and waters both inside and outside the closed area.

- Other issues that influence the effectiveness and impact of any closure.

Reviews of Closures

A closure should be removed as soon as practicable when conditions that originally justified the closure have changed to such an extent that the closure is no longer necessary. A Regional Council a State or Federal agency, or a member of the public may submit, during the nom1al proposal period, a proposal requesting the opening or closing of an area. A closure may also be implemented, adjusted, or lifted based on a Special Action request according to the criteria in 50 CFR 100.19 and 36 CFR 242.19.

To ensure that closures do not remain m place longer than necessary, all future closures will be reviewed by the Federal Subsistence Board no more than three years from the establishment of the closure and at least every three years thereafter. Existing closures in place at the time this policy is implemented will be reviewed on a three-year rotational schedule, with at least one-third of the closures reviewed each year.

Closure reviews will consist of a written summary of the history and original justification for the closure and a current evaluation of the relevant considerations listed above. Except in some situations which may require immediate action through the Special Action process, closure review analyses will be presented to the affected Regional Cowlcil(s) during the normal regulatory proposal process in the form of proposals to retain, modify or rescind individual closures.

Chair, Federal Subsistence Board

Board Member, U.S. Fish and Wildlife Service

Board Member, Bureau of Indian Affairs

Board Member, U.S. Forest Service

Board Member, National Park Service

Board Member, Bureau of Land Management

WP20–34 Executive Summary	
General Description	Wildlife proposal WP20-34 requests that the mink and weasel trapping season in Unit 18 be extended from Nov. 10 – Jan. 31 to Nov. 10 – Mar. 31. *Submitted by: Yukon Delta National Wildlife Refuge.*
Proposed Regulation	**Unit 18—Mink and Weasel** *No limit* *Nov. 10 – ~~Jan. 31~~* ***Mar. 31***
OSM Preliminary Conclusion	**Support**
Southeast Alaska Subsistence Regional Advisory Council Recommendation	
Southcentral Alaska Subsistence Regional Advisory Council Recommendation	
Kodiak/Aleutians Subsistence Regional Advisory Council Recommendation	
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional	

WP20–34 Executive Summary	
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
WP20-34

ISSUES

Wildlife proposal WP20-34, submitted by the Yukon Delta National Wildlife Refuge, requests that the mink and weasel trapping season in Unit 18 be extended from Nov. 10 – Jan. 31 to Nov. 10 – Mar. 31.

DISCUSSION

The proponent notes that the Federal trapping season for mink and weasel ends two months earlier than the State season. The proponent say that extending the Federal season to match the State season will allow for continuation of subsistence uses and practices, and does not pose a conservation threat to furbearer populations.

Existing Federal Regulation

Unit 18—Mink and Weasel

No limit	*Nov. 10 – Jan. 31*

Proposed Federal Regulation

Unit 18—Mink and Weasel

No limit	*Nov. 10 – ~~Jan. 31~~* ***Mar. 31***

Existing State Regulation

Unit 18—Mink and Weasel (least and short-tailed)

No limit	*Nov. 10 – Mar. 31*

Extent of Federal Public Lands/Waters

Unit 18 is comprised of approximately 67% Federal public lands and consists of 64% U.S. Fish and Wildlife Service managed lands and 3% Bureau of Land Management managed lands.

Customary and Traditional Use Determinations

The Federal Subsistence Board (Board) has not made a customary and traditional use determination for mink and weasel in Unit 18. Therefore, all Federally qualified subsistence users may harvest these species in this unit.

Regulatory History

In 1990, at the inception of the Federal Subsistence Management Program, State and Federal trapping seasons for mink and weasel were Nov. 10 – Jan 31. In 2006, the closing date for the State season was changed to March 31. The Federal season has not changed.

Biological Background

Mink

Mink occur throughout mainland Alaska, occupying a variety of habitats including boreal forests, freshwater and saltwater coastal areas, and tundra. Presence of mink is dependent upon the availability of water/wetlands and prey, which may include fish, amphibians, crustaceans, small mammals, and eggs (Larivière 2003).

Unit 18 contains extensive habitat suitable for mink. The Alaska Department of Fish and Game (ADF&G) characterizes mink as plentiful in Unit 18 but notes that they are inconspicuous and not often perceived by trappers as being abundant (Jones 2013). For the ten year period of 2008 – 2017, trappers across Units 18, 22, 23, and 26 reported that mink were common. The exception was 2016 when they were reported to be scarce. During that ten year period, trappers reported that mink abundance was neither increasing nor decreasing (Schumacher 2010, 2012, 2013a, 2013b; Parr 2016, 2017, 2018; Spivey 2019).

Across the North American range of mink, few harvest regulations are imposed, yet harvest remains relatively stable. This suggests that overexploitation is rare (Larivière 2003). Rather, it has been suggested that survival of young-of-the-year, born in June, is the primary factor affecting mink abundance during a given trapping season (Burns 1964). Overall, deterioration of wetland habitat is the primary conservation threat to mink (Larivière 2003).

Mink harvest is regulated primarily by season length, which is dictated by pelt quality (Larivière 2003). Historically on the YK Delta, pelts attain prime condition by approximately November 20 and then begin to deteriorate.

Weasel

Weasels in Alaska include ermine (short-tailed weasel) and least weasel. Both are distributed throughout Alaska, inhabiting a variety of habitats including marshes, meadows, brushy areas, woodlands, and montane environments (Svendsen 2003). ADF&G characterizes ermine as ubiquitous in Unit 18, noting that they can be a nuisance at fish camps, cabins and homes. For the ten year period of 2008 – 2017, trappers across Units 18, 22, 23, and 26 reported that ermine were common. The exception was 2016 when they were reported to be scarce. During that ten year period, trappers reported that ermine abundance was neither increasing nor decreasing, except in 2008, when they reported an increasing trend (Schumacher 2010, 2012, 2013a, 2013b; Parr 2016, 2017, 2018; Spivey 2019).

Cultural Knowledge and Traditional Practices

In Alaska, furs have been traded for money and other goods for over two centuries. In rural Alaska, trapping is generally profitable when attached to a larger complex of traditional fishing, hunting, and gathering activities with incremental use of equipment and land used for other subsistence activities. Harvesting furbearers is part of the annual cycle of subsistence activities (Wolfe 1991).

Customary trade and the sale of handicraft articles of fur are recognized as subsistence uses under Federal and State regulations, and, in both, trapping is a single regulatory category. Trapping is defined as the taking of mammals declared as furbearers.

The purchase of trapping permits throughout Alaska peaked in 1987 at almost 28,000 licenses and began a steep decline until 1992 when less than 19,000 licenses were purchased by Alaska residents (ADF&G 2019a). This decline in trapping license sales was probably associated with decreases in fur prices, which makes trapping less profitable (Wolfe 1991). Alaska furs were considered by industry to be among the highest quality wild furs available, but the market was depressed by factors including an oversupply of ranched furs, increasing anti-trapping/animal rights sentiments, and changes in lifestyle and fashion characterized by more casual dress (Andersen 1993). Since 1992, trapping license purchases have gradually increased, peaking in 2016 when over 32,000 licenses were purchased. Low income license purchases have gradually grown from 30% of trapping license purchases in 1976 to almost 70% in 2018 (ADF&G 2019a). This trend could be an effect of more licenses vendors available in remote communities making it easier for people to purchase trapping licenses. Key respondents in Emmonak linked their reduced furbearer harvest primarily to relatively low fur prices in 2009 for most species (Fall et al. 2012:155).

In Unit 18, people harvest furbearers for food and also to sell their pelts or to use them domestically, for example to create handicrafts. Communities have reported their harvests of furbearers on household surveys conducted by the ADF&G Division of Subsistence. In Unit 18, these surveys have included questions about the harvest of beaver, fox, hare, land otter, marten, mink, muskrat, weasel, wolf, and wolverine, but not all species are found in the entire unit. Additionally, weasels were included on surveys in only some communities.

The general trend in participation in the harvest of furbearers is downward, based on percentages of households reporting harvest on surveys and the estimated harvests of mink and weasel (**Tables 1, 2 and 3**). We have multiple years of data for only Kwethluk, Quinhagak, Emmonak, and Mountain Village.

Table 1. Percentages of households that reported harvesting furbearers based on household harvest surveys conducted in Unit 18 communities 1980–2013 (Source: ADF&G 2019b).

Community	Study Year	% of Households Harvesting Furbearers
Alakanuk	1980	85.7
Emmonak	1980	83.3
Kotlik	1980	100.0
Mountain Village	1980	87.5
Nunam Iqua	1980	85.7
Quinhagak	1982	58.3
Nunapitchuk	1983	94.1
Kwethluk	1986	67.5
Tununak	1986	51.5
Akiachak	1998	77.8
Emmonak	2008	33.0
Akiak	2010	46.0
Kwethluk	2010	40.9
Marshall	2010	34.8
Mountain Village	2010	26.1
Oscarville	2010	8.3
Tuluksak	2010	58.8
Bethel	2011	5.9
Napakiak	2011	37.5
Napaskiak	2011	19.6
Russian Mission	2011	50.0
Bethel	2012	14.4
Eek	2013	20.3
Pilot Station	2013	29.8
Quinhagak	2013	23.9
Scammon Bay	2013	23.3
Tuntutuliak	2013	29.9

Table 2. Estimated harvests of mink based on household harvest surveys conducted in Unit 18 communities 1980–2013 (CI 95%, lower harvest estimate is the lower bound of the estimate or the reported harvest, whichever is larger) (Source: ADF&G 2019b).

Community	Study Year	% of Households Harvesting Mink	Estimated Harvest (Number of Mink)	Lower Harvest Estimate (Number of Mink)	Upper Harvest Estimate (Number of Mink)
Alakanuk	1980	66.7	939	939	939
Emmonak	1980	22.2	189	189	189
Kotlik	1980	35.7	848	848	848
Mountain Village	1980	37.5	210	210	210
Nunam Iqua	1980	42.9	266	266	266
Quinhagak	1982	25.0	253	31	655
Nunapitchuk	1983	47.1	1,091	494	1,688
Kwethluk	1986	8.7	117	117	117
Tununak	1986	9.1	33	17	65
Akiachak	1998	6.2	23	16	36
Emmonak	2008	2.8	5	5	5
Akiak	2010	0.0	0	0	0
Kwethluk	2010	1.1	2	0	4
Marshall	2010	0.0	0	0	0
Mountain Village	2010	0.9	3	2	7
Oscarville	2010	0.0	0	0	0
Tuluksak	2010	1.5	4	0	7
Bethel	2011	0.8	84	21	189
Napakiak	2011	0.0	0	0	0
Napaskiak	2011	0.0	0	0	0
Russian Mission	2011	6.5	21	20	21
Bethel	2012	1.9	60	17	106
Eek	2013	1.6	4	4	4
Pilot Station	2013	1.1	10	9	10
Quinhagak	2013	3.7	12	12	12
Scammon Bay	2013	5.8	32	31	32
Tuntutuliak	2013	3.0	8	8	8

Table 3. Estimated harvests of weasel based on household harvest surveys conducted in Unit 18 communities 1980–2013 (CI 95%, lower harvest estimate is the lower bound of the estimate or the reported harvest, whichever is larger) (Source: ADF&G 2019b).

Community	Study Year	% of Households Harvesting Weasel	Estimated Harvest (Number of Weasels)	Lower Harvest Estimate (Number of Weasels)	Upper Harvest Estimate (Number of Weasels)
Tununak	1986	3.0	6	1	14
Akiachak	1998	3.7	13	4	22
Emmonak	2008	0.0	0	0	0
Akiak	2010	0.0	0	0	0
Kwethluk	2010	0.0	0	0	0
Marshall	2010	0.0	0	0	0
Mountain Village	2010	0.9	2	1	3
Oscarville	2010	0.0	0	0	0
Tuluksak	2010	1.5	1	0	2
Napakiak	2011	1.8	2	2	2
Napaskiak	2011	0.0	0	0	0
Russian Mission	2011	0.0	0	0	0
Bethel	2012	1.3	64	18	116
Pilot Station	2013	0.0	0	0	0
Quinhagak	2013	0.9	15	15	15

Harvest History

Historically, about one third of fur sealed in Alaska came from Unit 18. However, current harvest of furbearers is well below historic levels and remains below desired levels. Trapper effort is influenced by environmental factors such as travel conditions and furbearer abundance, and by economic and social factors such as fur prices and the presence or absence of a local fur buyer. In addition to trapping, hunters harvest furbearers opportunistically using firearms (Jones 2013).

Harvest reporting is not required for mink or weasel in Unit 18 (Jones 2013). Consequently, harvest information is anecdotal and summarized in ADF&G's annual Alaska Trapper Report. The most recent reports for mink and weasel are summarized below. Additional insights into participation and harvest patterns over time can be gleaned from household survey data, presented in the Cultural Knowledge and Traditional Practices section.

Mink

In Unit 18, one method of harvest for mink and otters is the *taluyaq* (or *taluyak*), a funnel-type trap derived from traditional blackfish traps (Burns 1964; Jones 2013). The early part of the season offers the best opportunity to deploy this type of trap. Regardless of method, trapping typically begins as soon as travel conditions allow, and most mink are harvested within the first few weeks of the season (Jones 2013). This coincides with prime pelt conditions and is consistent with historical patterns, when Christmas typically marked the end of the trapping season (Burns 1964).

For the ten year period of 2008 – 2017, trappers across Units 18, 22, 23, and 26 reported an average harvest of 23 mink annually, according to the Alaska Trapper Report. However, participation is voluntary, and only a subset of all trappers are represented in the report. Assuming that the proportion of total mink harvest reflected in the report is the same as the proportion for species that are required to be sealed, and comparing these anecdotal reports to sealing records, 23% of all mink harvests are reflected in the Alaska Trapper Report for 2008 – 2017. Extrapolated, harvest averages 156 mink annually for these four units (Schumacher 2010, 2012, 2013a, 2013b; Parr 2016, 2017, 2018; Spivey 2019). This is assumed to be a very rough estimate, however, and is likely biased low. Of the harvest reported in the Alaska Trapper Report, 90% of mink were trapped and 10% were shot (Schumacher 2010, 2012, 2013a, 2013b; Parr 2016, 2017, 2018; Spivey 2019).

Weasel

Except when they are targeted as a nuisance, ermine are generally harvested secondarily to other target species. Consequently, harvest tends to be low (Jones 2013). No harvest records for least weasel are available.

For the ten year period of 2008 – 2017, trappers across Units 18, 22, 23, and 26 reported harvesting an average of 18 ermine annually. Assuming that the proportion of total ermine harvest reflected in the report is the same as the proportion for species that are required to be sealed, and comparing these anecdotal reports to sealing records, 23% of all ermine harvests are reflected in the Alaska Trapper Report for 2008 – 2012. Extrapolated, harvest averages 91 ermine annually for these four units (Schumacher 2010, 2012, 2013a, 2013b; Parr 2016, 2017, 2018; Spivey 2019). Again, this is assumed to be a very rough estimate, and likely underestimates harvest. Of ermine harvest reported in the Alaska Trapper Report, 98% were trapped and the remainder were shot (Schumacher 2010, 2012, 2013a, 2013b; Parr 2016, 2017, 2018; Spivey 2019).

Effects of the Proposal

If this proposal is adopted, Federally qualified subsistence users will have additional opportunity to trap mink and weasel under Federal subsistence regulations. This is not likely to result in additional harvest, since the State season doesn't end until March 31. For mink, extending the season is of little concern because most mink harvest occurs during the early part of the season, when furs are in prime condition. This proposal does not pose a conservation concern for either mink or weasel. Adoption of this proposal

will also reduce regulatory complexity by aligning State and Federal trapping seasons for mink and weasel within Unit 18.

OSM PRELIMINARY CONCLUSION

Support Proposal WP20-34.

Justification

Adoption of this proposal is not likely to have any effect on the harvest of furbearers, for several reasons. First, the State season already extends to March 31 and all Federal public lands are open for trapping. Although Federally qualified subsistence users will have additional opportunity to trap under Federal regulation, there will be no realized additional opportunity, in terms of a longer season or expanded trapping areas, beyond what is currently available in State regulation. In addition, for mink in particular, most trapping occurs early in the season when pelts are in prime condition. Any additional harvest in the extended season is likely to be small and inconsequential to overall harvest. There is unlikely to be a change in the conservation status of mink or weasel as a result of adopting this request, because harvest is well below historical averages and is not expected to change.

The main effect of this proposal will be to reduce regulatory complexity. On the whole, a simpler regulatory landscape benefits Federally qualified subsistence users, who are burdened with a dual management system and complex land status. Given that there is expected to be no realized effect on subsistence use or furbearer populations, there is little reason to oppose this proposal.

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WP20–35 Executive Summary	
General Description	Wildlife Proposal WP20-35 requests the addition of a winter season for moose in the Kuskokwim hunt area of Unit 18. Specifically, they are requesting that a may be announced season be established Dec. 1 – Jan. 31. *Submitted by: Yukon Kuskokwim Delta Subsistence Regional Advisory Council.*
Proposed Regulation	**Unit 18—Moose** *Unit 18 – that portion east of a line running from the mouth of the Ishkowik River to the closest point of Dall Lake, then to the east bank of the Johnson River at its entrance into Nunavakanukakslak Lake (N 60°59.41' Latitude; W162°22.14' Longitude), continuing upriver along a line 1/2 mile south and east of, and paralleling a line along the southerly bank of the Johnson River to the confluence of the east bank of Crooked Creek, then continuing upriver to the outlet at Arhymot Lake, then following the south bank east of the Unit 18 border and then north of and including the Eek River drainage—1 antlered bull by State registration permit; quotas will be announced annually by the Yukon Delta National Wildlife Refuge Manager* *Federal public lands are closed to the taking of moose except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Kalskag* *Sep. 1 – 30* ***A season may be announced Dec. 1 – Jan. 31***
OSM Preliminary Conclusion	**Support**
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	

WP20–35 Executive Summary	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	**None**

DRAFT STAFF ANALYSIS
WP20-35

ISSUES

Wildlife Proposal WP20-35, submitted by the Yukon Kuskokwim Delta Subsistence Regional Advisory Council (Council), requests the addition of a winter season for moose in the Kuskokwim hunt area of Unit 18. Specifically, they are requesting that a may be announced season be established Dec. 1 – Jan. 31.

DISCUSSION

The Council states that the addition of a winter season will provide additional subsistence opportunity to those hunters who are unable to harvest a moose during the fall season. It notes that a winter season offers potentially better access via snowmachine, and that cold weather is conducive to meat preservation. The Council also points out that they are not requesting an increase in the harvest limit or a change in the harvest quota, so the proposal poses little conservation concern. The Council acknowledged that fewer and fewer antlered bulls would be available as the winter progressed, but felt it was important to have an extended winter opportunity to maximize flexibility in the face of increasing variable winter weather and travel conditions.

Existing Federal Regulation

Unit 18—Moose

Unit 18 – that portion east of a line running from the mouth of the Ishkowik River to the closest point of Dall Lake, then to the east bank of the Johnson River at its entrance into Nunavakanukakslak Lake (N 60°59.41' Latitude; W162°22.14' Longitude), continuing upriver along a line 1/2 mile south and east of, and paralleling a line along the southerly bank of the Johnson River to the confluence of the east bank of Crooked Creek, then continuing upriver to the outlet at Arhymot Lake, then following the south bank east of the Unit 18 border and then north of and including the Eek River drainage—1 antlered bull by State registration permit; quotas will be announced annually by the Yukon Delta National Wildlife Refuge Manager	*Sep. 1 – 30*

Federal public lands are closed to the taking of moose except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Kalskag

Proposed Federal Regulation

Unit 18—Moose

Unit 18 – that portion east of a line running from the mouth of the Ishkowik River to the closest point of Dall Lake, then to the east bank of the Johnson River at its entrance into Nunavakanukakslak Lake (N 60°59.41' Latitude; W162°22.14' Longitude), continuing upriver along a line 1/2 mile south and east of, and paralleling a line along the southerly bank of the Johnson River to the confluence of the east bank of Crooked Creek, then continuing upriver to the outlet at Arhymot Lake, then following the south bank east of the Unit 18 border and then north of and including the Eek River drainage—1 antlered bull by State registration permit; quotas will be announced annually by the Yukon Delta National Wildlife Refuge Manager	*Sep. 1 – 30* ***A season may be announced Dec. 1 – Jan. 31***
Federal public lands are closed to the taking of moose except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Kalskag	

Existing State Regulation

Unit 18—Moose

Zone 1: Unit 18 – all Kuskokwim River drainages north and west of a line beginning at the confluence of Whitefish Lake and Ophir Cree k at the Unit 18 boundary and continuing south west to the confluence of Tuluksak and Fog Rivers, then southerly to the lower Kisaralik River-Kasigluk River cutoff of the Kisaralik River, then south westerly to the lower Kisaralik River-Kasigluk River cutoff of the Kasigluk River, then south westerly to the Akulikutak River where the snowmachine trail crosses the river from the east side of Three Step Mountain, then westerly to the confluence of Kwethluk Rive r and Magic Creek, then southwesterly to the confluence of Eek Rive r and Middle Fork Eek River, then southwesterly to the Unit 18 boundary at 60° 4.983' N, 161° 37.140' W; and all drainages easterly of a line from the mouth of the Ishkowik River to the closest point of Dall Lake , then to the east bank of the Johnson River at its entrance into Nunavakanukakslak Lake at 60° 59.41' N, 162° 22.14' W, continuing upriver along a line ½ mile	*RM615*	*Sep. 1 – 7*

south and east of, and paralleling a line along the southerly bank of the Johnson River to the confluence of the east bank of Crooked Creek, then continuing upriver along the east bank of Crooked Creek to the outlet at Arhymot Lake , then following the south bank of Arhymot Lake easterly to the Unit 18 boundary.		
Zone 2: Unit 18 – all Kuskokwim River drainages south and east of a line beginning at the confluence of Whitefish Lake and Ophir Creek at the Unit 18 boundary and continuing southwest to the confluence of Tuluksak and Fog Rivers, then southerly to the lower Kisaralik River-Kasigluk River cutoff of the Kasigluk River, then southwesterly to the lower Kisaralik River-Kasigluk River cutoff of the Kasigluk River, then southwesterly to the Akulikutak River where the snowmachine trail crosses the river from the east side of Three Step Mountain, then westerly to the confluence of Kwethluk River and Magic Creek, then southwesterly to the confluence of Eek River and Middle Fork Eek River, then southwesterly to the Unit 18 boundary at 60° 4.983' N, 161° 37.140'.	*RM615*	*Sep. 1 – 30*

Extent of Federal Public Lands

The Unit 18 Kuskokwim moose hunt area is comprised of 57% Federal public lands and consists of 56% U.S. Fish and Wildlife (USFWS) managed lands and 1% BLM managed lands (**Figure 1**).

Customary and Traditional Use Determinations

Residents of Unit 18, Upper Kalskag, Aniak, and Chuathbaluk have a customary and traditional use determination in the portion of Unit 18 that includes the Yukon River drainage upstream of Russian Mission and the Kuskokwim River drainage upstream of, but not including, the Tuluksak River drainage.

Residents of Unit 18, Lower Kalskag, and Upper Kalskag have a customary and traditional use determination in Unit 18 remainder.

Regulatory History

Federal public lands in the Kuskokwim area have been closed to non-Federally qualified users since 1991, when the Federal Subsistence Board (Board) acted on Proposal P91-124. Submitted by the Togiak National Wildlife Refuge, P91-124 requested that the moose season in the southern portion of Unit 18, including the Kanektok and Goodnews River drainages, be closed to allow establishment of a harvestable population. The Board adopted this proposal with modification to close Federal public lands throughout Unit 18 to moose harvest, except by Federally qualified subsistence users, given low moose densities throughout Unit 18.

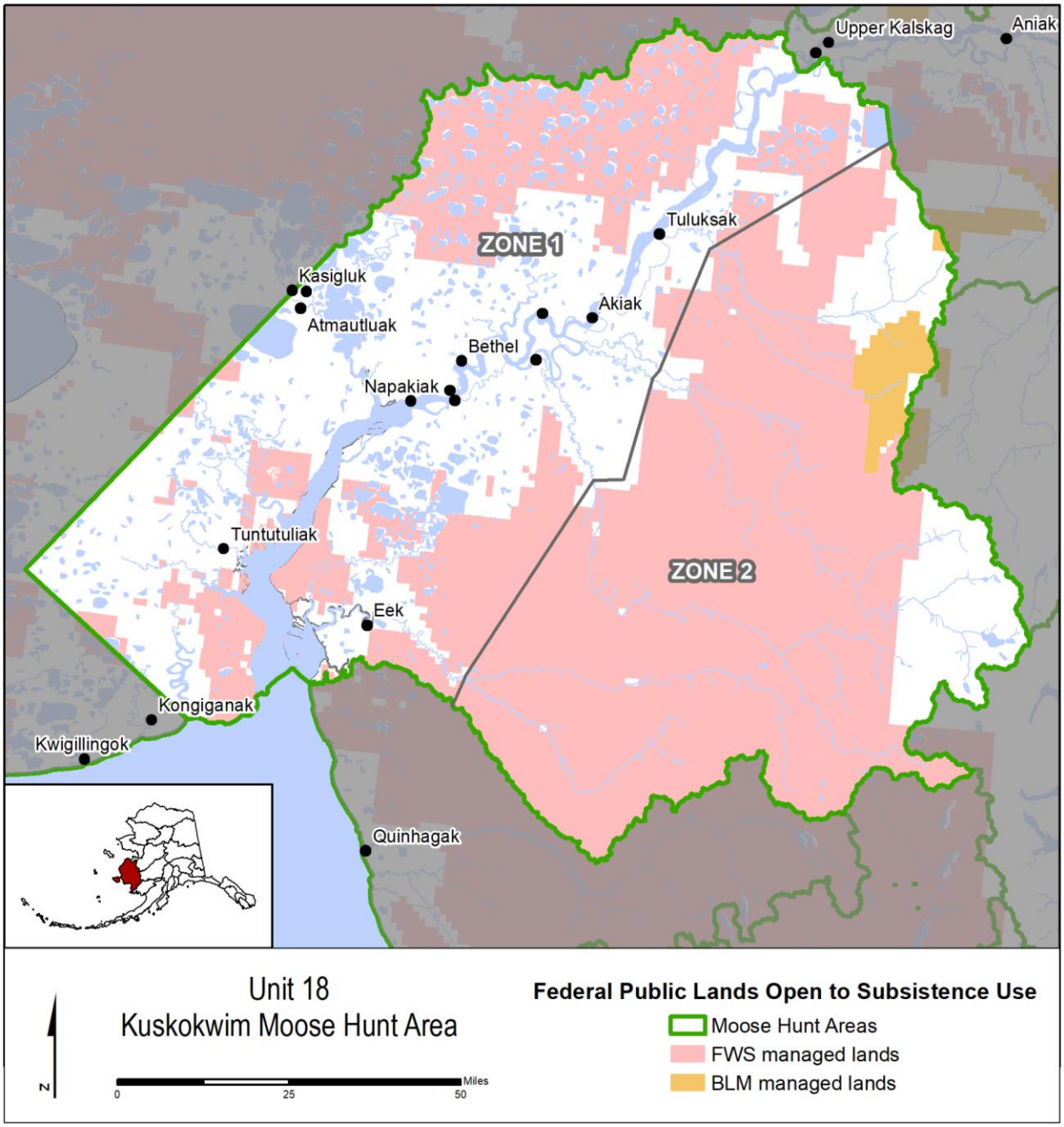

Figure 1. Federal public lands and hunt zones within the Kuskokwim moose hunt area, Unit 18.

Until 2004, Federal and State moose harvest limits for the lower Kuskokwim River area were one bull or one antlered bull, and the fall seasons were approximately one month. The State winter season varied widely from a continuous fall/winter season (Sep. 1–Dec. 31) to a 10-day December season and a winter "to be announced" season. The Federal winter season varied from a 10-day season to a "to be announced" season.

Both the Federal and State seasons were closed in the fall of 2004 as part of a coordinated effort to build the Kuskokwim moose population. In 2003, at the request of local residents, the Alaska Board of Game

(BOG) established a five-year moratorium on moose hunting under State regulations. The Board adopted Proposal WP04-51 in April 2004 that established a five-year moratorium on Federal public lands. The intent of the moratorium was to promote colonization of underutilized moose habitat. The moratorium was largely instigated by the Lower Kuskokwim Fish and Game Advisory Committee, which worked with the Alaska Department of Fish and Game, USFWS, and area residents to close the moose season for five years or when a population of 1,000 moose was counted in the lower Kuskokwim survey unit. Considerable outreach efforts were made to communicate the impact of the moratorium on the growth potential of the affected moose population to local communities.

In March 2009, the BOG established a registration hunt (RM615), in preparation for ending the moratorium on June 30, 2009. A Sep. 1 – 10 season was established, with a harvest limit of one antlered bull by registration permit. The season was closed when the quota was met. In November 2009, the BOG adopted a proposal that changed the boundary separating the Unit 18 lower Kuskokwim area from the Unit 18 remainder area.

In May 2010, the Board adopted Proposals WP10-58 and WP10-62, with modification to make boundary changes similar to the BOG actions. Adoption of these proposals helped to clarify the boundary for moose hunters and law enforcement. At the same meeting in May 2010, the Board adopted Proposal WP10-54 with modification to reduce the pool of Federally qualified subsistence users eligible to hunt moose on Federal public lands within the lower Kuskokwim. This was necessary because of the small number of moose available to harvest relative to the large number of subsistence users with a customary and traditional use determination for moose (42 communities including Bethel).

Special action requests were approved to establish Federal moose seasons in the lower Kuskokwim hunt area in 2010 and 2012. In 2010, Emergency Wildlife Special Action WSA10-02 was approved to establish a Sep. 1 –5 moose season. In 2012, Emergency Wildlife Special Action WSA12-06 was approved to establish a Sep. 1 – 30 moose season. The harvest quota was set prior to the start of the season and the harvest limit was one antlered bull via a State registration permit.

In April 2014, the Board adopted WP14-27 with modification, establishing a Federal moose season in the lower Kuskokwim area. The Sep. 1 – 30 season had a harvest limit of one antlered bull by State registration permit. The Yukon Delta National Wildlife Refuge manager was delegated the authority to establish an annual quota and close the season once the quota was met.

In August 2018, the Tuluksak Native Community submitted Emergency Special Action Request WSA18-02, requesting that the Board open the moose season early in the Kuskokwim hunt area to accommodate a food shortage emergency. The Board approved this request with modification to open an Aug. 18 – 31 emergency season only to residents of Tuluksak, with a quota of seven antlered bulls by Federal registration permit.

Current Events Involving the Species

The Federal public lands closure was reviewed by the Council in March 2019, via WCR20-38 (formerly identified as WCR18-38). The Council voted to maintain the status quo, as recommended by OSM.

Biological Background

Moose are believed to have begun colonization of the Yukon-Kuskokwim Delta in the 1940s (Perry 2014). By the 1990s, when the Federal public lands closure was initiated, moose densities throughout much of Unit 18 were very low. Though established populations existed in the far eastern portions of Unit 18, moose were only sparsely distributed throughout much of the unit. Harvested moose were likely to be immigrants from other areas, rather than part of a local breeding population (FSB 1991), and hunting pressure was effective in limiting growth of the moose population along the Kuskokwim corridor (Perry 2014). The 2004 – 2008 hunting moratorium was effective in establishing a harvestable population, and the most recent indicators suggest that the population along the Kuskokwim main stem and in its tributaries continues to grow.

The most recent population survey of the lower Kuskokwim survey area, which includes the main stem riparian corridor between Kalskag and Kwethluk, occurred in 2015. At that time, the population was estimated to be 1,378 moose, or 1.6 moose/mile^2 (**Figure 2**). This represents an annual growth rate of 20% between 2011 and 2015. At that time, the Kuskokwim moose population remained below the State's population objective of at least 2,000 moose in this area (Perry 2014). Browse surveys indicated that the population is about half of what it could be (YKDRAC 2017a).

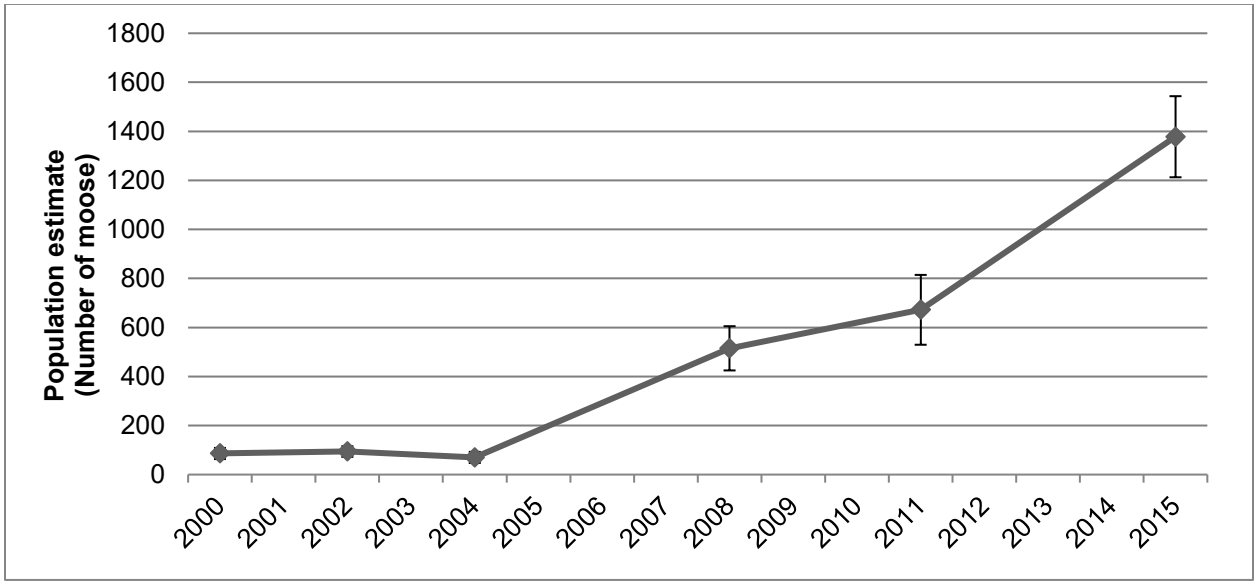

Figure 2. Estimated moose population size along the main stem of the Kuskokwim River, 2000 – 2015 (Perry 2014; Jones 2018, pers. comm.)

Composition estimates for the main stem were last obtained in 2016, when there were 70 bulls:100 cows and 56 calves:100 cows (Jones 2018, pers. comm.). Bull:cow ratios, which were quite high during the harvest moratorium, declined when harvest resumed in 2009, but have remained consistently above the minimum objective of 30 bulls:100 cows (**Table 1**). Bull:cow ratios in the Kuskokwim tributaries are also reported to be high (Rearden 2018, pers. comm.).

Table 1. Composition estimates for moose along the main stem of the Kuskokwim River, 2007 – 2016 (YDNWR 2015, Jones 2018, pers. comm.).

Year	Bulls:100 cows	Calves:100 cows
2007	98	73
2009	52	49
2010	51	49
2013	41	71
2016	70	56

Harvest History

Following the harvest moratorium, moose harvest on non-Federal lands was allowed under State regulation, beginning in 2009. In 2010, harvest on Federal public lands was opened to a subset of Federally qualified subsistence users, including residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautluak, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Kalskag. In this analysis, this user group will be referred to as local users.

Since 2009, reported harvest has averaged 151 moose annually (ADF&G 2019a). Notably, reported harvest has increased, doubling between 2014 and 2017 (**Figure 3**). Local users have taken 95% of the reported moose harvest in the Kuskokwim hunt area since 2009, with 30% of the harvest attributable to residents of Bethel. However, non-local use is increasing, from 2 harvest reports in 2013 to 16 in 2017 (**Figure 3**). Non-local users that report harvesting moose are primarily Federally qualified subsistence users from coastal communities of Unit 18, but also include a few users from southcentral Alaska (ADF&G 2019a).

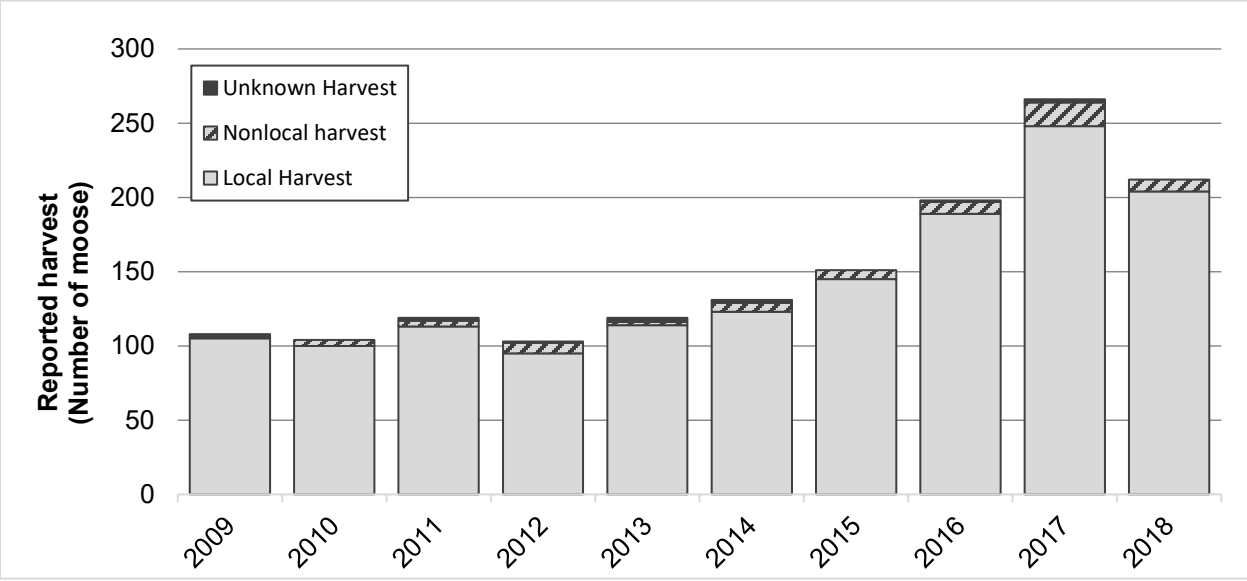

Figure 3. Reported moose harvest by RM615 in the Kuskokwim hunt area, 2009 – 2018 (ADF&G 2019a).

Despite increases in quotas and harvest, demand still outweighs moose availability. Since 2009, an average of approximately 1,450 hunters have obtained permits to harvest moose in the Kuskokwim hunt area each year, but only 10% of permit holders have successfully harvested moose (ADF&G 2019a). The disparity between demand and the relatively small quotas has routinely resulted in emergency closure of the State season within days of its opening (**Table 2**). This has resulted in some frustration among locals, who note that short unpredictable seasons make planning difficult. Local residents have also commented on the challenges of hunting in early September in recent years, given warm conditions that make proper meat care difficult. To this end, many subsistence users have advocated for a later moose season (YKDRAC 2017b).

Table 2. State and Federal moose seasons, 2011 – 2018 (Rearden 2018, pers. comm.; ADF&G 2019b; Jones 2019, pers. comm.).

	Scheduled season dates		Actual season dates		Actual season length (number of days)	
Year	State	Federal	State	Federal	State	Federal
2011	Sep. 1 - 10	Sep. 1 - 5	Sep 1 - 6	Sep 1 - 6	6	6
2012	Sep. 1 - 10	Sep. 1 - 10	Sep. 1 - 8	Sep. 1 - 8	8	8
2013	Sep. 1 - 10	Sep. 1 - 10	Sep. 1 - 6	Sep. 1 - 6	6	6
2014	Sep. 1 - 10	Sep. 1 - 10	Sep. 1 - 4	Sep. 1 - 4	4	4
2015	Sep. 1 - 10	Sep. 1 - 8	Sep. 1 - 4	Sep. 1 - 8	4	8
2016	Sep. 1 - 10	Sep. 1 - 15	Sep. 1 - 5	Sep. 1 - 15	5	15
2017[a]	Sep. 1 - 10	Sep. 1 - 25	Sep. 1 - 5	Sep. 1 - 25	5	25
2018[a]	Sep. 1 - 10	Sep. 1 - 30	Sep. 1 - 7	Sep. 1 - 30	7	30

[a] The State season corresponds to Zone 1 and the Federal season corresponds to Zone 2.

In an effort to better serve users in an area of checkerboard land status, State and Federal managers adjusted the structure of the hunt in 2017, introducing a zone-based hunt (**Figure 1**). An important feature of the zones is that, while they correspond roughly to State and Federal lands, they are delineated by easily identifiable geographical features (e.g. river confluences). Each of the two zones is managed with its own harvest quota. Zone 1, which is comprised primarily of State lands, is located along the main stem of the Kuskokwim River. The season and harvest quota for the main stem hunt are managed by ADF&G. Zone 2 is comprised primarily of Federal public lands, including those in the Tuluksak, Kisaralik, Kasigluk and Eek river drainages ("tributaries"). The season and harvest quota in the tributary hunt is managed by the Refuge (Rearden 2018, pers. comm.; YKDRAC 2017a).

There is more demand for moose in Zone 1, along the main stem, compared to Zone 2, in the tributaries. This is evidenced by the rate at which the quota is met within each zone, and the corresponding season length. On average, the main stem hunt has been open fewer than six days annually since 2011, and the quota has been met or exceeded most years. For the hunt in the tributaries, the quota has only been met one time, in 2014, despite increasing season lengths (**Tables 2 and 3**). Local managers report that hunting in the tributaries is difficult, requiring specialized boats, longer travel times, and more fuel.

Heavy vegetation along the banks contributes to the difficulty. It is believed that the unmet quota is a function of these difficulties, rather than lack of need for moose meat (YKDRAC 2017a, YKDRAC 2017b, Rearden 2018, pers. comm.).

Table 3. State and Federal moose quotas and harvest, 2011 – 2018 (Rearden 2018, pers. comm.; ADF&G 2019b; Jones 2019, pers. comm.).

	Quota (number of moose)			Harvest (number of moose)			
Year	State	Federal	Total	State	Federal	Unknown	Total
2011	81	19	100	93	11	15	119
2012	81	19	100	82	17	4	103
2013	81	19	100	89	21	9	119
2014	81	19	100	93	15	23	131
2015	110	45	155	105	31	15	151
2016	150	90	240	136	44	14	194
2017[a]	170	110	280	186	80	0	266
2018[a]	170	110	280	142	70	0	212

[a] The State season corresponds to Zone 1 and the Federal season corresponds to Zone 2.

Other Alternative Considered

It may be necessary to require a Federal registration permit, rather than a State registration permit. As submitted, the requested change will require that State permits be used by Federally qualified subsistence users in a way that is not allowed by non-Federally qualified users. Specifically, it will require the use of State registration permits outside of the State season on lands that are closed to non-Federally qualified users. Though not unprecedented, use of a State registration permit under these conditions will require concurrence from ADF&G. If this is not an amenable solution, a Federal permit will be required.

Effects of the Proposal

If this proposal is adopted, the Refuge manager will be delegated the authority to establish a may be announced winter moose season on Federal public lands within the Unit 18 Kuskokwim hunt area. Specifically, the existing delegation of authority letter, which allows the Refuge manager to close the fall season and determine annual quotas, will be modified to include the authority to open and close a winter season (**Appendix 1**). The window of opportunity for opening a season will be Dec. 1 – Jan. 31 and the harvest limit will remain one antlered bull for both the fall and winters seasons.

This change will result in increased subsistence opportunity for the residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautluak, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Kalskag, who are eligible to hunt moose on Federal public lands within the Unit 18 Kuskokwim hunt area. A winter hunt may result in additional harvest of moose in the

tributaries of the lower Kuskokwim drainage. However, this isn't expected to pose a conservation concern to the Kuskokwim moose population, because harvest will continue to be managed by quota.

As proposed, the winter hunt will require the use of State registration permit. This will minimize regulatory complexity by utilizing a single permit across seasons and jurisdictions, to the benefit of Federally qualified subsistence users. However, it will require that State registration permits be used by Federally qualified subsistence users in a way that is not allowed by non-Federally qualified users. Specifically, it will require the use of registration permits outside of the State season on lands that are closed to non-Federally qualified users. This is not unprecedented, however. For instance, in 2018, Federal regulations in Unit 24B were changed in a manner that required the use of State registration permits or harvest tickets on Federal public lands within the Kanuti Controlled Use Area, which are closed except to Federally qualified subsistence users, and on which State permits would typically be invalid. This was part of an effort to increase overall opportunity and reduce regulatory complexity in an area with complex hunt areas, seasons, and land statuses, and was implemented with concurrence from the State.

OSM PRELIMINARY CONCLUSION

Support Proposal WP20-35.

Justification

Residents of the Kuskokwim hunt area have consistently expressed the desire for an opportunity to hunt moose later in the year, given the recent warm September conditions. The addition of a may be announced winter season provides that opportunity in years when the harvest quota has not been met during the fall season. Because total harvest will continue to be regulated through the establishment of quotas, this change does not pose a threat to the conservation status of the moose population. Rather, the establishment of a winter season improves the likelihood that harvest targets will be met, and may result in a more even distribution of harvest among Zone 1 and Zone 2. The harvest limit of one antlered bull helps ensure that cows will not be taken inadvertently, yet provides additional subsistence opportunity for local residents who were unable to harvest a moose during fall.

Requiring a State registration permit instead of a Federal registration permit has several advantages. It will benefit Federally qualified subsistence users by allowing them to hunt across seasons with a single permit, easing the burden of compliance in a dual management system. It will also likely be advantageous for harvest management, by ensuring that harvest reports continue to be consolidated in a single reporting system. Though it requires that State permits be used in a way not allowed by non-Federally qualified users, this alternative has been successfully implemented in other hunts in various parts of the state.

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APPENDIX 1

Refuge Manager
Yukon Delta National Wildlife Refuge
P.O. Box 346
Bethel, Alaska 99559

Dear Refuge Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the manager of the Yukon Delta 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 a wildlife population. This delegation only applies to the Federal public lands subject to Alaska National Interest Lands Conservation Act (ANILCA) Title VIII jurisdiction within Unit 18, that portion east of a line running from the mouth of the Ishkowik River to the closest point of Dall Lake, then to the east bank of the Johnson River at its entrance into Nunavakankakslak Lake (N 60˚ 59.412 Latitude; W 162˚ 22.142 Longitude), continuing upriver along a line ½ mile south and east of, and paralleling a line along the southerly bank of the Johnson River to the confluence of the east bank of Crooked Creek, then continuing upriver to the outlet of Arhymot Lake, then following the south bank east of the Unit 18 border and then north of and including the Eek River drainage for the management of moose on these lands.

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

DELEGATION OF AUTHORITY

1. <u>Delegation</u>: The manager of the Yukon Delta National Wildlife Refuge is hereby delegated authority to issue emergency or temporary special actions affecting moose on Federal lands as outlined under the Scope of Delegation. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by Federal regulation at 36 CFR 242.19 and 50 CFR 100.19.

2. <u>Authority</u>: 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 close the Sep. 1 – Sep. 31 season, open and close a season between December 1 and January 31, and determine annual quotas for moose on Federal public lands in Unit 18, that portion east of a line running from the mouth of the Ishkowik River to the closest point of Dall Lake, then to the east bank of the Johnson River at its entrance into Nunavakankakslak Lake (N 60o 59.412 Latitude; W 162o 22.142 Longitude), continuing upriver along a line ½ mile south and east of, and paralleling a line along the southerly bank of the Johnson River to the confluence of the east bank of Crooked Creek, then continuing upriver to the outlet of Arhymot Lake, then following the south bank east of the Unit 18 border and then north of and including the Eek River drainage.

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

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

The Federal public lands subject to this delegated authority are those within Unit 18 that portion east of a line running from the mouth of the Ishkowik River to the closest point of Dall Lake, then to the east bank of the Johnson River at its entrance into Nunavakankakslak Lake (N 60o 59.412 Latitude; W 162o 22.142 Longitude), continuing upriver along a line ½ mile south and east of, and paralleling a line along the southerly bank of the Johnson River to the confluence of the east bank of Crooked Creek, then continuing upriver to the outlet of Arhymot Lake, then following the south bank east of the Unit 18 border and then north of and including the Eek River drainage.

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

5. Guidelines for Delegation: You will become familiar with the management history of the wildlife species relevant to this delegation in the region, with current State and Federal regulations and management plans, and be up-to-date on population and harvest status information. You will provide subsistence users in the region a local point of contact about Federal subsistence issues and regulations and facilitate a local liaison with State managers and other user groups.

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

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

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

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

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

You may defer a special action request, otherwise covered by this delegation of authority, to the Board in instances when the proposed management action will have a significant impact on a large number of Federal subsistence users or is particularly controversial. This option should be exercised judiciously

and may be initiated only when sufficient time allows for it. Such deferrals should not be considered when immediate management actions are necessary for conservation purposes. The Board may determine that a special action request may best be handled by the Board, subsequently rescinding the delegated regulatory authority for the specific action only.

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

Sincerely,

Anthony Christianson
Chair

Enclosures
cc: Federal Subsistence Board
Assistant Regional Director, Office of Subsistence Management
Deputy Assistant Regional Director, Office of Subsistence Management
Subsistence Policy Coordinator, Office of Subsistence Management
Wildlife Division Supervisor, Office of Subsistence Management
Subsistence Council Coordinator, Office of Subsistence Management
Chair, Yukon-Kuskokwim Delta Subsistence Regional Advisory Council
Commissioner, Alaska Department of Fish and Game
Special Assistant to the Commissioner, Alaska Department of Fish and Game
Interagency Staff Committee
Administrative Record

WP20–27 Executive Summary	
General Description	WP20-27 requests a unit-specific regulation for Unit 17 allowing use of a snowmachine to assist in the taking of a caribou and allowing caribou to be shot from a stationary snowmachine, using the regulatory language adopted by the Alaska Board of Game in February 2018. *Submitted by: Bristol Bay Subsistence Regional Advisory Council.*
Proposed Regulation	**§_____.26(n)(17)(iii) Unit 17—Unit-specific regulations** **. . .** **(D) In Unit 17, a snowmachine may be used to assist in the taking of a caribou and caribou may be shot from a stationary snowmachine. "Assist in the taking of a caribou" means a snowmachine may be used to approach within 300 yards of a caribou at speeds under 15 miles per hour, in a manner that does not involve repeated approaches or that causes a caribou to run. A snowmachine may not be used to contact an animal or to pursue a fleeing caribou.**
OSM Preliminary Conclusion	**Support**
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	**1 Oppose**

DRAFT
STAFF ANALYSIS
WP20-27

ISSUES

Wildlife Proposal WP20-27, submitted by the Bristol Bay Subsistence Regional Advisory Council, requests a unit-specific regulation for Unit 17 allowing use of a snowmachine to assist in the taking of a caribou and allowing caribou to be shot from a stationary snowmachine, using the regulatory language adopted by the Alaska Board of Game in February 2018.

DISCUSSION

The proponent states that it submitted the proposal using the State's regulatory language (see *5 AAC 92.080(4)(B)(viii*), below) at the recommendation of a working group convened for this purpose. There was consensus among working group members that existing language found in State regulations was a good starting point. The working group consisted of representatives from the public, the Bristol Bay Regional Advisory Council, the Bristol Bay Native Association, the Togiak National Wildlife Refuge, the Alaska Department of Fish and Game, the Office of Subsistence Management, and State and Federal law enforcement offices. The proponent states that keeping State and Federal hunting regulations aligned and simple will be more understandable for all users.

Existing Federal Regulation

§____.4 Definitions

Take or taking as used with respect to fish or wildlife, means to pursue, hunt, shoot, trap, net, capture, collect, kill, harm, or attempt to engage in any such conduct.

. . .

§____.26 Subsistence taking of wildlife

. . .

(b) 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:

. . .

(4) Taking wildlife from a motorized land or air vehicle when that vehicle is in motion, or from a motor-driven boat when the boat's progress from the motor's power has not ceased.

(5) Using a motorized vehicle to drive, herd, or molest wildlife.

Proposed Federal Regulation

§____.26 Subsistence taking of wildlife

. . .

(b) 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:

. . .

(4) Taking wildlife from a motorized land or air vehicle when that vehicle is in motion, or from a motor-driven boat when the boat's progress from the motor's power has not ceased.

(5) Using a motorized vehicle to drive, herd, or molest wildlife.

§_____.26(n)(17)(iii) Unit 17—Unit-specific regulations

. . .

(D) In Unit 17, a snowmachine may be used to assist in the taking of a caribou and caribou may be shot from a stationary snowmachine. "Assist in the taking of a caribou" means a snowmachine may be used to approach within 300 yards of a caribou at speeds under 15 miles per hour, in a manner that does not involve repeated approaches or that causes a caribou to run. A snowmachine may not be used to contact an animal or to pursue a fleeing caribou.

Existing State Regulations

AS 16.05.940. Definitions.

. . .

(34) "take" means taking, pursuing, hunting, fishing, trapping, or in any manner disturbing, capturing, or killing or attempting to take, pursue, hunt, fish, trap, or in any manner capture or kill fish or game.

5 AAC 92.080. Unlawful methods of taking game; exceptions

The following methods of taking game are prohibited:

. . .

(4) unless otherwise provided in this chapter, from a motor-driven boat or a motorized land vehicle, unless the motor has been completely shut off and the progress from the motor's power has ceased, except that a

. . .

(B) motorized land vehicle may be used as follows:

. . .

(viii) in Unit 17, a snowmachine may be used to assist in the taking of a caribou and caribou may be shot from a stationary snowmachine. "Assist in the taking of a caribou" means a snowmachine may be used to approach within 300 yards of a caribou at speeds under 15 miles per hour, in a manner that does not involve repeated approaches or that causes a caribou to run. A snowmachine may not be used to contact an animal or to pursue a fleeing caribou.

(5) except as otherwise specified, with the use of a motorized vehicle to harass game or for the purpose of driving, herding, or molesting game.

5 AAC 92.990. Definitions

(a) In addition to the definitions in AS 16.05.940 , in 5 AAC 84 – 5 AAC 92, unless the context requires otherwise,

. . .

(70) "harass" means to repeatedly approach an animal in a manner which results in the animal altering its behaviour;

NOTE: The complete text of *5 AAC 92.080(4)(B)* is in **Appendix 1.**

Extent of Federal Public Lands

Unit 17 is comprised of approximately 28% Federal public lands and consists of 21% U.S. Fish and Wildlife Service, 4% Bureau of Land Management, and 3% National Park Service managed lands (see **Unit 17 Map**). U.S. Fish and Wildlife Service managed lands are within Togiak National Wildlife Refuge, and National Park Service managed lands are within Lake Clark National Park and Preserve.

Customary and Traditional Use Determination

The customary and traditional use determinations for caribou in Unit 17 are the following:

Residents of Units 9B, 17, Eek, Goodnews Bay, Napakiak, Lime Village, Platinum, Quinhagak, Stony River, and Tuntutuliak have a customary and traditional use determination for caribou in Unit 17A, that portion west of the Izavieknik River, Upper Togiak Lake, Togiak Lake, and the main course of the Togiak River.

Residents of Units 9B, 17, Akiachak, Akiak, Lime Village, Stony River, and Tuluksak have a customary and traditional use determination for caribou in Unit 17A, that portion north of Togiak Lake that includes Izavieknik River drainages.

Residents of Units 9B, 17, Kwethluk, Lime Village and Stony River have a customary and traditional use determination for caribou in Units 17A and 17B, those portions north and west of a line beginning from the Unit 18 boundary at the northwest end of Nenevok Lake, to the southern point of upper Togiak Lake, and northeast to the northern point of Nuyakuk Lake, northeast to the point where the Unit 17 boundary intersects the Shotgun Hills.

Residents of Units 9B, 17, Akiachak, Akiak, Bethel, Eek, Goodnews Bay, Napakiak, Platinum, Quinhagak, Lime Village, Stony River, Tuluksak, and Tuntutuliak have a customary and traditional use determination for caribou in Unit 17B, that portion of Togiak National Wildlife Refuge within Unit 17B.

Residents of Units 9B, 9C, 9E, 17, Lime Village, and Stony River have a customary and traditional use determination for caribou in Unit 17 remainder.

Regulatory History

In 1995, Proposal P95-52 requested that snowmachines and motor-driven boats be allowed for the taking of caribou and moose in Unit 25 during established seasons, except shooting from a snowmachine in motion was prohibited. There was no existing regulation on the use of motorized vehicles in Unit 25 prior to this. The Federal Subsistence Board (Board) adopted the recommendation of the Eastern Interior and Southcentral Alaska Councils who supported the proposal in recognition that methods change over time and because it supported subsistence uses.

In 2000, the Board adopted Proposal P00-53 with modification allowing the use of snowmachines to position a hunter and select individual caribou for harvest in Units 22 and 23. The Board did this to recognize a longstanding customary and traditional practice in the region (FWS 2000). However, the proponent had asked to position a caribou, not a hunter. The Interagency Staff Committee provided a rationale for the modification:

> Following the Regional Council winter meetings, the Deputy Regional Director of the U.S. Fish and Wildlife Service (FWS), Alaska Region, met with the Assistant Regional Director for Law Enforcement, the Staff Committee member for FWS, the Refuge Supervisor for Northern Refuges, and the Native Liaison and, after lengthy discussion, agreed to recommend substituting "a hunter" for "caribou" in the proposal language. They agreed that this is consistent with conservation principles and existing agency regulations as long as herding does not occur and shooting from a moving snowmachine is prohibited (FWS 2000:13).

In 2012, Proposal WP12-53 was submitted by the Yukon Delta National Wildlife Refuge, and requested a unit specific regulation prohibiting a hunter in Unit 18 from pursuing with a motorized vehicle an ungulate that is "fleeing." The Board adopted the proposal with modification and prohibited the pursuit

with a motorized vehicle of an ungulate that was "at or near a full gallop" in Unit 18, providing greater clarity of allowable methods of harvest (FWS 2012).

At its March 2014 meeting, the Alaska Board of Game adopted Proposal 177, which allows a hunter to use a snowmachine in Units 22, 23 and 26A to position a caribou, wolf, or wolverine for harvest, as long as these animals were shot from a stationary snowmachine (see *5 AAC 92.080(4)(B)(i)* at **Appendix 1**). The purpose of the proposal was to allow the use of snowmachines to track these animals.

In 2016, Proposal WP16-48, submitted by the Native Village of Kotzebue, requested that Federally qualified subsistence users be allowed to use snowmachines to position a caribou, wolf, or wolverine for harvest in Unit 23. The Board adopted the proposal with modification to allow this method of harvest only on those lands managed by the Bureau of Land Management. The Board recognized uses of snowmachines to position animals as customary and traditional practice. However, positioning animals by snowmachine is prohibited on National Park Service and U.S. Fish and Wildlife Service lands under agency-specific regulations. Bureau of Land Management regulatory language does not specifically prohibit the use of snowmachines to position animals for hunting and this harvest method is allowed on some State managed lands.

In the spring of 2017, Kenneth Nukwak of Manokotak submitted Proposal WP18-24 requesting that Federally qualified subsistence users be allowed to use a snowmachine to position caribou, wolves, and wolverines for harvest in Unit 17, provided the animals would not shot from a moving vehicle. During the fall 2017 meeting cycle, the Bristol Bay Subsistence Regional Advisory Council voted to oppose Proposal WP18-24, noting a lack of clear definitions for positioning and chasing of an animal.

At its February 2018 meeting in Dillingham, the Alaska Board of Game adopted Proposal 148, also submitted by Kenneth Nukwak of Manokotak, with modification. The original proposal requested that Federally qualified subsistence users be allowed to use a snowmachine to position caribou, wolves, and wolverines for harvest in Unit 17, provided the animals would not be shot from a moving vehicle. The modified regulation was limited to caribou and stated that a snowmachine may be used in Unit 17 to assist in the taking of a caribou, and caribou may be shot from a stationary snowmachine, with further clarification describing exactly how the snowmachine may be used for assistance (see *5 AAC 92.080(4)(B)(viii)* at **Appendix 1**).

At its winter meeting in March of 2018, the Bristol Bay Council voted to request Proposal WP18-24 be removed from the consensus agenda at the next Board meeting in Anchorage the following month. Reasoning for this included providing an opportunity for the Board to deliberate the proposal on record, in light of Board of Game deliberation, modification, and adoption of the same proposal on State lands in Unit 17. During the April 2018 Board meeting, Proposal WP18-24 was taken off the consensus agenda. Some public testimony was received in support of the proposal. The Board deliberated the proposal on record and rejected it.

Biological Background

Two distinct caribou populations are present in Unit 17. The Nushagak Peninsula Caribou Herd (NPCH) primarily occupies the ~425 mi^2 Nushagak Peninsula, which is the portion of Units 17A and 17C south of the Igushik River, the Tuklung River, and the Tuklung Hills. The Mulchatna Caribou Herd (MCH) ranges across ~60,000 square miles, primarily within Units 9B, 9C, 17A, 17B, 17C, 18, 19A and 19B (Woolington 2013).

NAPCH

The NPCH has experienced significant fluctuations in size. Following reintroduction in 1988, the population grew at a mean annual rate of 38% for the first 6 years. This unusual growth is attributed to the high proportion of females in the original translocation, high calf production and survival, the presence of previously unexploited habitat, and low predation and harvest rates. The population peaked in the late 1990s at approximately 1,300 caribou. Subsequently, calf recruitment and adult female survival decreased and the population fell below 500 caribou by 2006 (Aderman 2015).

Between 2007 and 2015, the population increased due to improved fall calf recruitment and adult female survival (Aderman 2015), reaching over 1,400 caribou. Since 2015, the minimum population size has declined nearly every year. This decline is due in part to the deliberately high harvest in recent years, particularly in RY2016/17. The most recent population survey occurred in July 2019, when the population was estimated to be 822 caribou, with a minimum count of 710. The population currently approximates the Nushagak Peninsula Caribou Management Plan's population objective, which is to maintain a population of 400–900 caribou and an optimum of 750 caribou (Aderman 2015). The most recent composition surveys were conducted in October 2018. These surveys estimated 25 bulls:100 cows, the lowest bull cow ratio since introduction, and 34 calves:100 cows, among the lowest on record (Aderman 2019, pers. comm.).

MCH

Like the NPCH, the MCH has experienced dramatic changes in population size, as well as in distribution. In the early 1980s, the population was estimated to include approximately 20,000 caribou. Its winter range included the north and west side of Iliamna Lake north of the Kvichak River, where it intermingled with the Northern Alaska Peninsula Caribou Herd. By the mid-1990s, the herd had grown to its peak size of approximately 200,000 caribou and had begun wintering in southern Unit 18 and southwestern Unit 19B. Subsequently, the herd began a period of decline that persisted until recently (Barten 2015).

In 2013, population estimate for the MCH was 18,308 caribou, the lowest estimate in over 30 years and well below the State's population objective of 30,000 – 80,000 caribou. Since then, the population appears to have grown. The most recent valid estimate, in 2016, was 27,242 caribou (Barten 2017).

The MCH experienced a steady increase in the bull:cow ratio between 2010 and 2016. In 2016, the ratio was 39 bulls:100 cows, which is the highest estimate since the late 1990s. In 2017, the bull:cow ratio declined to 32 bulls:100 cows, just below the State's management objective of 35 bulls:100 cows.

Calf:cow ratios have been variable, which is typical of caribou herds occupying interior and southwest Alaska. In 2017, the calf:cow ratio was 23 calves:100 cows, within the range of variability observed in recent years (Barten 2017, ADF&G 2018).

Cultural Knowledge and Traditional Practices

During his study years of 1964 and 1965, VanStone (1967:134) documented winter travel along the Nushagak River as occurring almost exclusively by dog team. During the winter months dog teams were used to harvest caribou, access trap lines, and provide for the transportation of supplies and people throughout the region. Hunters used traditional methods to harvest wildlife. These methods included a hunter moving animals towards another hunter's position. At the time of his study, VanStone was only aware of a few Bristol Bay residents that possessed snowmachines. Approximately 10 years later, when the Alaska Department of Fish and Game (ADF&G) first began conducting research on subsistence harvest activities, dog teams were barely mentioned. Instead, reports noted that the communities of Nushagak Bay were using mostly boat, aircraft, and snowmachine to access animals for harvest (Coiley-Kenner et al. 2003; Evans et al. 2013; Fall et al. 1986; Holen et al. 2012; Holen et al. 2005; Kreig et al. 2009; Schinchnes and Chythlook 1988; Seitz 1996; Wolfe et al. 1984; Wright et al. 1985).

In the past, prior to the use of snowmachines, people in the region were more nomadic. Residents of Southwest Alaska practiced an annual round of harvest activities that allowed them to effectively position themselves in proximity to important resources that supported their families through extended travel to seasonal subsistence camps. In a 2003 report, elders describe a harvest year that began at fish camp in the early summer, moved up the river to hunting and trapping camps for the fall and winter, traveled through mountain passes and down rivers to bays and estuaries for the spring harvest of migratory waterfowl and eggs, finally returning to fish camp once again in time for the salmon runs of early summer (La Vine and Lisac 2003). A trip such as this required travel by boat, sled, and foot and took the family hundreds of miles and 12 months to complete. As village life solidified around schools and economic opportunities, technological advances like boats with outboard motors and snowmachines allowed people to travel further over shorter periods of time in order to access the resources they once had to follow over seasons instead of hours.

Similarly, in north western Alaska where caribou harvest is an essential part of the subsistence way of life, Alaska Native people have also transitioned from dog team to snowmachine as a necessary continuance of their subsistence practice (Anderson et al. 1998). Some of the practice described in the following provides greater detail on how hunters might position themselves in order to strategically harvest an animal, but it also describes practices that can be identified as positioning an animal. In winter, there were advantages to using dog teams, and now snowmachines, for hunting caribou. When caribou were not present near a village or hunt camp, hunters needed to be mobile and travel long distances to locate bands of caribou. Sleds and snowmachines are now used together and allow transport of more hunters, gear, meat, and hides.

Discussion from the analysis of Proposal WP16-48 is relevant here, even if it describes characteristics or terms for hunting from more northern communities, as it can be a starting point for potential Council

discussions and public testimony on similar practices within Unit 17. In the context of caribou hunting, the Iñupiaq word *inillak* means "the *hunter positions himself* close to where the caribou would pass or cross depending on the way the wind is blowing . . . to the Iñupiat, *inillak* is quite different from herding and it is used specifically in caribou hunting. Herding means to gather animals such as reindeer into an enclosed area" (FWS 2000:19). Iñupiaq hunters position both themselves and caribou during a hunt. During the discussions in 2000, Mike Patkotak from the North Slope Subsistence Regional Advisory Council member said, "When you are *positioning caribou*, you're out in the open; you're not putting them into an enclosed corral. . . . You're not trapping them into an enclosed area." (FWS 2000:19).

Whether using dog team, snowmachine, or stalking, it is customary for "a hunter to go on one side of the herd and *unu* them towards the hunter waiting on the other side. This is also called *unuraq*, driving the caribou. This gives them a better position to be successful in their harvesting of the caribou that they want" (FWS 2000:22). The Iñupiaq word *unu* means to "cooperatively push or move the caribou. One or more hunters wait on one section of the hunting area and young runners go around behind the herd to make them head in the shooters' direction" (FWS 2000:19). This remains a common practice in Unit 23, and the current preferred method of positioning both hunters and animals in winter is by snowmachine.

In Proposal WP12-53, contemporary practice of snowmachine use in Unit 18 was defined as follows:

> Hunters from some lower Yukon River villages described hunting in the Andreafsky Mountains in the 1980s. It was unclear if the group was hunting caribou or reindeer from the nearby herd at Stebbins. Caribou/reindeer roamed in small groups, difficult to approach by snowmachine. Several hunters attempted to herd a group to locations where shots could be taken, such as up a cul-de-sac or toward a heavy bush line. In this description, the high speed chase was considered "a relatively risky, dare-devil technique" (Wolfe and Pete 1984: 9). Kwethluk hunters in the 1980s hunting with snowmachines reported hunting in upper Kwethluk and Kisaralik River valleys. "The high hills and low mountains scattered throughout the area provided lookouts where hunters can watch for caribou" (Coffing 1991:157) (FWS 2012).

Recent testimony from the Bristol Bay Regional Advisory Council and the Federal Subsistence Board described the significance of snowmachine use for the subsistence way of life in Bristol Bay and across the State. During debate on Proposal WP18-24, Council members and their constituents in the Bristol Bay region described historical practices of hunting caribou by "herding" them on foot or from dogsleds, often working in teams to approach caribou from multiple positions at once. Those testifying emphasized that it is fundamentally impossible to hunt for caribou in the open, flat terrain that characterizes much of southwestern Alaska without continually moving and herding caribou, which easily sense humans and do not remain stationary. As described by Kenneth Nukwak of Manokotak at the April 12, 2019 Federal Subsistence Board Meeting:

> The caribou are always running off as soon as they see a snowmachine, they see us as predators already. . . that's within their intrinsic nature, to run off, as soon as they see you within. . . a mile and a half, they see you on a sunny day, the leaders of the herd of caribou are already looking at your direction. If you look at them with your binoculars

> they're already looking at you and the first thing they do, never fails, they're running off (FSB 2019:320).

Hunters explained that it is necessary to "nudge" caribou into the right spot so that they can be harvested, but hunters now fear being criminalized for this traditional tactic. Testimony indicated that harvesting caribou has always depended on the most efficient methods available. Use of snowmachines is the most efficient method available to subsistence hunters today and is part of a historical continuum. In the words of one Bristol Bay Council member:

> We went from spears and traps to bow and arrows to rifles. From walking to now snowmachines. . . . It's still about harvesting in the most efficient way possible. Now that practice of gathering and moving herd that's past practices. It's been well documented and used. Of course a lot of that was when you were on foot or hunting with dogs. That idea, when viewed from the outside, it looks like we're harassing these animals. To us it's not harassment, it's about harvesting in the most efficient way that we can" (BBSRAC 2019:109).

Harvest History

NPCH

Except for regulatory years 2015/16 – 2017/18, caribou hunting on the Nushagak Peninsula has been limited to Federally qualified subsistence users. Typically, annual harvest of the NPCH has increased as the population has grown and harvest limits have increased. Prior to the 2016 regulatory year, annual reported harvest ranged from none taken when the population was small and harvest was heavily regulated, to over 125 when caribou were abundant and regulations were liberalized. Overall, harvest has averaged 62 caribou annually since 1994, the first year harvest was authorized (Aderman 2015, Aderman 2017, pers. comm.).

Historically, most of the reported harvest has occurred in February and March, due to good hunter access to the herd via snowmachine (Aderman and Lowe 2012). In recent years, total reported harvest has varied significantly due to variable winter weather and travel conditions. For instance, in 2015/16, when the population was at its largest but travel conditions were poor, only 64 caribou were reported harvested. The next year, when travel conditions were good, 378 caribou were reported harvested (Aderman 2017, pers. comm.). Only 14 caribou were reported harvested during the 2018/19 season due to early breakup (Aderman 2019, pers. comm.).

MCH

Like the NPCH, harvest of the MCH is affected by caribou abundance, environmental conditions, and harvest restrictions. Reported harvest of the MCH has decreased significantly since the early 2000s, when the herd was very large. Total reported caribou harvest declined from over 4,000 caribou in 2000 to less than 200 caribou in 2018. Harvest among all user groups declined during this period, but the decline was especially pronounced among non-local residents and nonresidents, owing to reduction of

State harvest limits in 2006 and elimination of the nonresident season in 2009 (ADF&G 2017; Barten 2017, pers. comm.).

Since 2009, harvest has averaged 312 caribou annually, 84% of which were taken by Federally qualified subsistence users. However, underreporting is known to occur and it is likely that reported harvest underestimates total harvest by local users. Among Federally qualified subsistence users, 58% of the total reported harvest was taken Jan. – Mar. and 28% of the total reported harvest was taken in Unit 17 since 2009 (ADF&G 2017, 2019).

Other Relevant Proposals

Proposal WP20-26 was also submitted by the Bristol Bay Council and would allow a hunter on a snowmachine in Unit 17 to position wolves and wolverines for harvest as long as a they were not shot from a moving snow machine.

Effects of the Proposal

If adopted, Proposal WP20-27 will provide regulatory language describing snowmachine use for the purposes of hunting caribou in Unit 17. It will also align state and Federal regulations on snowmachine use while hunting caribou in Unit 17. The proposed regulation is not expected to result in significant population changes for caribou as snowmachines are already extensively used in Unit 17 to access hunting grounds, and harvest numbers will continue to be managed by seasons and limits within regulation.

Adopting Proposal WP20-27 will not alter current prohibitions for snowmachine use on Federal lands. Currently, Federal regulations prohibit hunters taking caribou from a snowmachine in motion (*§__.26 (b)(4)*, above), and Federal regulations prohibit using a snowmachine to pursue (*§__.4*, above), or drive, herd, or molest wildlife (*§__.26 (b)(5)*, above). The proposed regulation provides clarification on how the hunter may use a snowmachine to assist in the taking of a caribou while remaining in compliance with existing regulations. However, the specificity of the proposed regulatory language could act to constrain use rather than support a traditional practice.

OSM PRELIMINARY CONCLUSION

Support Proposal WP20-27.

Justification

The use of snowmachines for subsistence purposes is a traditional practice in the Bristol Bay area and statewide. Public testimony and discussion at Council and Board meetings affirms the significance of snowmachine use to the subsistence way of life while seeking guidance on issues of compliance. The proposed regulatory language will provide clarity to the hunter on ensuring compliance while using a snowmachine to harvest caribou on Federal lands. Because it mirrors a recent addition to State regulation, it will reduce complexity between Federal and State regulations, and decrease the potential for

inadvertent noncompliance by Federally qualified subsistence users. This approach was agreed upon by a diverse group of stakeholders.

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APPENDIX 1

5 AAC 92.080. Unlawful methods of taking game; exceptions

The following methods of taking game are prohibited:

. . .

(4) unless otherwise provided in this chapter, from a motor-driven boat or a motorized land vehicle, unless the motor has been completely shut off and the progress from the motor's power has ceased, except that a

. . .

(B) motorized land vehicle may be used as follows:

i) In Units 22, 23, and 26(A), a snowmachine may be used to position a caribou, wolf, or wolverine, for harvest, and caribou, wolves and wolverines may be shot from a stationary snowmachine.

(ii) notwithstanding any other provision in this section, in the wolf control implementation areas specified in 5 AAC 92.111 - 5 AAC 92.113, 5 AAC 92.118, and 5 AAC 92.121 - 5 AAC 92.124, a snowmachine may be used to position a hunter to select an individual wolf for harvest, and wolves may be shot from a stationary snowmachine;

(iii) notwithstanding any other provision in this section, in Units 9(B), 9(C), 9(E), 17, 18, 19, 21, 22, 24, 25(C) and 25(D), except on any National Park Service or National Wildlife Refuge lands not approved by the federal agencies, a snowmachine may be used to position a hunter to select an individual wolf for harvest, and wolves may be shot from a stationary snowmachine;

(iv) notwithstanding any other provision in this section, in the bear control implementation areas specified in 5 AAC 92.111 - 5 AAC 92.113, 5 AAC 92.118, and 5 AAC 92.121 - 5 AAC 92.124, a snowmachine may be used to position a hunter to select an individual bear for harvest, and bears may be shot from a stationary snowmachine;

(v) notwithstanding any other provision in this section, in Units 9(B), 9(C), 9(E), 17, 22 and 25(C), except on any National Park Service or National Wildlife Refuge lands not approved by the federal agencies, an ATV may be used to position a hunter to select an individual wolf for harvest, and wolves may be shot from a stationary ATV;

(vi) under authority of a permit issued by the department;

(vii) in Unit 18, a snowmachine may be used to position a wolf or wolverine for harvest, and wolves or wolverines may be shot from a stationary snowmachine;

(viii) in Unit 17, a snowmachine may be used to assist in the taking of a caribou and caribou may be shot from a stationary snowmachine. "Assist in the taking of a caribou" means a snowmachine may be used to approach within 300 yards of a caribou at speeds under 15 miles per hour, in a manner that does not involve repeated approaches or that causes a caribou to run. A snowmachine may not be used to contact an animal or to pursue a fleeing caribou.

(5) except as otherwise specified, with the use of a motorized vehicle to harass game or for the purpose of driving, herding, or molesting game;

(6) with the use or aid of a machine gun, set gun, or a shotgun larger than 10 gauge;

(7) with the aid of

(A) a pit;

(B) a fire;

(C) artificial light, except that artificial light may be used.

WP20–28/29 Executive Summary	
General Description	WP20-28 requests that the bull moose season in Unit 17A be extended by 5 days, from Aug. 25 – Sep. 20 to Aug. 25 – Sep. 25. WP20-29 requests the addition of an Aug. 25 – Sep. 25 antlerless moose season in Unit 17A. *Submitted by: Togiak National Wildlife Refuge.*
Proposed Regulation	**Unit 17—Moose** *Unit 17A—1 bull by State registration permit* — *Aug. 25 – Sep. ~~20~~ **25*** ***OR*** ***1 antlerless moose by State registration permit*** — ***Aug. 25 – Sep. 25*** ***OR*** Up to 2 moose; one antlered bull by State registration permit, one antlerless moose by State registration permit — Up to a 31-day season may be announced between Dec. 1-last day of Feb.
OSM Preliminary Conclusion	**Support**
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	**None**

DRAFT STAFF ANALYSIS
WP20-28/29

ISSUES

Wildlife Proposals WP20-28 and WP20-29 were submitted by the Togiak National Wildlife Refuge (Refuge). WP20-28 requests that the bull moose season in Unit 17A be extended by 5 days, from Aug. 25 – Sep. 20 to Aug. 25 – Sep. 25. WP20-29 requests the addition of an Aug. 25 – Sep. 25 antlerless moose season in Unit 17A.

DISCUSSION

The Refuge notes that the moose population in Unit 17A is well above established population objectives, with high bull:cow ratios. The intent of this proposal is to reduce the moose population in this area, ensuring it remains productive and guarding against over browsing of the habitat. The Refuge notes that they supported a recent decision by the Alaska Board of Game (BOG), which implemented these changes in State regulation. It was clarified with the Refuge that the intent of the proposal is to impose a fall harvest limit of either one bull or one antlerless moose, with the opportunity for a second moose during the existing may be announced winter season.

Existing Federal Regulation

Unit 17—Moose

Unit 17A—1 bull by State registration permit	*Aug. 25 – Sep. 20*
Unit 17A—up to 2 moose; one antlered bull by State registration permit, one antlerless moose by State registration permit	*Up to a 31-day season may be announced between Dec. 1-last day of Feb.*

Proposed Federal Regulation

Unit 17—Moose

Unit 17A—1 bull by State registration permit	*Aug. 25 – Sep. ~~20~~ **25***

OR

1 antlerless moose by State registration permit	***Aug. 25 – Sep. 25***
OR	
Up to 2 moose; one antlered bull by State registration permit, one antlerless moose by State registration permit	*Up to a 31-day season may be announced between Dec. 1-last day of Feb.*

Existing State Regulation

Unit 17A—Moose

Residents: *One bull by permit available in person in Dillingham and Togiak beginning Aug. 11.*	*RM573*	*Aug. 25 – Sep. 25*
OR		
One antlerless moose by permit available in person in Dillingham and Togiak beginning Aug. 11.	*RM571*	*Aug. 25 – Sep. 25*
OR		
Two moose total, only one may be an antlered bull (RM575), only one may be an antlerless moose (RM576), by permit available in person in Dillingham and Togiak (up to a 31-day season may be announced Dec. 1 – Feb. 28)	*RM575/ RM576*	*May be announced*
Non-residents: *One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side by permit. No aircraft use on, or within 2 miles of specific rivers and lakes. Nonresident orientation required.*	*DM570*	*Sep. 5 – Sep. 15*

Extent of Federal Public Lands/Waters

Unit 17A is comprised of approximately 87% Federal public lands, all of which are managed by U.S. Fish and Wildlife Service (See Unit Map).

Customary and Traditional Use Determinations

Rural residents of Unit 17, Goodnews Bay, Kwethluk, and Platinum have a customary and traditional use determination in the portion of Unit 17A north and west of a line beginning from the Unit 18 boundary at the northwestern end of Nenevok Lake, to the southern point of upper Togiak Lake, and to the Unit 17A boundary to the northeast towards the northern point of Nuyakuk Lake.

Rural residents of Unit 17, Akiak, Akiachak, Goodnews Bay, and Platinum have a customary and traditional use determination in the portion of Unit 17A north of Togiak Lake that includes Izavieknik River drainages.

Rural residents of Unit 17, Goodnews Bay and Platinum have a customary and traditional use determination in Unit 17A remainder.

Regulatory History

In 2001, a Federal season for moose was established in Unit 17A, as a result of the Federal Subsistence Board's (Board) action on Wildlife Proposal WP01-20. Submitted by the Refuge, WP01-20 requested the establishment of an Aug. 20 – Sep. 15 season, limited to one bull by State registration permit. The proponent noted that the moose population had increased sufficiently in the previous several years, and that harvest had been allowed since 1997 in State regulation. The Board adopted the proposal with modification to establish an Aug. 25 – Sep. 20 season, consistent with recent adjustments in the State season.

In 2002, Emergency Special Action WSA02-11 was submitted by the Togiak Traditional Council, requesting a winter moose hunt in a portion of Unit 17A. The proponent requested that, in the portion of 17A east of the west shore of Nenevok Lake, west bank of Kemuk River, and west bank of Togiak River south from the confluence of Togiak and Kemuk Rivers, a 14-day season be announced by the Refuge manager between December 1 and January 31 with a harvest limit of one antlered bull. This request was consistent with management guidelines developed jointly by the Refuge and the Alaska Department of Fish and Game (ADF&G), which indicated that a winter hunt could be considered when the population exceeded 600 moose. The Board adopted WSA02-11 with modification to require a State registration permit, to reduce regulatory complexity.

State Proposal 52A was developed in concert with WSA02-11. The Alaska Board of Game (BOG) adopted proposal 52A in late 2002, which resulted in the establishment of a 14 day winter season, to be announced between December 1 and January 31 with a harvest limit of one antlered bull. Unlike the Federal season, the new state season was implemented throughout Unit 17A.

Wildlife Proposal WP03-24, submitted by the Bristol Bay Native Association, requested that the winter season described in WSA02-11 be adopted into regulation. It requested that a Federal registration permit be required. At the recommendation of the Bristol Bay Subsistence Regional Advisory Council (Council), the Board deferred this proposal to allow time for review by the Unit 17A Moose Planning Working Group. The deferred proposal became Wildlife Proposal WP04-46 during the 2004 regulatory

cycle. The Board adopted the proposal with modification to authorize a may be announced season up to 14 days long and to require a State registration permit. These modifications were consistent with the recommendations of the Unit 17A Moose Planning Working Group and the Council.

Prior to 2012, the winter season was open in State regulation throughout Unit 17A, but open in Federal regulation only in the portion of 17A east of the west shore of Nenevok Lake, west bank of Kemuk River, and west bank of Togiak River south from the confluence of Togiak and Kemuk Rivers. Wildlife Proposal WP12-40, submitted by the Refuge, requested that the Federal season be expanded geographically to include all of Unit 17A. The Refuge noted that the proposed change would not threaten the conservation status of the population, would provide additional subsistence opportunity, and would reduce regulatory complexity by aligning State and Federal regulation. The Board adopted WP12-40 as part of the consensus agenda.

In early 2013, the Board considered Emergency Special Action WSA12-11. Submitted by the Togiak Traditional Council, WSA12-11 requested that the winter moose season in Unit 17A be extended. The proponent reported that poor winter travel conditions, combined with the long travel distances required to access moose, had resulted in limited opportunity during the previously announced Dec. 18 – Dec. 31 season. As authorized by the Board, the Office of Subsistence Management, with unanimous consent of the Interagency Staff Committee, approved the request and reopened the Federal season Jan. 9 – Jan. 22. ADF&G issued an emergency order to reopen the State season during the same period.

In February 2013, the BOG amended and adopted Proposal 48B. As a result of this action, the State's winter may be announced season was lengthened to up to 31 days. In addition, the harvest limit for the winter season was increased to up to 2 moose.

Following the BOG's action, Emergency Special Action WSA13-01 was submitted by the Council. WSA13-01 requested that the Federal may be announced season be extended to up to 31 days and that the harvest limit for the winter season be increased to up to 2 moose. The Council noted that the requested change would result in additional opportunity for Federally qualified subsistence users, may help slow population growth, was consistent with the Unit 17A Moose Management Plan, and would reduce regulatory complexity by aligning State and Federal seasons and harvest limits. As authorized by the Board, the Office of Subsistence Management, with unanimous consent of the Interagency Staff Committee, approved the request.

The temporary changes implemented by WSA13-01 were proposed for permanent regulations in Wildlife Proposal WP14-21. The Council, who submitted the proposal, noted that these regulations could help prevent continued population growth and overuse of the habitat, while providing additional subsistence opportunity. The Board adopted WP14-21 with modification to delegate authority to the Refuge manager to open and close the season and set the harvest limit, including sex restrictions, via a delegation of authority letter.

In February 2015, the BOG considered Proposal 49, which requested extending the window of opportunity for announcing the winter hunt from Dec. 1 – Jan. 31 to Dec. 1 – Feb 28. ADF&G, the proponent, noted that changing weather patterns and marginal snow conditions had prevented access to

moose in recent years. They argued that extending the window of opportunity would provide flexibility to managers to open the season during years when travel conditions weren't adequate until later in the winter. ADF&G also requested a change in the harvest limit, from up to two moose, to one antlered bull and one antlerless moose. The latter request was aimed at protecting cows from overharvest, preventing disturbance of moose by hunters trying to distinguish antlerless bulls from cows, and shifting the harvest pressure from large breeding bulls to younger bulls that carry their antlers later into winter. The BOG adopted Proposal 49.

These changes in State regulation prompted requests for the same changes in Federal regulation. Wildlife Proposals WP16-27 and WP16-28 were submitted by the Togiak Fish and Game Advisory Committee and the Nushagak Fish and Game Advisory Committee, respectively. Both proposals requested that Federal regulations for the Unit 17A winter moose hunt mirror the recently adopted State regulations. The Board took no action on WP16-28 and adopted WP16-27 with modification to make minor changes to the regulatory language.

The BOG liberalized the fall moose season in Unit 17A at their February 2018 meeting. Proposal 137, submitted by the Togiak Fish and Game Advisory Council, requested that the fall season for residents begin and end five days later, a change from Aug. 25 – Sep. 20 to Aug. 30 – Sep. 25. Proposal 138, submitted by the Traditional Council of Togiak, requested that the resident season be extended by five days, a change from Aug. 25 – Sep. 20 to Aug. 25 – Sep. 25. The proponents of both proposals stated that moose movement was more conducive to hunting later in September. ADF&G, in their comments to the BOG, noted that moose abundance exceeded objectives and that bull:cow ratios appeared to be sufficient to allow additional bull harvest. They also noted that the proposed actions would be consistent with the management plan and might substantially increase bull harvest. The BOG took no action on proposal 137 and amended and adopted proposal 138. As a result of the BOG's decisions, the State season is currently Aug. 25 – Sep. 25 and the harvest limit is one bull or one antlerless moose by registration permit.

Biological Background

Moose are relative newcomers to the Bristol Bay region and, until recently, Unit 17 supported only a small population with limited distribution. Moose populations in the region have grown substantially in the past 30 years, however, and have continued to expand their range westward into western Unit 17A. They are now common wherever there is suitable habitat (Barten 2018).

Moose management within Unit 17A is guided by the Moose Management Plan for Game Management Unit 17A (management plan). The management plan was developed by the Unit 17A Moose Management Group, consisting of the Bristol Bay Subsistence Regional Advisory Council, the Nushagak and Togiak Fish and Game Advisory Committees, the Togiak National Wildlife Refuge, and ADF&G. The management plan outlines a series of management goals and objectives. Population and harvest objectives relevant to this proposal included maintaining a population of 800 – 1,200 moose, allowing a limited winter hunt for antlerless moose when the population is stable or increasing and above 600 moose, and allowing harvest of up to 2 moose when the population exceeds 1,200 moose (Unit 17A Moose

Management Group 2013). ADF&G identifies a target population size of 1,100 – 1,750 moose (Barten 2018), which is somewhat higher than the population objective laid out in the management plan.

Assessment of the Unit 17A moose population is a cooperative undertaking by the Refuge and ADF&G. The first major survey of Unit 17A, conducted in 1981, yielded three moose. In 1994, 84 moose were observed. The population appears to have increased relatively steadily since (Aderman 2014) (**Figure 1**). Growth is attributed continuing immigration from Unit 17C, regulatory changes, commitment from Unit 17A communities to support population growth, availability of Mulchatna caribou as an alternate resource, and good productivity and recruitment due to good forage conditions, mild weather, and low predation (Unit 17A Moose Management Group 2013). At last count, in March 2017, an estimated 2,370 moose (90% CI = 1,805 – 2,934 moose) were present in Unit 17A (Aderman 2017, pers. comm.). This represents a 9% annual growth rate since 2011, and is above the population objectives established by the Unit 17A Moose Management Group and ADF&G.

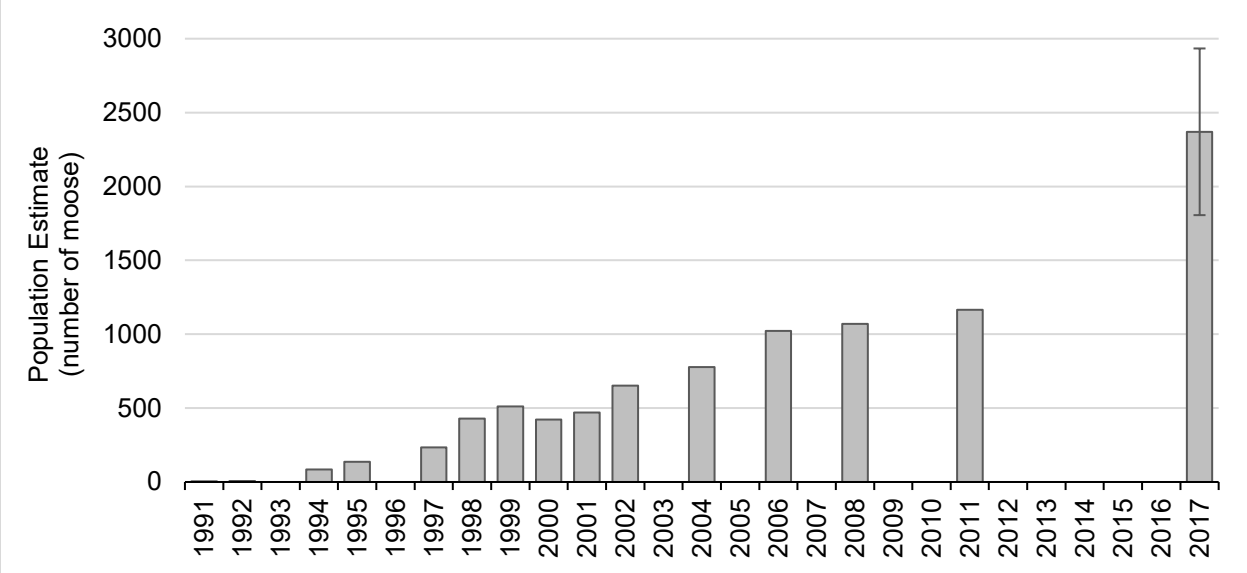

Figure 1. Unit 17A moose population estimates, 1991 – 2017. Prior to 2017, estimates are minimum counts. In 2017, GPSE methodology was used. Error bars represent the 90% confidence interval (Aderman 2014, Aderman 2017, pers. comm.)

Estimates of productivity are high in Unit 17A. Between 1998 and 2013, radio collared cows produced an average of 128 calves:100 cows. During this time period, twin births accounted for 64% of total births (Aderman 2014). Between 1998 and 2016, spring recruitment averaged 60 calves:100 cows and has remained relatively stable (Aderman 2019, pers. comm).

Estimating bull:cow ratios in Unit 17A has been difficult, due to lack of adequate survey methods. Typically, moose surveys occur during the fall. However, when there is no snow cover during that time of year, as often happens in the Bristol Bay region, moose are difficult to spot. Consequently, moose surveys in Unit 17A have occurred in the spring, after bulls have dropped their antlers. This has largely precluded estimation of bull:cow ratios (Barten 2018). However, in 2016 and 2017, favorable fall

conditions allowed estimation of bull:cow ratios. There were 64 bulls:100 cows and 77 bulls:100 cows observed in October of 2016 and 2017, respectively (Aderman 2019, pers. comm.)

Cultural Knowledge and Traditional Practices

Two Central-Yup'ik groups, the Kiatagmiut and the Aglurmiut, traditionally inhabited and hunted in subunit 17C (Fall et al. 1986; VanStone 1984). In historic times, the region supported a limited number of moose and, as such, the species accounted for a small portion of these groups' overall diet (Hensel 1996). Moose were hunted opportunistically and were valued as a source of food, as well as for clothing purposes (Holen et al. 2005; VanStone 1984). The occurrence of moose hunting and use among the Kiatagmiut and Aglurmiut is limited in published literature. However, Hensel (1996) noted that moose were treated with respect and, as the population increased, the species became more important. Holen et al. (2005) stated that moose populations did not increase dramatically until the 1980s and 1990s.

The Russians constructed Fort Alexander in the vicinity of Nushagak Bay in 1820 (Michael 1967). It was the establishment of this fort that enabled the Russians and other Europeans to branch out into the interior parts of Southwestern Alaska. Inland movement brought about more contact between the Russians, Europeans, and Central-Yup'ik groups, which proved to bring about major changes to the Native way of life (Michael 1967; VanStone 1984). The fur trade was the first major disruptor; it altered the subsistence cycle and placed great emphasis on fur trapping, which meant that more time was spent in the pursuit of animals that had little food value. Over time, the Central-Yup'ik groups became increasingly reliant on the trading posts for basic needs (VanStone 1984). The arrival of the Russian explorers and traders was followed by missions, schools, canneries, trappers, and prospectors (VanStone 1984).

ADF&G has conducted several comprehensive subsistence surveys in the Bristol Bay region (Evans et al. 2009; Fall et al. 2006; Krieg et al. 2009; Holen et al. 2012). Over numerous study years it was noted that large mammals made up approximately 15% to 25% of the total harvest of the communities surveyed (Evans et al. 2013; Holen et al. 2012). Those participating communities in the area had a per capita moose harvest that ranged from 24 lbs./person to 188 lbs./person (Coiley-Kenner et al. 2003; Evans et al. 2009; Fall et al. 2006; Krieg et al. 2009; Holen et al. 2012).

Harvest History

Moose harvest in Unit 17A is allowed under both State and Federal regulation. A state permit is required for all hunters, regardless of which regulatory framework they adhere to. Quotas for both antlered and antlerless moose are used to prevent overharvest.

Overall, harvest has increased since 2001, the year a Federal season was established. That year, a total of 7 moose were reported harvested in Unit 17A. Reported harvest peaked in 2016, with 85 moose. Since 2001, 36% of harvest has occurred during winter (December – March), with the remainder occurring during fall hunts (**Figure 2**). Harvest is dominated by local users, defined here as Federally qualified subsistence users. Since 2013, the year the State's nonresident season was established, 83% of reported

harvest can be attributed to local users. Non-local residents of Alaska account for 9 % of the reported harvest, while nonresidents account for 7% of the reported harvest during this period (ADF&G 2019).

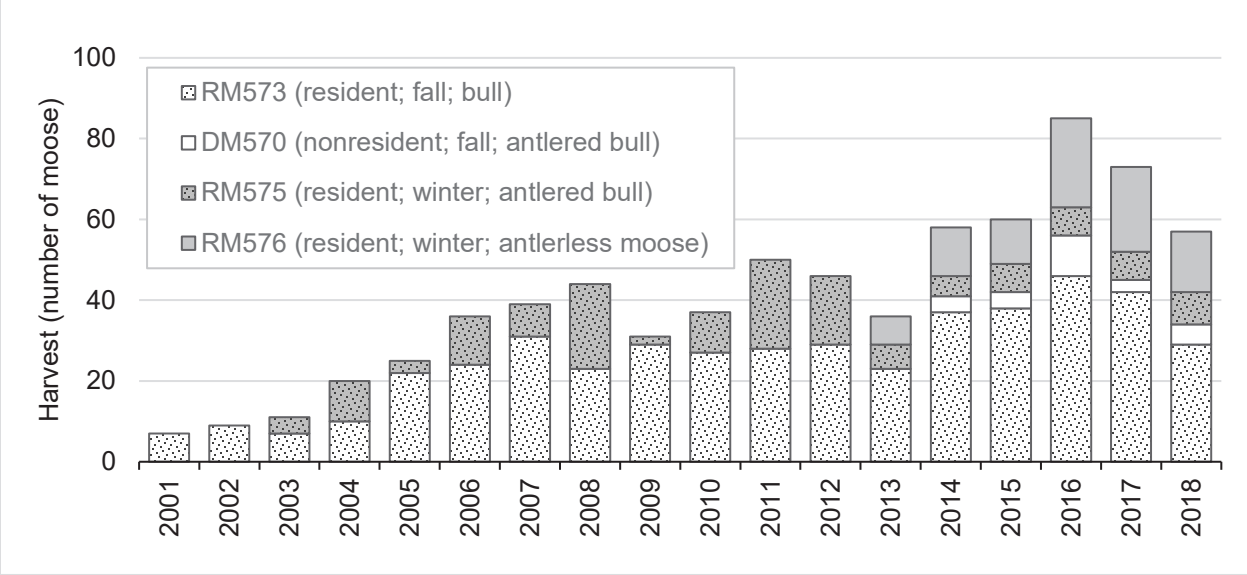

Figure 2. Reported moose harvest in Unit 17A, 2001 – 2018, by permit. White bars indicate fall harvest and grey bars indicate winter harvest (ADF&G 2019).

Effects of the Proposal

If Wildlife Proposal WP20-28 is adopted, the existing bull moose season in Unit 17A will be extended by 5 days, ending on September 25 instead of September 20. If Wildlife Proposal WP20-29 is adopted, an antlerless moose season will be implemented, concurrent with the Aug. 25 – Sep. 25 bull season. These changes will be consistent with changes recently made in State regulation, and all moose hunts in Unit 17A will require a State registration permit. Collectively, these changes may result in additional harvest, providing long-term benefits to a moose population that is currently well above established population objectives.

OSM PRELIMINARY CONCLUSION

Support Proposal WP20-28/29.

Justification

The Unit 17A moose population has grown to nearly double the upper limit of the population objective established by the Unit 17A Moose Management Group. It is also well above the target population size identified by ADF&G. Recent composition estimates reveal high bull:cow ratios, and there are no concerns related to productivity or calf recruitment. Consequently, encouraging additional harvest of this population does not pose a conservation concern, and may be useful for checking population growth and ensuring that the moose population does not over browse available habitat. Because harvest of this population is managed by quota, this additional opportunity poses little risk of overharvest. Adding an

additional antlerless hunt also increases flexibility for managers, in terms of maintaining appropriate sex ratios.

Collectively, these two proposals will result in increased subsistence opportunity for Federally qualified subsistence users. In the long term, preventing unchecked population growth by increasing harvest also ensures long-term subsistence use of moose in this area.

These changes, which mirror recent changes in State regulation, will result in reduced regulatory complexity by aligning seasons and harvest limits in State and Federal regulation. This will reduce confusion for Federally qualified subsistence users, who are eligible to hunt under both regulatory frameworks. Requiring a State registration permit is consistent with existing management practices for moose throughout Unit 17 and will ensure that harvest records continue to be consolidated in a single system, improving harvest management. Requiring a State permit will also benefit Federally qualified subsistence users, who, for a given hunt, will be able to hunt seamlessly across jurisdictions with a single permit.

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WP20–26 Executive Summary	
General Description	WP20-26 requests that Federally qualified subsistence users be allowed to use a snowmachine to position wolves, and wolverines for harvest on Bureau of Land Management (BLM) lands in Units 9B, 9C, 17B, and 17C, provided the animals are not shot from a moving snowmachine. *Submitted by: Bristol Bay Subsistence Regional Advisory Council.*
Proposed Regulation	**§_____.26(n)(17)(iii) Unit 17—Unit-specific regulations** . . . ***(D) In Units 17B and 17C, on BLM-managed lands only, a snowmachine may be used to position a wolf or wolverine for harvest, provided that the animal is not shot from a moving snowmachine.***
OSM Preliminary Conclusion	**Support**
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	**1 Oppose**

DRAFT
STAFF ANALYSIS
WP20-26

ISSUES

Proposal WP20-26, submitted by the Bristol Bay Subsistence Regional Advisory Council requests that Federally qualified subsistence users be allowed to use a snowmachine to position wolves, and wolverines for harvest on Bureau of Land Management (BLM) lands in Units 9B, 9C, 17B, and 17C, provided the animals are not shot from a moving snowmachine.

DISCUSSION

The proponent states that the use of snowmachines to position wolves and wolverines is a traditional practice in rural areas, and the proposed regulation will mirror Federal regulations in Unit 23.

Existing Federal Regulation

§____.26 Subsistence taking of wildlife

. . .

(b) 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:

. . .

(4) Taking wildlife from a motorized land or air vehicle when that vehicle is in motion, or from a motor-driven boat when the boat's progress from the motor's power has not ceased.

(5) Using a motorized vehicle to drive, herd, or molest wildlife.

Proposed Federal Regulation

§____.26 Subsistence taking of wildlife

. . .

(b) 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:

. . .

(4) Taking wildlife from a motorized land or air vehicle when that vehicle is in motion, or from a motor-driven boat when the boat's progress from the motor's power has not ceased.

(5) Using a motorized vehicle to drive, herd, or molest wildlife.

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

. . .

(I) In Units 9B and 9C, on BLM-managed lands only, a snowmachine may be used to position a wolf or wolverine for harvest, provided that the animal is not shot from a moving snowmachine.

. . .

§_____.26(n)(17)(iii) Unit 17—Unit-specific regulations

. . .

(D) In Units 17B and 17C, on BLM-managed lands only, a snowmachine may be used to position a wolf or wolverine for harvest, provided that the animal is not shot from a moving snowmachine.

Existing State Regulations

AS 16.05.940. Definitions.

. . .

(34) "take" means taking, pursuing, hunting, fishing, trapping, or in any manner disturbing, capturing, or killing or attempting to take, pursue, hunt, fish, trap, or in any manner capture or kill fish or game.

5 AAC 92.080. Unlawful methods of taking game; exceptions

The following methods of taking game are prohibited:

. . .

(4) unless otherwise provided in this chapter, from a motor-driven boat or a motorized land vehicle, unless the motor has been completely shut off and the progress from the motor's power has ceased, except that a

. . .

(B) motorized land vehicle may be used as follows:

(iii) notwithstanding any other provision in this section, in Units 9(B), 9(C), 9(E), 17, 18, 19, 21, 22, 24, 25(C) and 25(D), except on any National Park Service or National Wildlife Refuge lands not approved by the federal agencies, a snowmachine may be used to position a hunter to select an individual wolf for harvest, and wolves may be shot from a stationary snowmachine;

. . .

(5) except as otherwise specified, with the use of a motorized vehicle to harass game or for the purpose of driving, herding, or molesting game.

5 AAC 92.990. Definitions

(a) In addition to the definitions in AS 16.05.940 , in 5 AAC 84 – 5 AAC 92, unless the context requires otherwise,

. . .

(70) "harass" means to repeatedly approach an animal in a manner which results in the animal altering its behavior;

NOTE: The complete text for 5 AAC 92.080(4)(B) is in **Appendix 1.**

Relevant Federal Regulations

50 CFR 100.4 and 36 CFR 242.4 Definitions

Take or taking as used with respect to fish or wildlife, means to pursue, hunt, shoot, trap, net, capture, collect, kill, harm, or attempt to engage in any such conduct.

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

. . .

(E) A snowmachine may be used to position a hunter to select individual caribou for harvest provided that the animals are not shot from a moving snowmachine. On BLM-managed lands only, a snowmachine may be used to position a caribou, wolf, or wolverine for harvest provided that the animals are not shot from a moving snowmachine.

43 CFR 8341.1 (Bureau of Land Management)

(f.) No person shall operate an off-road vehicle on public lands: ... (4) In a manner causing or likely to cause significant, undue damage to or disturbance of ... wildlife

Extent of Federal Public Lands

Unit 9 is comprised of approximately 53% Federal public lands and consist of 28% National Park Service, 22% U.S. Fish and Wildlife Service, and 3% Bureau of Land Management managed lands. Bureau of Land Management lands comprise 8% of Unit 9B and 4% of Unit 9C.

Unit 17 is comprised of approximately 28% Federal public lands and consist of 21% U.S. Fish and Wildlife Service, 4% Bureau of Land Management, and 3% National Park Service managed lands. Bureau of Land Management lands comprise 1% Unit 17B and 10% of Unit 17C.

Customary and Traditional Use Determination

The Federal Subsistence Board (Board) has not made a customary and traditional use determination for wolverines in Unit 9 or Unit 17. Therefore, all Federally qualified subsistence users may harvest wolverines.

Residents of Units 6, 9, 10 (Unimak Island only), 11, 12, 13, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, and Chickaloon have a customary and traditional use determination for wolves in Units 9 and 17.

Regulatory History

In 1995, Proposal P95-52 requested that snowmachines and motor-driven boats be allowed in the taking of caribou and moose in Unit 25 during established seasons, except shooting from a snowmachine in motion was prohibited. There was no existing regulation on the use of motorized vehicles in Unit 25 prior to this. The Federal Subsistence Board (Board) adopted the recommendation of the Eastern Interior Alaska and Southcentral Alaska Subsistence Regional Advisory Councils who supported the proposal in recognition that methods change over time and because it supported subsistence uses.

In 2000, the Board adopted Proposal P00-53 with modification allowing the use of snowmachines to position a hunter and select individual caribou for harvest in Units 22 and 23. The Board did this to recognize a longstanding customary and traditional practice in the region (FWS 2000). However, the proponent had asked to position a caribou, not a hunter. The Interagency Staff Committee provided a rationale for the modification:

> Following the Regional Council winter meetings, the Deputy Regional Director of the U.S. Fish and Wildlife Service (FWS), Alaska Region, met with the Assistant Regional Director for Law Enforcement, the Staff Committee member for FWS, the Refuge Supervisor for Northern Refuges, and the Native Liaison and, after lengthy discussion, agreed to recommend substituting "a hunter" for "caribou" in the proposal language. They agreed that this is consistent with conservation principles and existing agency regulations as long as herding does not occur and shooting from a moving snowmachine is prohibited (FWS 2000:13).

In 2012, Proposal WP12-53 was submitted by the Yukon Delta National Wildlife Refuge, and requested unit specific regulation prohibiting a hunter in Unit 18 from pursuing with a motorized vehicle an ungulate that is "fleeing." The Board adopted the proposal with modification and prohibited the pursuit with a motorized vehicle of an ungulate that was "at or near a full gallop" in Unit 18, providing greater clarity of allowable methods of harvest (FWS 2012).

At its March 2014 meeting, the Alaska Board of Game adopted Proposal 177, which allows a hunter to use a snowmachine in Units 22, 23 and 26A to position a caribou, wolf, or wolverine for harvest, as long as these animals were shot from a stationary snowmachine (see *5 AAC 92.080(4)(B)(i)* at **Appendix 1**). The purpose of the proposal was to allow the use of snowmachines to track these animals.

In 2016, Proposal WP16-48, submitted by the Native Village of Kotzebue, requested that Federally qualified subsistence users be allowed to use snowmachines to position a caribou, wolf, or wolverine for harvest in Unit 23. The Board adopted the proposal with modification to allow this method of harvest only on those lands managed by the Bureau of Land Management. The Board recognized uses of snowmachines to position animals as customary and traditional practice. However, positioning animals by snowmachine is prohibited on National Park Service and U.S. Fish and Wildlife Service lands under agency-specific regulations. Bureau of Land Management regulatory language does not specifically prohibit the use of snowmachines to position animals for hunting and this harvest method is allowed on some State managed lands.

In the spring of 2017, Kenneth Nukwak of Manokotak submitted Proposal WP18-24 requesting that Federally qualified subsistence users be allowed to use a snowmachine to position caribou, wolves, and wolverines for harvest in Unit 17, provided the animals would not shot from a moving vehicle. During the fall 2017 meeting cycle, the Bristol Bay Subsistence Regional Advisory Council voted to oppose Proposal WP18-24, noting a lack of clear definitions for positioning and chasing of an animal.

At its February 2018 meeting in Dillingham, the Alaska Board of Game adopted Proposal 148, also submitted by Kenneth Nukwak of Manokotak, with modification. The original proposal requested that Federally qualified subsistence users be allowed to use a snowmachine to position caribou, wolves, and wolverines for harvest in Unit 17, provided the animals would not be shot from a moving vehicle. The modified regulation was limited to caribou and stated that a snowmachine may be used in Unit 17 to assist in the taking of a caribou, and caribou may be shot from a stationary snowmachine, with further clarification describing exactly how the snowmachine may be used for assistance (see *5 AAC 92.080(4)(B)(viii)* at **Appendix 1**).

At its winter meeting in March of 2018, the Bristol Bay Subsistence Regional Advisory Council voted to request Proposal WP18-24 be removed from the consensus agenda at the next Board meeting. Reasoning for this included providing an opportunity for the Board to deliberate the proposal on record, in light of Board of Game deliberation, modification, and adoption of the same proposal on State lands in Unit 17. During the April 2018 Board meeting, Proposal WP18-24 was taken off the consensus agenda. Some public testimony was received in support of the proposal. The Board deliberated the proposal on record and rejected it.

Biological Background

Wolves and wolverines are present throughout Units 9 and 17. As with other furbearers in Alaska, there is scant objective data on abundance of these animals. Rather, relative abundance has typically been estimated using the results of trapper questionnaires, as well as incidental observation by biologists, hunters, trappers, guides and others.

Wolves

Historically, wolf density has varied in response to harvest pressure, prey availability, and disease. In Unit 9, wolf densities were low in the early 1980s following the end of the Federal wolf control program. Abundance appears to have increased during the 1990s. Currently, the population is believed to be relatively stable, and monitoring efforts in Units 9C and 9E indicate that the population is 250 – 550 wolves, or 16-18 wolves/1,000 mi^2 (Crowley and Peterson 2018). Wolf dynamics in Unit 17 have been similar to those in Unit 9, with abundance increasing during the mid-1980s and early 1990s (Barten 2018) and recent observations suggesting that the population is relatively stable (Spivey 2019).

Wolverines

Compared to other furbearers, wolverines occur at low densities (Copeland and Whitman 2003). Though wolverine abundance remains unquantified due to the impracticality of formal assessment (Crowley 2013), low densities appear to be confirmed by local trappers, who report that wolverines in Units 9 and 17 are scarce but stable (Spivey 2019).

Cultural Knowledge and Traditional Practices

During his study years of 1964 and 1965, VanStone (1967:134) documented winter travel along the Nushagak River as occurring almost exclusively by dog team. During the winter months dog teams were used to harvest caribou, access trap lines, and provide for the transportation of supplies and people throughout the region. Hunters used traditional methods to harvest wildlife. These methods included a hunter moving animals towards another hunter's position (Nelson 1983 [1899] and Oswalt 1990). At the time of his study, VanStone was only aware of a few Bristol Bay residents that possessed snowmachines. Approximately 10 years later, when the Alaska Department of Fish and Game (ADF&G) first began conducting research on subsistence harvest activities, dog teams were barely mentioned. Instead, reports noted that the communities of Nushagak Bay had mostly transitioned to the use of boats, aircrafts, and snowmachines as a preferred means of travel and for accessing animals for harvest (Coiley-Kenner et al. 2003; Evans et al. 2013; Fall et al. 1986; Holen et al. 2012; Holen et al. 2005; Kreig et al. 2009; Schinchnes and Chythlook 1988; Seitz 1996; Wolfe et al. 1984; Wright et al. 1985).

In the past, prior to the use of snowmachines, people in the region were more nomadic. Residents of Southwest Alaska practiced an annual round of harvest activities that allowed them to effectively position themselves in proximity to important resources that supported their families through extended travel to seasonal subsistence camps. In La Vine and Lisac (2003), elders describe a harvest year that began at fish camp in the early summer, moved up the river to hunting and trapping camps for the fall and winter, traveled through mountain passes and down rivers to bays and estuaries for the spring harvest of migratory waterfowl and eggs, finally returning to fish camp once again in early summer (La Vine and Lisac 2003). A trip such as this required travel by boat, sled, and foot and took the family hundreds of miles and 12 months to complete. As village life solidified around schools and economic opportunities, technological advances like boats with outboard motors and snowmachines allowed people to travel further over shorter periods of time in order to access resources they once had to follow over seasons instead of hours.

Wolves and Wolverine

Across Alaska, both wolves and wolverines are highly prized for their fur, which is used to trim locally made parkas and other items of clothing or handicrafts. While not as prominent an activity as in the past, rural residents still participate in trapping as a source of income in the Bristol Bay region, particularly for wolverine, which continues to fetch a high price for quality fur (Woolington 2013). Snowmachines were the primary means of transportation used by hunters and trappers for taking wolves and furbearers in Unit 17 from 2008 through 2012 (Woolington 2012 and 2013). Most wolves were harvested by firearm between the regulatory years of 1992 and 2010, while wolverines were more frequently taken by trap or snare.

The Division of Subsistence at ADF&G conducts household subsistence harvest surveys periodically throughout Alaska. Though this survey data is only available for some communities in some years, it is an additional source for documenting patterns of use in rural Alaska. The most recent surveys conducted in the Bristol Bay region describe the harvest and use of wolves and wolverines as varied between communities and study years (Evans et al. 2013; Holen et al. 2012; Holen et al. 2011; Holen et al. 2005; Kreig et al. 2009). A common pattern described by most reports is that a smaller percentage of households in each community report harvest or attempted harvest and use of furbearers than those reporting harvest and use of salmon or large land mammals like moose and caribou. In most cases only a few households are responsible for the majority of the harvest and use of furbearers, likely in association with keeping a trap line.

Harvest History

Wolves

Harvest of wolves is influenced by weather and travel conditions, which can result in variable harvest from year to year. Alaska Department of Fish and Game sealing records indicate that from 2010 to 2014, the most recent five-year period for which unit-specific sealing data is available, reported harvest ranged from 44 to 142 wolves in Unit 9. On average 64 wolves were harvested annually (Crowley and Peterson 2018).

Reported harvest was also variable in Unit 17, where between 6 and 105 wolves were harvest annually from 2010 to 2014. During that period, annual harvest averaged 47 wolves. In Unit 17, 70% of harvested wolves were shot, 18% were trapped or snared, and 69% of hunters and trappers used snowmachines to harvest wolves (Barten 2018).

Wolverines

Like wolf harvest, wolverine harvest can vary from year to year, reflecting trapper effort that varies with travel conditions. For 2007 – 2016, the most recent ten-year period for which unit-specific sealing data is available, reported harvest ranged from 9 to 36 wolverines in Unit 9. On average, annual reported harvest was 25 wolverines, 89% of which were trapped or snared, and 10% of which were shot.

Snowmachines were used in 28% of wolverine harvest during this period. (Crowley 2013; Rinaldi 2019, pers. comm.).

In Unit 17, sealing records indicate that reported harvest ranged from 8 to 63 wolverines annually during 2007 – 2016, averaging 37 wolverines annually. During this time period, 79% of wolverines were trapped or snared and 17% were shot. Snowmachines were used 46% of the time (Woolington 2013; Rinaldi 2019, pers. comm.).

Other Relevant Proposals

Proposal WP20-27 was also submitted by the Bristol Bay Regional Advisory Council, and it requests a unit-specific regulation for Unit 17 allowing use of a snowmachine to assist in the taking of a caribou and allowing caribou to be shot from a stationary snowmachine, using the regulatory language adopted by the Alaska Board of Game in February 2018.

Effects of the Proposal

If adopted, Proposal WP20-26 would allow hunters to use a snowmachine to position wolves and wolverines for selection and harvest, as long as they were not shot from a moving snowmachine. The most recent available reports suggest that, in the Bristol Bay region, the majority of wolves are harvested by firearm, while the majority of wolverine are harvested by trapping. The proposed regulation may not result in an increase in harvest of wolves and wolverines by trap or snare. However, such regulatory changes could increase the take of wolves and wolverines by firearm, and may result in more opportunistic harvest. Currently the wolf population is believed to be stable. Less is known about the resident wolverine population and this change in regulation could result in increased biological vulnerability.

Bureau of Land Management lands in Units 9B, 9C, 17B, and 17C flank portions of the Nushagak and Kvichak rivers, and if the proposal is adopted, then it may provide most benefit to those communities situated nearest including Koliginek, New Stuyahok, Ekwok, Igiugig, Levelock, King Salmon, Naknek, and South Naknek. Regulations for the use of snowmachines when harvesting wolves or wolverines would be different on State managed lands, however this is already the case and should the proposal be adopted, it does not add regulatory complexity that does not already exist. Specifically, in State regulations, a snowmachine may be used to position a hunter to select an individual wolf for harvest, and wolves may be shot from a stationary snowmachine; in Federal regulations, a snowmachine could be used to position a wolf or wolverine for harvest, and either could be shot from a stationary snowmachine.

OSM PRELIMINARY CONCLUSION

Support Proposal WP20-26.

Justification

Hunters using snowmachines to position wolves and wolverines for harvest is a traditional practice in the Bristol Bay area. While methods and means for taking wildlife in ethnographic literature describe hunters employing traditional strategies that might affect game behavior, until the 1960s hunters were largely on sled and foot (Nelson 1983 [1899]; Oswalt 1990; VanStone 1967). As means for travel, access, and harvest continue to change over time, hunters persist in using traditional methods purposefully meant to alter the behavior of wildlife in order to position them for harvest because these methods are efficient. Additionally, the Board has adopted a similar regulation in Unit 23, in recognition of the snowmachine as a customary and traditional harvest method. The proposed regulation change might increase opportunity through an enhanced method for the harvest of wolverines and could result in more harvest. Impacts to wolverine populations are unknown at this time and are difficult to track.

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APPENDIX 1

5 AAC 92.080. Unlawful methods of taking game; exceptions

The following methods of taking game are prohibited:

. . .

(4) unless otherwise provided in this chapter, from a motor-driven boat or a motorized land vehicle, unless the motor has been completely shut off and the progress from the motor's power has ceased, except that a

. . .

(B) motorized land vehicle may be used as follows:

i) In Units 22, 23, and 26(A), a snowmachine may be used to position a caribou, wolf, or wolverine, for harvest, and caribou, wolves and wolverines may be shot from a stationary snowmachine.

(ii) notwithstanding any other provision in this section, in the wolf control implementation areas specified in 5 AAC 92.111 - 5 AAC 92.113, 5 AAC 92.118, and 5 AAC 92.121 - 5 AAC 92.124, a snowmachine may be used to position a hunter to select an individual wolf for harvest, and wolves may be shot from a stationary snowmachine;

(iii) notwithstanding any other provision in this section, in Units 9(B), 9(C), 9(E), 17, 18, 19, 21, 22, 24, 25(C) and 25(D), except on any National Park Service or National Wildlife Refuge lands not approved by the federal agencies, a snowmachine may be used to position a hunter to select an individual wolf for harvest, and wolves may be shot from a stationary snowmachine;

(iv) notwithstanding any other provision in this section, in the bear control implementation areas specified in 5 AAC 92.111 - 5 AAC 92.113, 5 AAC 92.118, and 5 AAC 92.121 - 5 AAC 92.124, a snowmachine may be used to position a hunter to select an individual bear for harvest, and bears may be shot from a stationary snowmachine;

(v) notwithstanding any other provision in this section, in Units 9(B), 9(C), 9(E), 17, 22 and 25(C), except on any National Park Service or National Wildlife Refuge lands not approved by the federal agencies, an ATV may be used to position a hunter to select an individual wolf for harvest, and wolves may be shot from a stationary ATV;

(vi) under authority of a permit issued by the department;

(vii) in Unit 18, a snowmachine may be used to position a wolf or wolverine for harvest, and wolves or wolverines may be shot from a stationary snowmachine;

(viii) in Unit 17, a snowmachine may be used to assist in the taking of a caribou and caribou may be shot from a stationary snowmachine. "Assist in the taking of a caribou" means a snowmachine may be used to approach within 300 yards of a caribou at speeds under 15 miles per hour, in a manner that does not involve repeated approaches or that causes a caribou to run. A snowmachine may not be used to contact an animal or to pursue a fleeing caribou.

(5) except as otherwise specified, with the use of a motorized vehicle to harass game or for the purpose of driving, herding, or molesting game;

(6) with the use or aid of a machine gun, set gun, or a shotgun larger than 10 gauge;

(7) with the aid of

(A) a pit;

(B) a fire;

(C) artificial light, except that artificial light may be used.

June 25, 2019

TO: Federal Board of Subsisence Management, (Att: Theo Mutskowitz)

FROM: Alaskans FOR Wildlife and any Cooperating Entities

RE: Comments on Subsistence Proposals

Please consider these comments on numbered proposals. Comments are offered from a public perspective that reflects several major considerations which we earnestly wish you and the board to keep clearly in mind as you make decisions on these and all proposals offered, namely,

1) The lands in question are publically owned lands belonging to all US citizens who in theory and in law all have interest in how wildlife on these lands are managed, and
2) Article 8 of our Alaska Constitution clearly sets forth that ALL (emphasis) Alaskans are stakeholders, all essentially owners, with respect to its natural resources and how they are managed .

WP-20 Wolf Trapping lifting harvest restrictions and extending sealing time.

OPPOSE

This proposal leads to spreading unrestricted wolf take everywhere. Given especially the substantial science on the value of apex predators plus the high interest in sustaining wolf populations on American public lands including here in Alaska as essential to maintenance of ecosystem biodiversity, we maintain that enactment of this proposal would result in another chapter in the unscientific overall continued war on wolves. This proposal to lift harvest limits and to extend sealing limits also already excessive in length are not scientifically justified nor justified as a pubic matter given the overall value of wolves to maintenance of biodiversity. It must not pass.

WP20-17 – Removing harvest quotas and sealing requirements for hunting wolves, OPPOSE.
We oppose this proposal for the same reasons offered to oppose the previous proposal, WP20-16.
The values of wolves as apex predator and its place in American culture must have bearing upon this consideration. No science and no national or even Alaskan public cultural norms can possibly support this permissively reckless proposal to expand wolf take without bounds. It must not pass.

-3-

WP20-26 Permitting the use of snowmachines to "position" wildlife for harvest. OPPOSE

This proposal would expand this practice apparently from other land management units. In essence "positioning" is another term for what in reality will result in chasing, and harassing wildlife to exhaustion, prohibitions in the regulation notwithstanding, due to impossible enforcement limitations. As an example, when asked to explain existing regulations for snowmachine use in trapping and hunting, an Alaska wildlife trooper explained he does not even understand the regulation.

Expanded snowmachine use, "positioning," will amount to a continued enforcement challenge. Widespread abuse will surely result and will continue to give subsistence the reputation of abuse when it really needs public support: we feel that as we now face mass extinctions of wildlife species; there is new public and growing focus on the crisis. This is an extremely unwise plunge to the bottom and we caution a futuristic consideration.

WP20-08 Proposal to require traps and snares to be marked with name and state identification number.

-4-

SUPPORT This proposal is topical, even in urban municipalities of Alaska as conflicts in public use areas resulting in injuries to hikers, pets and other outdoor public land users rise .

Keeping in mind even the use of more remote public lands grows as outdoor users of their lands increase, the potential for conflicts including serious injuries resulting from hidden owner-unidentified traps will increase. Organized trappers have strongly opposed such requirements as proposed here in past requests for change considered by the Alaska Board of Game. We witness the public land users (including of federal lands) would most certainly strongly favor this accountability. We strongly favor this proposal.

In closing, please carefully consider these comments as you go forward with the process over the next year or so. WE thank you for your consideration of these comments.

Sincerely,
Jim Kowalsky,
Chair, Alaskans FOR Wildlife
PO Box 81957
Fairbanks, Alaska 99708

WP20–08 Executive Summary	
General Description	Proposal WP20–08 requests implementing a statewide requirement that traps and snares be marked with either the trapper's name or State identification number. *Submitted by: East Prince of Wales Advisory Committee.*
Proposed Regulation	**Statewide— Trapping (General Provisions)** ***Traps or snares must be marked with trapper's name or state identification number (Alaska driver's license number or State identification card number).***
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	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	

WP20–08 Executive Summary	
Northwest Arctic Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
North Slope Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	**1 Support, 1 Oppose**

DRAFT STAFF ANALYSIS
WP20-08

ISSUES

Wildlife Proposal WP20-08, submitted by the East Prince of Wales Fish and Game Advisory Committee, requests implementing a statewide requirement that traps and snares be marked with either the trapper's name or State identification number.

DISCUSSION

The proponent believes that current regulations do not allow for accountability if a trapper leaves their traps out and set after the close of the season, or chooses to use illegal baits (i.e., whole chunks of deer meat or whole migratory birds). The proponent believes requiring trap identification (Alaska issued driver's license number or personal identification number) would make enforcement easier and may prevent these issues. Clarification with the proponent indicated that the proposed marking requirement is to apply Statewide.

Existing Federal Regulation

There are no statewide trap marking requirements under Federal regulations.

Proposed Federal Regulation

Statewide— Trapping (General Provisions)

Traps or snares must be marked with trapper's name or state identification number (Alaska driver's license number or State identification card number).

Existing State Regulation

There are no statewide trap marking requirements under State regulations.

Extent of Federal Public Lands/Waters

Alaska is comprised of 65% Federal public lands and consist of 23% Bureau of Land Management (BLM) managed lands, 21% U.S. Fish and Wildlife Service (USFWS) managed lands, 15% 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 100, §___.24(a)(1) and 36 CFR 242 §___.24(a)(1).

Regulatory History

The Alaska Board of Game (BOG) adopted a marking requirement for traps and snares in Units 1–5 in 2006. Federal regulations were aligned with the State requirements in Units 1–5 when the Federal Subsistence Board (Board) adopted Proposal WP12-14 in 2012. The rationale of the Board was that the BOG adopted trap marking requirements for Units 1-5 in 2006 in response to concerns by Alaska Wildlife Troopers, the Alaska Department of Fish and Game (ADF&G), and members of the public, that trapping as a whole would benefit from having some way of identifying ownership of traps and snares. This was prompted by incidences of traps being placed in areas where trapping was not allowed, pets being caught in traps, and unattended snares still capable of capturing a passing deer, bear, or wolf, being found following the close of season (FSB 2012).

The Southeast Alaska Subsistence Regional Advisory Council (Council) expressed concern that there was a lack of evidence why traps should be marked in either State or Federal regulations, and stated that regulations should be adopted for a good reason and not because of "*one bear caught in a snare, set by an unknown person for an unknown reason*". However, the Council supported the proposal, stating the benefit of aligning Federal and State regulations, and reducing the uncertainty about whether current regulations required traps to be marked (SEASRAC 2011).

In 2014, the Board considered Proposal WP14-01, requesting new statewide Federal provisions requiring trapper identification tags on all traps and snares, the establishment of a maximum allowable time limit for checking traps, and establishment of a harvest/trapping report form to collect data on non-target species captured in traps and snares. The proposal analysis indicated statewide application would be unmanageable, would require substantial law enforcement and public education efforts, and could cause subsistence users to avoid the regulation by trapping under State regulations. The proposal was unanimously opposed by all ten Federal Subsistence Regional Advisory Councils, ADF&G, and the public as reflected in written public comments. The Board rejected the proposal as part of its consensus agenda (FSB 2014).

In March 2016, the BOG removed trap marking requirements in response to Proposal 78. The BOG determined that trappers are generally responsible and that the 2006 regulation was not addressing the reasons why it was implemented, noting that marking traps does not prevent illegal trapping activity or prevent dogs from getting trapped.

In 2018, the Board considered Proposal WP18-13, requesting removal of the trap marking requirement in Units 1-5. The proposal was submitted to remove an unnecessary and burdensome requirement on Federally qualified subsistence users and to realign State and Federal regulations. While ADF&G was neutral on the proposal, it was unanimously supported by the Council (SEASRAC 2017). The proposal was adopted by the Board as part of its consensus agenda (FSB 2018).

Current Events Involving the Species

Wildlife proposal WP20-20 has been submitted requesting that trap sites be marked with brightly colored surveyor's tape in plain view on a nearby tree or overhanging branch in Unit 7.

Effects of the Proposal

The proposal will not result in any positive or negative effects to furbearer or other non-furbearer wildlife populations.

If the proposal is adopted, Federally qualified subsistence users trapping under Federal regulations throughout the State will be required to mark traps and snares with identification tags. The proposed requirement could potentially benefit law enforcement by allowing easier identification of traps and snares set in the field. However, differences in land ownership, population concentrations, terrain, and habitats would limit the effectiveness of the proposed statewide regulation. Individual traplines can span across Federal and State managed lands and, therefore, could have different regulatory requirements along the line. Alternatively, Federally qualified subsistence users could simply choose to trap under State regulations and avoid the proposed requirement, as both Federal and State trapping regulations are applicable on most Federal public lands, as long as the State regulations are not inconsistent with or superseded by Federal regulations, or unless Federal lands are closed to non-Federally qualified users.

Within portions of Unit 15, over 60 percent which lies within Kenai National Wildlife Refuge, and those portions of Unit 7 that are contained within Kenai NWR, a trapping permit is required and a stipulation of Kenai NWR's permit includes the marking of traps and snares. Also, under State regulations, all snares within a quarter mile of a public road in Units 12 and 20E are required to be marked. Federally qualified subsistence users trapping on Federal public lands outside of these specific areas would be required to mark traps and snares with identification tags that include the trapper's name and license number. However, Federally qualified subsistence users trapping on Federal public lands would not be required to mark traps and snares under State regulations.

The requirement to mark traps and snares would also result in additional burden and cost for Federally qualified subsistence users trapping under Federal subsistence regulations. Copper tags stamped with a trapper's identification information, including fasteners, cost approximately $26 per 100 tags (including shipping) or less (approximately $15–$20) for "write-your own" tags (FWS 2012). In addition, trappers often trade or borrow equipment from family members or friends, and changes of identification tags on large numbers of traps or snares would require significant effort (FWS 2014).

Re-implementation of a mandatory requirement to mark traps under Federal regulations creates unnecessary divergence of State and Federal regulations, which may create confusion for Federally qualified subsistence users. Although adoption of the proposal could allow law enforcement to more easily identify trappers that have traps deployed outside the open season or have otherwise violated regulations, mandatory trap marking does not necessarily prevent illegal trapping activity or prevent dogs from getting trapped. Also, adoption of this proposal will not affect State regulations, which would allow Federally qualified subsistence users to operate traps under State regulations to avoid this requirement.

OSM PRELIMINARY CONCLUSION

Oppose Proposal WP20-08.

Justification

Requiring Federally qualified subsistence users to mark traps is an unnecessary burden, as mandatory marking does not prevent illegal trapping activity. With State regulations being less restrictive, Federally qualified subsistence users could avoid the requirement by trapping under those regulations, essentially rendering a Federal marking requirement unenforceable. There is no anticipated conservation concern to furbearers with opposing this proposal, as there is no established correlation between furbearer harvest levels and trap marking requirements. Adoption of this proposal also creates unnecessary divergence between State and Federal regulations.

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WRITTEN PUBLIC COMMENTS

Ketchikan Advisory Committee
June 6th, 2019
ADF&G Conference Room

I. **Call to Order**: 5:40pm by Matt Allen, Secretary

II. **Roll Call:** 8 voting members present, 1 via phone
Members Present: Allen, Crittenden, Dale, James, Westlund, Roth, Shaw, Bezneck, Fox, Scoblic (Phone)
Members Absent (Excused): Doherty, McQuarrie, Skan, Franulovich, Miller
Members Absent (Unexcused):
Number Needed for Quorum on AC: 8
List of User Groups and Public Present: Public, Sportfish Charter, ADFG (Sport Fish, Wildlife)
Motion: Bezneck, motion to make Allen meeting Chair, Roth, second. 9-0 in favor. Allen sits as meeting Chair

III. **Approval of Agenda:**
Allen, motion to amend agenda to include discussion of Federal Subsistence Proposals 10, 11, 13,14. Westlund seconded. Motion passed unanimously (9-0). Westlund, moved to approve agenda, Dale seconded. Motion passed unanimously (9-0)

IV. **Approval of Previous Meeting Minutes:**
Previous meeting minutes incomplete at this time

V. **Fish and Game Staff Present:**
Kelly Reppert, Ross Dorendorf, Tessa Hasbrouck

VI. **Guests Present: Jim Moody, Nick Hashagan, Martin Caplan, Tony Azure**

VII. **Chairman Report:** Allen read co-chair letter from Scoblic/Doherty

VIII. **ADF&G Sportfish Report: Reppert**, report regarding catch and release chinook fishing. Discussion and comment followed report.

IX. **Old Business:**
Federal Subsistence Proposals 2020-2022, WP20-01-08, WP20-10-15

X. **New Business:**
Catch and Release of chinook by Charter fishermen
Set next meeting date, September 12th, 2019, 5:30pm ADFG Conference Room

Federal Subsistence Management Program 2020-2022 Wildlife Proposal Comments			
Proposal Number	**Proposal Description**		
Support, Support as Amended, Oppose, No Action	**Number Support**	**Number Oppose /Abstain**	**Comments, Discussion (list Pros and Cons), Amendments to Proposal, Voting Notes**
WP20-01	Southeast, Moose, Unit 1C, Eliminate Unit 1C – Berners Bay moose hunt		
Support	8	0/1 abstain	A biological concern does not currently exist necessitating a subsistence priority. Majority of traditional use comes from Juneau area. A fair system is currently in place to provide for opportunity
WP20-02	Southeast, Deer, Unit 2, Remove harvest limits to non-federally qualified users		
Support	9	0	We support State managers in their assessment of the deer population and the opportunity it can support.
WP20-03	Southeast, Deer, Unit 2, Eliminate doe harvest		
Oppose	1	8	Though the AC does not agree with doe harvest, we do not support this proposal because it would have minimal impact.
WP20-04	Southeast, Deer, Unit 2, Revise harvest limit		
Oppose	3	6	Some AC members support cessation of doe harvest if only for a short period of time.
WP20-05	Southeast, Deer, Unit 2, Establish a registration permit for does		
Support	7	1/1	AC supports the proposal as it may lead to better data for management.
WP20-06	Southeast, Deer, Unit 2, Revise season		
Support	9	0	AC supports removal of January hunt due to small amount of harvest, reduced quality of meat and difficulty in distinguishing bucks and does.
WP20-07	Southeast, Deer, Unit 2, Revise harvest limit		
Support	9	0	
WP20-08	Statewide, All Trapping Species, Require traps or snares to be marked with name or State Identification number		
Oppose	1	8	Though some type of compromise should be reached in regards to labelling of traps/snares a one size fits all regulation could be overly burdensome in some areas
WP20-09	Southeast, Beaver, Units 1-4, Revise trapping season		
No Action			
WP20-10	Statewide, Black Bear, Units 1-5, Revise Customary and Traditional Use Determination		

Oppose	2	6	Hunting of Black Bear is not customary and traditional in all units residing in Southeast
WP20-11	Statewide, Brown Bear, Units 1-5, Revise Customary and Traditional Use Determination		
	3	4	Hunting of Brown Bear is not customary and traditional in all units residing in Southeast.
WP20-12	Southeast, Deer, Unit 3, Revise hunt areas, season dates, and harvest limits		
WP20-13	Statewide, Elk, Unit 3, Establish Customary and Traditional Use Determination		
	0	9	This is a population introduced by the State in 1986, due to this fact we do not believe this population is traditional and customary for any Unit in Southeast Alaska. The authors of this proposal do not demonstrate how this particular species in this area has been used to meet the definition as customary and traditional.
WP20-14	Statewide, Goat, Unit 1-5, Revise Customary and Traditional Use Determination		
	4	4	Hunting of Mountain Goat is not Customary and Traditional in all Units residing in Southeast.
WP20-15	Statewide, Moose, Unit 1-5, Revise Customary and Traditional Use Determination		
	0	8	Hunting of Moose is not customary and traditional in all units residing in Southeast.
WP20-16	Statewide, Wolf, Unit 2, Eliminate harvest limit/quota and revise sealing requirement		
No Action			
WP20-17	Statewide, Wolf, Unit 2, Eliminate harvest limit/quota and revise sealing requirement		
No Action			

Adjournment:

Minutes Recorded By: _____
Minutes Approved By: _____
Date: _____

June 25, 2019
TO: Federal Board of Subsisence Management, (Att: Theo Mutskowitz)
FROM: Alaskans FOR Wildlife and any Cooperating Entities
RE: Comments on Subsistence Proposals

Please consider these comments on numbered proposals. Comments are offered from a public perspective that reflects several major considerations which we earnestly wish you and the board to keep clearly in mind as you make decisions on these and all proposals offered, namely,

1) The lands in question are publically owned lands belonging to all US citizens who in theory and in law all have interest in how wildlife on these lands are managed, and
2) Article 8 of our Alaska Constitution clearly sets forth that ALL (emphasis) Alaskans are stakeholders, all essentially owners, with respect to its natural resources and how they are managed .

WP-20 Wolf Trapping lifting harvest restrictions and extending sealing time.
OPPOSE

This proposal leads to spreading unrestricted wolf take everywhere. Given especially the substantial science on the value of apex predators plus the high interest in sustaining wolf populations on American public lands including here in Alaska as essential to maintenance of ecosystem biodiversity, we maintain that enactment of this proposal would result in another chapter in the unscientific overall continued war on wolves. This proposal to lift harvest limits and to extend sealing limits also already excessive in length are not scientifically justified nor justified as a pubic matter given the overall value of wolves to maintenance of biodiversity. It must not pass.

WP20-17 – Removing harvest quotas and sealing requirements for hunting wolves, OPPOSE.
We oppose this proposal for the same reasons offered to oppose the previous proposal, WP20-16.
The values of wolves as apex predator and its place in American culture must have bearing upon this consideration. No science and no national or even Alaskan public cultural norms can possibly support this permissively reckless proposal to expand wolf take without bounds. It must not pass.

-3-

WP20-26 Permitting the use of snowmachines to "position" wildlife for harvest. OPPOSE

This proposal would expand this practice apparently from other land management units. In essence "positioning" is another term for what in reality will result in chasing, and harassing wildlife to exhaustion, prohibitions in the regulation notwithstanding, due to impossible enforcement limitations. As an example, when asked to explain existing regulations for snowmachine use in trapping and hunting, an Alaska wildlife trooper explained he does not even understand the regulation.

Expanded snowmachine use, "positioning," will amount to a continued enforcement challenge. Widespread abuse will surely result and will continue to give subsistence the reputation of abuse when it really needs public support: we feel that as we now face mass extinctions of wildlife species; there is new public and growing focus on the crisis. This is an extremely unwise plunge to the bottom and we caution a futuristic consideration.

WP20-08 Proposal to require traps and snares to be marked with name and state identification number.

SUPPORT This proposal is topical, even in urban municipalities of Alaska as conflicts in public use areas resulting in injuries to hikers, pets and other outdoor public land users rise .

Keeping in mind even the use of more remote public lands grows as outdoor users of their lands increase, the potential for conflicts including serious injuries resulting from hidden owner-unidentified traps will increase.

Organized trappers have strongly opposed such requirements as proposed here in past requests for change considered by the Alaska Board of Game. We witness the public land users (including of federal lands) would most certainly strongly favor this accountability. We strongly favor this proposal.

In closing, please carefully consider these comments as you go forward with the process over the next year or so. WE thank you for your consideration of these comments.

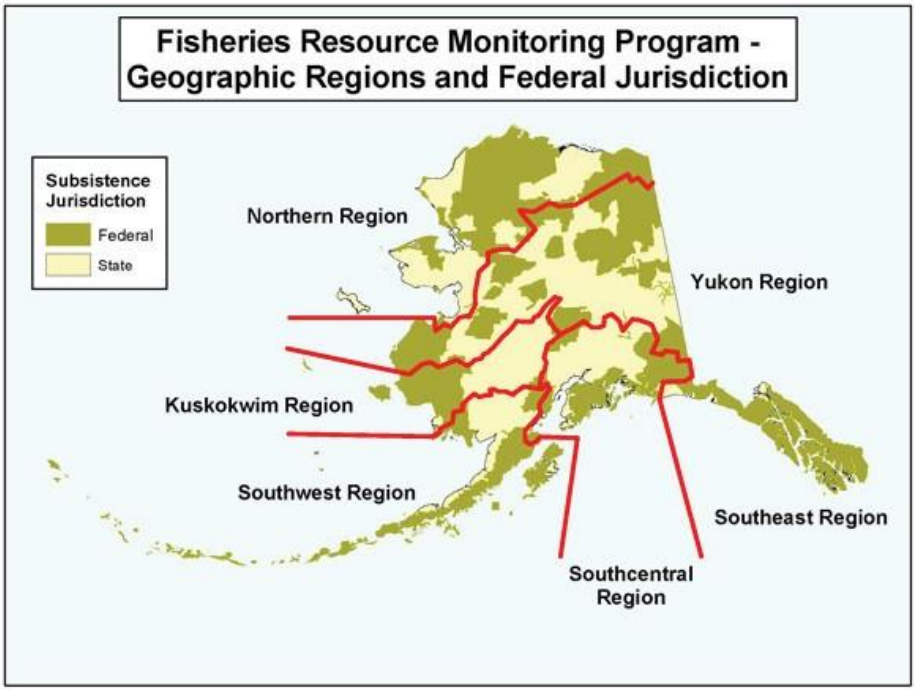
Sincerely,
Jim Kowalsky,
Chair, Alaskans FOR Wildlife
PO Box 81957
Fairbanks, Alaska 99708
907-488-2434

FISHERIES RESOURCE MONITORING PROGRAM

BACKGROUND

Section 812 of the Alaska National Interest Lands Conservation Act (ANILCA) directs the Departments of the Interior and Agriculture, cooperating with other Federal agencies, the State of Alaska, and Alaska Native and other rural organizations, to research fish and wildlife subsistence uses on Federal public lands; and to seek data from, consult with, and make use of the knowledge of local residents engaged in subsistence. When the Federal government assumed responsibility for management of subsistence fisheries on Federal public lands and waters in Alaska in 1999, the Secretaries of the Interior and Agriculture made a commitment to increase the quantity and quality of information available to manage subsistence fisheries, to increase quality and quantity of meaningful involvement by Alaska Native and other rural organizations, and to increase collaboration among Federal, State, Alaska Native, and rural organizations. The Fisheries Resource Monitoring Program (Monitoring Program) is a collaborative, interagency, interdisciplinary approach to enhance fisheries research and data in Alaska and effectively communicate information needed for subsistence fisheries management on Federal public lands and waters.

Every two years, the Office of Subsistence Management announces a funding opportunity for investigation plans addressing subsistence fisheries on Federal public lands. The 2020 Notice of Funding Opportunity focused on priority information needs developed by the Subsistence Regional Advisory Councils with input from strategic plans and subject matter specialists. The Monitoring Program is administered through regions to align with stock, harvest, and community issues common to a geographic area. The six Monitoring Program regions are shown below.



Strategic plans sponsored by the Monitoring Program have been developed by workgroups of fisheries managers, researchers, Subsistence Regional Advisory Councils, and by other stakeholders for three of the six regions: Southeast, Southcentral (excluding Cook Inlet Area), and Southwest Alaska, and for Yukon and Kuskokwim drainages whitefish (available for viewing at the Monitoring Program webpage at https://www.doi.gov/subsistence/frmp/plans). These plans identify prioritized information needs for each major subsistence fishery. Individual copies of plans are available from the Office of Subsistence Management by calling (907) 786-3888 or toll Free: (800) 478-1456 or by email subsistence@fws.gov. An independent strategic plan was completed for the Kuskokwim Region for salmon in 2006 and can be viewed at the Alaska-Yukon-Kuskokwim Sustainable Salmon Initiative website at https://www.aykssi.org/salmon-research-plans/.

Investigation plans are reviewed and evaluated by Office of Subsistence Management and U.S. Forest Service staff, and then scored by the Technical Review Committee. The Technical Review Committee's function is to provide evaluation, technical oversight, and strategic direction to the Monitoring Program. Each investigation plan is scored on the following five criteria: strategic priority, technical and scientific merit, investigator ability and resources, partnership and capacity building, and cost/benefit.

Project executive summaries are assembled into a draft 2020 Fisheries Resources Monitoring Plan. The draft plan is distributed for public review and comment through Subsistence Regional Advisory Council meetings, beginning in September 2019. The Federal Subsistence Board will review the draft plan and will accept written and oral comments at its January 2020 meeting. The Federal Subsistence Board forwards its comments to the Assistant Regional Director of the Office of Subsistence Management. Final funding approval lies with the Assistant Regional Director of the Office of Subsistence Management. Investigators are subsequently notified in writing of the status of their proposals.

HISTORICAL OVERVIEW

The Monitoring Program was first implemented in 2000 with an initial allocation of $5 million. Since 2000, a total of $117 million has been allocated for the Monitoring Program to fund a total of 452 projects (**Figure 1** and **Figure 2**).

During each two-year funding cycle, the Monitoring Program budget funds ongoing multi-year projects (2, 3, or 4 years) as well as new projects. Budget guidelines are established by geographic region (**Table 1**). The regional guidelines were developed using six criteria that included level of risk to species, level of threat to conservation units, amount of subsistence needs not being met, amount of information available to support subsistence management, importance of a species to subsistence harvest, and level of user concerns regarding subsistence harvest. Budget guidelines provide an initial target for planning; however, they are not final allocations and are adjusted annually as needed (**Figure 3)**.

Figure 1. Monitoring Program Funds Distributed, by Organization Type, Since 2000

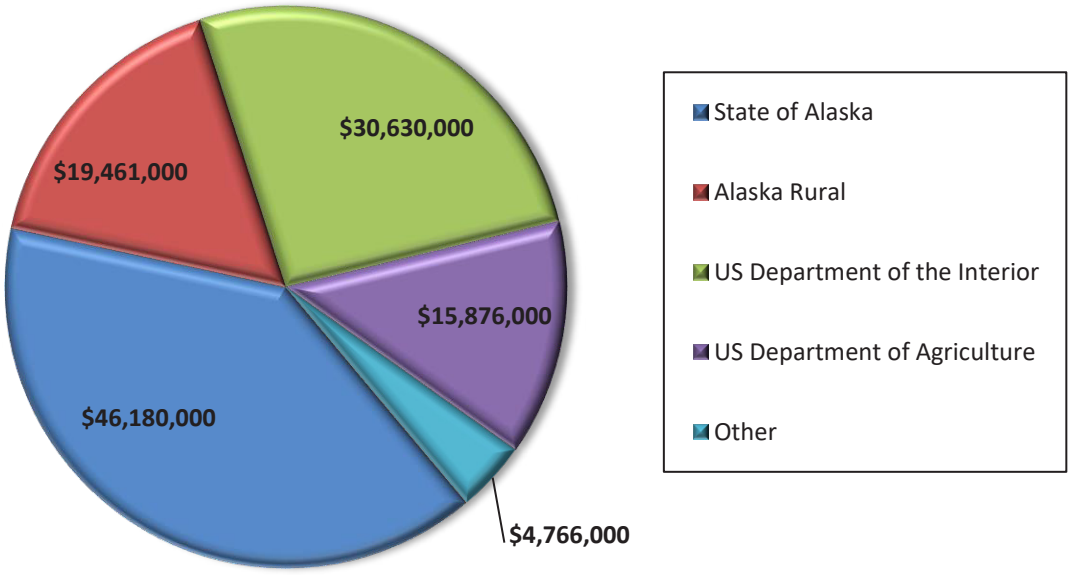


Figure 2. Number of Monitoring Program Projects Funded, by Organization Type, since 2000

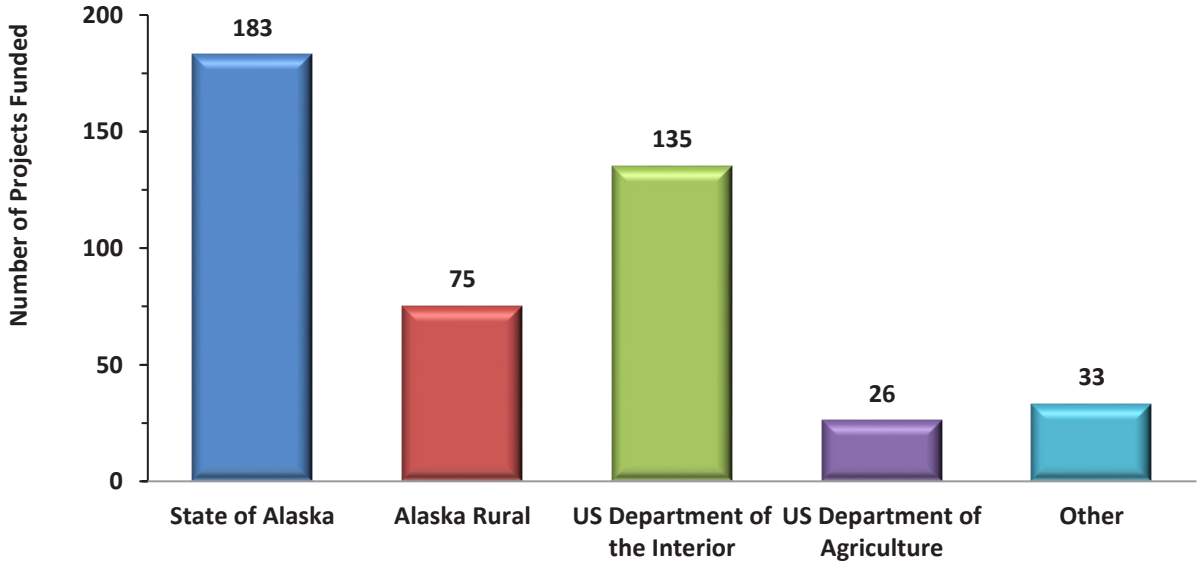
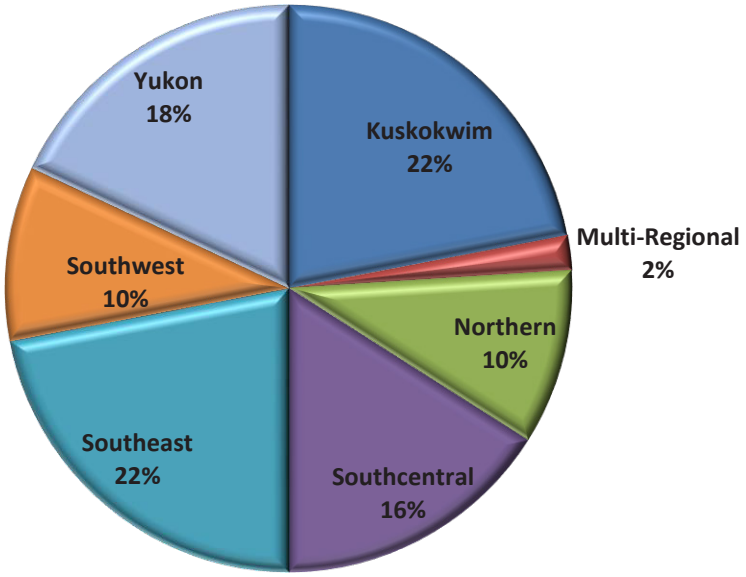


Table 1. Regional allocation guideline for Fisheries Resource Monitoring Program Funds.

Region	U.S. Department of the Interior Funds	U.S. Department of Agriculture Funds
Northern Alaska	17%	0%
Yukon Drainage	29%	0%
Kuskokwim Drainage	29%	0%
Southwest Alaska	15%	0%
Southcentral Alaska	5%	33%
Southeast Alaska	0%	67%
Multi-Regional	5%	0%

Figure 3. Percentages of Monitoring Program Funding Distributed to Each Region since 2000



The following three broad categories of information that are solicited for the Monitoring Program: (1) harvest monitoring, (2) traditional ecological knowledge, and (3) stock status and trends. Projects that combine these approaches are encouraged. Definitions of these three categories of information are listed below.

Harvest monitoring studies provide information on numbers and species of fish harvested, locations of harvests, and gear types used. Methods used to gather information on subsistence harvest patterns may

include harvest calendars, mail-in questionnaires, household interviews, subsistence permit reports, and telephone interviews.

Traditional ecological knowledge studies are investigations of local knowledge directed at collecting and analyzing information on a variety of topics, including: the sociocultural aspects of subsistence, fish ecology, species identification, local names, life history, taxonomy, seasonal movements, harvests, spawning and rearing areas, population trends, environmental observations, and traditional management systems. Methods used to document traditional ecological knowledge include ethnographic fieldwork, key respondent interviews with local experts, place name mapping, and open-ended surveys.

Stock status and trends studies provide information on abundance and run timing; age, size, and sex composition; migration and geographic distribution; survival of juveniles or adults; stock production; genetic stock identification; and mixed stock analyses. Methods used to gather information on stock status and trends include aerial and ground surveys, test fishing, towers, weirs, sonar, video, genetics, mark-recapture, and telemetry.

PROJECT EVALUATION PROCESS

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 Management Program, are technically sound, administratively competent, promote partnerships and capacity building, and are cost effective. Projects are evaluated by a panel called the Technical Review Committee. 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 Technical Review Committee reviews, evaluates, and makes recommendations about proposed projects, consistent with the mission of the Monitoring Program. Fisheries and Anthropology staff from the Office of Subsistence Management provide support for the Technical Review Committee. Recommendations from the Technical Review Committee provide the basis for further comments from Subsistence Regional Advisory Councils, the public, the Interagency Staff Committee, and the Federal Subsistence Board, with final approval of the Monitoring Plan by the Assistant Regional Director of the Office of Subsistence Management.

To be considered for funding under the Monitoring Program, a proposed project must have a nexus to Federal subsistence fishery management. Proposed projects must have a direct association to a Federal subsistence fishery, and the subsistence fishery or fish stocks in question must occur in or pass through waters within or adjacent to Federal public lands in Alaska (National Wildlife Refuges, National Forests, National Parks and Preserves, National Conservation Areas, National Wild and Scenic River Systems, National Petroleum Reserves, and National Recreation Areas). A complete project package must be submitted on time and must address the following five specific criteria to be considered a high quality project.

1. ***Strategic Priorities***—Studies should be responsive to information needs identified in the 2020 Priority Information Needs available at the Monitoring Program webpage at https://www.doi.gov/subsistence/frmp/funding. All projects must have a direct linkage to Federal public lands and/or waters to be eligible for funding under the Monitoring Program. To assist in evaluation of submittals for projects previously funded under the Monitoring Program, investigators must summarize project findings in their investigation plans. This summary should clearly and concisely document project performance, key findings, and uses of collected information for Federal subsistence management. Projects should address the following topics to demonstrate links to strategic priorities:

    - Federal jurisdiction—The extent of Federal public waters in or nearby the project area
    - Direct subsistence fisheries management implications
    - Conservation mandate—Threat or risk to conservation of species and populations that support subsistence fisheries
    - Potential impacts on the subsistence priority—Risk that subsistence harvest users' goals will not be met
    - Data gaps—Amount of information available to support subsistence management and how a project answers specific questions related to these gaps
    - Role of the resource—Contribution of a species to a subsistence harvest (number of villages affected, pounds of fish harvested, miles of river) and qualitative significance (cultural value, unique seasonal role)
    - Local concern—Level of user concerns over subsistence harvests (upstream vs. downstream allocation, effects of recreational use, changes in fish abundance and population characteristics)

2. ***Technical-Scientific Merit***—Technical quality of the study design must meet accepted standards for information collection, compilation, analysis, and reporting. To demonstrate technical and scientific merit, applicants should describe how projects will:

    - Advance science
    - Answer immediate subsistence management or conservation concerns
    - Have rigorous sampling and/or research designs
    - Have specific, measurable, realistic, clearly stated, and achievable (attainable within the proposed project period) objectives
    - Incorporate traditional knowledge and methods

    Data collection, compilation, analysis, and reporting procedures should be clearly stated. Analytical procedures should be understandable to the non-scientific community. To assist in evaluation of submittals for continuing projects previously funded under the Monitoring

Program, summarize project findings and justify continuation of the project, placing the proposed work in context with the ongoing work being accomplished.

3. ***Investigator Ability and Resources***—Investigators must show they are capable of successfully completing the proposed project by providing information on the ability (training, education, experience, and letters of support) and resources (technical and administrative) they possess to conduct the work. Investigators that have received funding in the past, via the Monitoring Program or other sources, are evaluated and scored on their past performance, including fulfillment of meeting deliverable and financial accountability deadlines. A record of failure to submit reports or delinquent submittal of reports will be taken into account when rating investigator ability and resources.

4. ***Partnership and Capacity Building***—Investigators must demonstrate that capacity building has already reached the communication or partnership development stage during proposal development and, ideally, include a strategy to develop capacity building to higher levels, recognizing, however, that in some situations higher level involvement may not be desired or feasible by local organizations.

   Investigators are requested to include a strategy for integrating local capacity development in their study plans or research designs. Investigators should inform communities and regional organizations in the area where work is to be conducted about their project plans, and should also consult and communicate with local communities to ensure that local knowledge is utilized and concerns are addressed. Investigators and their organizations should demonstrate their ability to maintain effective local relationships and commitment to capacity building. This includes a plan to facilitate and develop partnerships so that investigators, communities, and regional organizations can pursue and achieve the most meaningful level of involvement. Proposals demonstrating multiple, highly collaborative efforts with rural community members or Alaska Native Organizations are encouraged.

   Successful capacity building requires developing trust and dialogue among investigators, local communities, and regional organizations. Investigators need to be flexible in modifying their work plan in response to local knowledge, issues, and concerns, and must also understand that capacity building is a reciprocal process in which all participants share and gain valuable knowledge. The reciprocal nature of the capacity building component(s) should be clearly demonstrated in proposals. Investigators are encouraged to develop the highest level of community and regional collaboration that is practical including joining as co-investigators.

   Capacity can be built by increasing the technical capabilities of rural communities and Alaska Native organizations. This can be accomplished via several methods, including increased technical experience for individuals and the acquisition of necessary gear and equipment. Increased technical experience would include all areas of project management including logistics, financial accountability, implementation, and administration. Other examples may include internships or providing opportunities within the project for outreach, modeling, sampling design,

or project specific training. Another would be the acquisition of equipment that could be transferred to rural communities and tribal organizations upon the conclusion of the project.

A "meaningful partner" is a partner that is actively engaged in one or more aspects of project design, logistics, implementation and reporting requirements. Someone who simply agrees with the concept or provides a cursory look at the proposal is not a meaningful partner.

5. ***Cost/Benefit*—**This criterion evaluates the reasonableness (what a prudent person would pay) of the funding requested to provide benefits to the Federal Subsistence Management Program. Benefits could be tangible or intangible. Examples of tangible outcomes include data sets that directly inform management decisions or fill knowledge gaps and opportunities for youth or local resident involvement in monitoring, research and/or resource management efforts. Examples of possible intangible goals and objectives include enhanced relationships and communications between managers and communities, partnerships and collaborations on critical resource issues, and potential for increased capacity within both communities and agencies.

   Applicants should be aware that the Government shall perform a "best value analysis" and the selection for award shall be made to the applicant whose proposal is most advantageous to the Government. The Office of Subsistence Management strives to maximize program efficiency by encouraging cost sharing, partnerships, and collaboration.

POLICY AND FUNDING GUIDELINES

Several policies have been developed to aid in implementing funding. These policies include:

- Projects of up to four years in duration may be considered
- Proposals requesting Monitoring Program funding that exceeds $215,000.00 in any one year are not eligible for funding
- Studies must not duplicate existing projects
- Long term projects will be considered on a case by case basis

Activities that are not eligible for funding include:

- Habitat protection, mitigation, restoration, and enhancement
- Hatchery propagation, restoration, enhancement, and supplementation
- Contaminant assessment, evaluation, and monitoring
- Projects where the primary or only objective is outreach and education (for example, science camps, technician training, and intern programs), rather than information collection

The rationale behind these policy and funding guidelines is to ensure that existing responsibilities and efforts by government agencies are not duplicated under the Monitoring Program. Land management or regulatory agencies already have direct responsibility, as well as specific programs, to address these activities. However, the Monitoring Program may fund research to determine how these activities affect Federal subsistence fisheries or fishery resources.

The Monitoring Program may fund assessments of key Federal subsistence fishery stocks in decline or that may decline due to climatological, environmental, habitat displacement, or other drivers; however, applicants must show how this knowledge would contribute to Federal subsistence fisheries management. Similarly, the Monitoring Program may legitimately fund projects that assess whether migratory barriers (e.g., falls, beaver dams) significantly affect spawning success or distribution; however, it would be inappropriate to fund projects to build fish passes, remove beaver dams, or otherwise alter or enhance habitat.

2020 FISHERIES RESOURCE MONITORING PLAN

For 2020, a total of 28 investigation plans were received and all are considered eligible for funding. For 2020, the Department of the Interior, through the U.S. Fish and Wildlife Service, will provide an anticipated $1.5 million in funding statewide for new projects. The U.S. Department of Agriculture, through the U.S. Forest Service, has historically provided some funding. The amount of U.S. Department of Agriculture funding available for 2020 projects is uncertain.

FISHERIES RESOURCE MONITORING PROGRAM
YUKON REGION OVERVIEW

Since the inception of the Monitoring Program in 2000, a total of 114 projects have been undertaken in the Yukon Region costing $20.6 million (**Figure 1**). Of these, the State of Alaska received funds to conduct 26 projects, Alaska rural organizations conducted 19 projects, the Department of the Interior conducted 49 projects, and other organizations conducted 20 projects (**Figure 2**). See **Appendix 1** for more information on Yukon Region projects completed since 2000.

Figure 1. Monitoring Program Funds Distributed, by Organization Type, in the Yukon Region since 2000

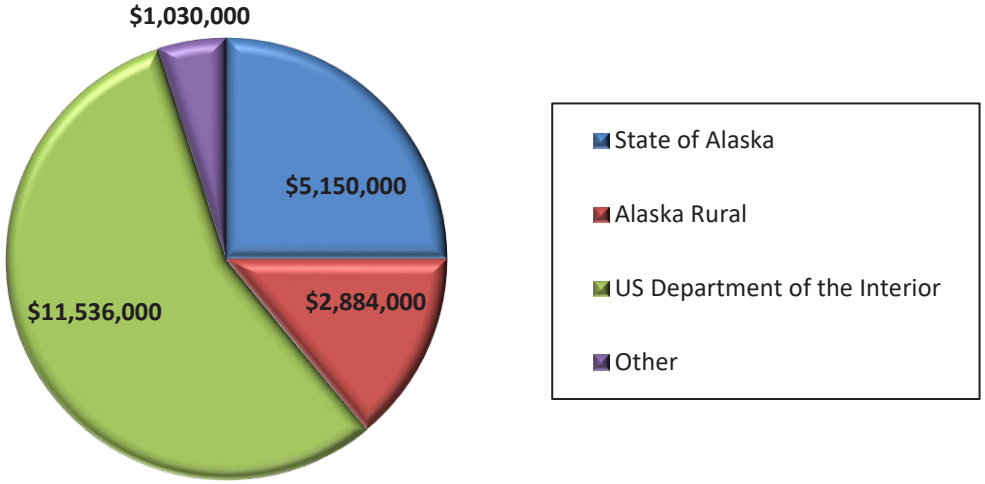
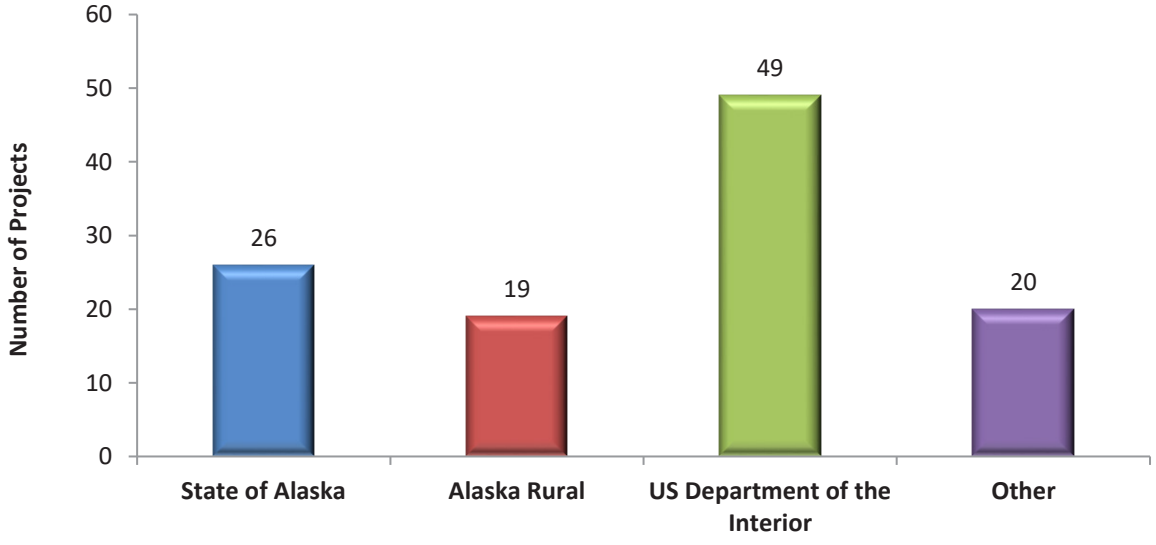


Figure 2. Number of Monitoring Program Projects Funded, by Organization Type, in the Yukon Region since 2000



PRIORITY INFORMATION NEEDS

The 2020 Notice of Funding Opportunity for the Yukon Region identified the following 17 priority information needs:

- Reliable estimates of Chinook, Summer Chum, Fall Chum, and Coho salmon escapements, particularly sub-stocks that are large contributors to the total run.

- In-season estimates of genetic stock composition of Chinook, Summer Chum, and Fall Chum salmon runs and harvests.

- Baseline information about geographic distribution, migration patterns, run timing, genetic structure, and tributary escapements of Yukon River Coho Salmon. Projects might focus on those portions of the Yukon River drainage downriver from and including the Tanana River.

- Reliable assessment of Porcupine River Fall Chum Salmon, for example, migration characteristics, abundance, escapement, and harvest quantities.

- Reliable quantitative and/or qualitative estimates of age-sex-length and genetic composition of salmon harvested in the subsistence fishery. Applicants are encouraged to focus on Chinook and Fall Chum Salmon.

- Advance genetic baselines for Chinook, Summer Chum, and Fall Chum salmon by screening novel genetic markers to improve the accuracy, precision, and scale of stock-composition estimates to inform stock assessment.

- Reliable methods of forecasting Chinook, Summer Chum, Fall Chum, and Coho salmon run abundance.

- Quality of escapement measures for Chinook Salmon, for example, potential egg deposition, age, sex, and size composition of spawners, percentage of females, percentage of jacks, and spawning habitat utilization.

- Bering Cisco population assessment.

- Information sharing between stakeholders and agencies concerning management of subsistence fisheries.

- Baseline information about lamprey populations, migration patterns, and harvest quantities.

- Baseline information about whitefish populations, migration patterns, and harvest, particularly those where habitat and traditional harvest practices could be affected by proposed road and mine development.

- Quantify and qualify the barter and cash exchange of salmon within the context of the social, cultural, and economic life of people in the middle and lower Yukon drainage.

- Assessment of incidental mortality with gillnets, dip nets, and seines, with particular consideration for delayed mortality from entanglement from drop-outs and live release of Chinook Salmon (for example, loss of Chinook Salmon from 6-inch mesh nets during Chum Salmon fisheries and the live release of Chinook Salmon from dip nets and seines).

- Strategic evaluation of existing and needed information concerning Chinook Salmon and Summer Chum Salmon run timing, escapement, and population in the middle and upper Yukon drainage, particularly the Middle Fork Koyukuk River.

- Analysis of recent regulations changes and effects on salmon escapement in the Yukon River drainage.

- Reliable quantitative and/or qualitative estimates of in-season salmon harvest to support management.

AVAILABLE FUNDS

Federal Subsistence Board guidelines direct initial distribution of funds among regions. Regional budget guidelines provide an initial target for planning. For 2020, the Department of the Interior, through the U.S. Fish and Wildlife Service, will provide an anticipated $1.5 million in funding statewide for new projects in 2020. The U.S. Department of Agriculture, through the U.S. Forest Service, has historically provided some funding. The amount of U.S. Department of Agriculture funding available for 2020 projects is uncertain.

ROLE OF THE TECHNICAL REVIEW COMMITTEE

The mission of the Monitoring Program is to identify and provide information needed to sustain subsistence fisheries on Federal public lands for rural Alaskans through a multidisciplinary and collaborative program. It is the responsibility of the Technical Review Committee to develop the strongest possible Monitoring Plan for each region and across the entire state.

For the 2020 Monitoring Program, eight proposals were submitted for the Yukon Region. The Technical Review Committee evaluated and scored each proposal on Strategic Priority, Technical and Scientific Merit, Investigator Ability and Resources, Partnership and Capacity Building, and Cost/Benefit (**Table 1**). These scores remain confidential. An executive summary for each proposal submitted to the 2020 Monitoring Program for the Yukon Region is in **Appendix 2**.

Table 1. Projects submitted for the Yukon Region, 2020 Monitoring Program, including total funds requested and average annual funding requests.

Project Number	Title	Total Project Request	Average Annual Request
20-200	Yukon River Coho Salmon Radio Telemetry	$456,219	$152,073
20-201	Application of mixed-stock analysis for Yukon River chum salmon	$518,128	$129,532
20-202	Evaluating dart and telemetry tags in an effort to track run timing and migration patterns of Yukon River Arctic lamprey	$33,836	$16,918
20-204	Abundance and Run Timing of Adult Salmon in Henshaw Creek, Kanuti National Wildlife Refuge, Alaska	$733,256	$183,314
20-250	Fall Chum Salmon Community Outreach along the Yukon River	$70,341	$23,447
20-251	In-season Yukon River Subsistence Salmon Survey Program	$320,756	$80,189
20-252	Customary Trade in the Lower Middle Yukon River	$310,487	$103,496
20-256	Yukon River In-Season Salmon Management Teleconferences	$78,854	$19,713
Total		$2,521,887	$708,682

TECHNICAL REVIEW COMMITTEE JUSTIFICATION FOR PROPOSAL SCORES

Project Number: 20-200
Project Title: Yukon River Coho Salmon Radio Telemetry

Technical Review Committee Justification: The investigators seek funding for a three-year project to conduct a Coho Salmon radio telemetry project on the Yukon River and its tributaries. The objectives are to identify migration routes, spawning locations, run timing, migration rates, distribution, and proportional contributions of fish from different spawning stock groups to the overall Yukon River Coho Salmon population. Radio tracking will only occur during the second year of the project, and will not document the inter-annual variability in run timing and stock productivity, increasing the risk of funding a project of this magnitude. This project fully addressed one priority information need. Information from this project will lead investigators to locations to focus on escapement monitoring and sample collection to add to the genetic baseline; however, the proposal does not adequately describe how the project addresses subsistence concerns. The project has objectives that are clear, measurable, and achievable, with well thought out logistics. The investigators have experience with these types of projects, and have successfully performed them in this drainage in the past. However, as in the 2018 project proposal, there is little information on how they determined sample size, or if it will have the resolution to meet objective 3 (Estimate proportional contributions of fish from five drainage groups to the overall Yukon River Coho Salmon population with 95% confidence interval bounds which will be no wider than 7% of the mean). There has been significant partner involvement with the development of this proposal by the Alaska

Department of Fish and Game, Yukon Delta Fishermen's Association, and the U.S. Fish and Wildlife Service. Capacity will be built by training local hires in sampling techniques and data entry. The total projected cost is $771,251 for the three years of the project. The investigators are asking for a total of $456,219 from the Fisheries Resource Monitoring Program with an average annual cost to the Monitoring Program of $152,073. The remainder would come from the Alaska Department of Fish and Game, the United States Fish and Wildlife Service, and Yukon Delta Fishermen's Association.

Project Number: 20-201
Project Title: Application of Mixed-Stock Analysis for Yukon River Chum Salmon

Technical Review Committee Justification: Investigators seek funding to resume in-season mixed stock genetic analysis of Yukon River summer and fall Chum Salmon. The samples, collected in conjunction with the Pilot Station sonar run by the Alaska Department of Fish and Game, are shipped to the U.S. Fish and Wildlife Service Genetics Conservation Lab in Anchorage for analysis, providing stock composition estimates to fisheries managers within 24-48 hours, and supporting the in-season management of Chum Salmon. This project directly addresses one priority information need. The objectives are clear, measurable, and achievable with a sampling design that is rigorous. The investigation plan includes reporting procedures, although the annual reports would not be completed for almost two years after the field season is completed, which may be an excessive delay. No letters of support were submitted with this project and it is suggested that the investigators ask their partners and other entities in the region to submit letters of support in the future. There is very little capacity built with this project, however, some technical capacity will be built by training a local hire in proper sampling techniques. The investigation plan suggests a total project cost of $628,128 for four years of the project, of which $110,000 is a match from the U.S. Fish and Wildlife Service Conservation Genetics Lab. The average annual cost to the Monitoring Program is $129,532. The cost of the proposal is reasonable throughout all agreement periods and is reasonable for the work being proposed.

Project Number: 20-202
Project Title: Evaluating Dart and Telemetry Tags in an Effort to Track Run Timing and Migration Patterns of Yukon River Arctic Lamprey

Technical Review Committee Justification: Investigators propose a two-year project to determine the tag retention and optimal radio transmitter size to mark and track Arctic Lamprey. This project has a direct link to Federal public waters on the Yukon River, however, geographic implications are relatively small. This project fully addresses one priority information need. The proposed project would not have immediate management applications; however, it would give researchers necessary information regarding tag use for mark/recapture or distribution for future studies. The objectives for this project are clear, measurable, and achievable. The science they propose is proven; however, some of the logistics need to be described in more detail. The methods have a rigorous sampling design and have been proven to achieve technical results in previous studies using Pacific Lamprey that will likely transfer over to the slightly smaller Arctic Lamprey. Investigators have substantial resources available to accomplish a project of this nature. The Yukon Delta Fisheries Development Association and the Asa'carsarmiut Tribal Council submitted letters of support for this project proposal. This project has four partners, three of which will be involved in a meaningful way. This project will build very little capacity since the Yukon

Delta Fisheries Development Association has fishermen already sampling most years. The proposal included both the budget justification and budget tables and suggests a total project cost of $107,940 for 2 years of the project, of which $74,104 is in-kind services and voluntary uncommitted resources from the U.S. Fish and the Alaska Department of Fish and Game. The average annual cost to the Monitoring Program is $16,918, with in-kind services and voluntary uncommitted resources equal approximately 69% of the total project cost.

Project Number: 20-204
Project Title: Abundance and Run Timing of Adult Salmon in Henshaw Creek, Kanuti National Wildlife Refuge

Technical Review Committee Justification: The investigation plan is requesting four more years of funding, starting in 2020, to continue operation of the Henshaw Creek weir to monitor salmon escapement. This weir documents daily escapement, run timing, and age, sex, and length composition of adult salmon. Henshaw Creek weir is located within Federal public waters on the Yukon River drainage and contains wide geographic implications. The Henshaw Creek weir is the only upper Koyukuk River drainage escapement project and is valuable for providing stock-specific population demographic information for managing fisheries stocks throughout the drainage, but the value of the weir data for in-season management is limited due to its location in the upper Koyukuk River drainage, The project objectives are clear, measurable and achievable, but do not provide adequate justification for continuing this project given other information needs. The methods used produce technically sound results and the sampling design is rigorous and includes clear procedures for data collection, compilation, analysis and reporting. The investigators have the resources and ability to fully complete this project and have demonstrated their ability in the past. Three letters of support were supplied from the following agencies: Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, Fairbanks Fish and Wildlife Conservation Office, and Kanuti National Wildlife Refuge. Capacity will be built by hiring from local villages and training employees, as has been done in the past. The proposal included a budget table and justification with a total project cost of $782,056 for the four years of the project, of which $48,800 is an in-kind match from Tanana Chiefs Conference. The average annual cost to the Monitoring Program is $183,314, a decrease over the average annual amount of $212,345 in the 2016 project budget.

Project Number: 20-250
Project Title: Fall Chum Salmon Community Outreach along the Yukon River

Technical Review Committee Justification: This project seeks to addresses a Monitoring Program 2020 Priority Information Need for the Yukon Region: "Information sharing between stakeholders and agencies concerning management of subsistence fisheries." The investigators plan to facilitate meetings between Alaska Department of Fish and Game managers and communities. Specifically, one staff member from Division of Subsistence and one staff member from Division of Commercial Fisheries would travel to upper Yukon communities of Kaltag, Galena, Tanana, Beaver, Fort Yukon, and Eagle to meet with community members immediately prior to or during the Fall Chum Salmon run and administer a short survey on management concerns. Ms. Trainor has the experience and ability to carry out the proposed work. The Alaska Department of Fish and Game has a demonstrated track record of successfully completing Monitoring Program projects. The project objectives are tangible, but may be

difficult to measure. The proposal could have been strengthened through planning of concrete meetings in early consultation with tribal communities. Letters of support were not included. Inclusion of Federal managers and partnership with prominent rural organizations are missing. As written, the project comes with a relatively large cost in proportion to the short period of interaction between managers and fishing communities.

Project Number: 20-251
Project Title: In-season Yukon River Subsistence Salmon Survey Program

Technical Review Committee Justification: This proposal is to maintain and build upon the existing In-season Yukon River Subsistence Salmon Survey Program. The program hires local surveyors from 10 Yukon River drainage communities to collect in-season salmon harvest information and fishery observations that are shared with communities and managers in real time. This information has been critical to managing the Yukon River salmon fishery and in providing critical information needed to make management and fishing decisions. The proposal directly addresses several 2020 Priority Information Needs in the region. It develops essential partnerships between communities and managers to strengthen the capacity of each in making decisions in support of both conservation and the continuation of subsistence uses. The program provides local employment opportunities and builds capacity through training on both biological and anthropological research methods. Investigator organizations have a long history of providing substantial resources for Monitoring Program projects. Investigators have a proven record of completing Monitoring Program projects and in delivering high quality research products. The costs associated with this program appear reasonable, especially given the scope of data and anticipated impact on this fisheries' management and local participation in the fishery.

Project Number: 20-252
Project Title: Customary Trade in the Lower and Middle Yukon River

Technical Review Committee Justification: This project sets out to address a Monitoring Program 2020 Priority Information Need for the Yukon Region: "Quantify and qualify the barter and cash exchange of salmon within the context of the social, cultural, and economic life of people in the middle and lower Yukon drainage." In 2013, a regulation was adopted that prevents customary trade of salmon between Federally qualified users and non-Federally qualified users. Investigators have planned a study of customary trade combining surveys, participant observation, and semi-structured interviews in the middle and lower Yukon River communities of Mountain Village, Nunam Iqua, Kaltag, and Galena. Ms. Trainor plans to extend the approach used in recent Alaska Department of Fish and Game research on customary trade on the upper Yukon to the lower and middle Yukon River, creating a comparable dataset. The project is technically well-designed and has scientific merit. The investigators recognize and make provisions for the sensitive nature of customary trade. Although costs are high, the budget appears to be reasonable for the work proposed across all periods of the proposed study. No letters of support were provided. The project would increase capacity through training community members in research methods.

Project Number: 20-256
Project Title: Yukon River In-Season Salmon Management Teleconferences

Technical Review Committee Justification: This project hosts weekly teleconferences, bringing people together from remote and rural villages that share salmon resources. The project has operated for 17 years and has become a fixture of in-season salmon management along the Yukon River. Study design is appropriate and builds capacity by involving local subsistence users and providing them a voice to participate in the management of the Chinook Salmon fishery. The budget and project duration are reasonable for the proposed work and to accomplish project objectives. Investigators are highly qualified and fully capable of addressing and achieving the objectives, and reporting results in a timely manner.

APPENDIX 1
PROJECTS FUNDED IN THE YUKON REGION SINCE 2000

Project Number	Project Title	Investigators
	Salmon Projects	
00-003	Effects of *Ichthyophonus* 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 Ichthyophonus on Chinook Salmon	USGS
01-211	Upper Yukon, Porcupine, & Black River Salmon TEK	CATG
02-009	Pilot Station Sonar Technician Support	AVCP

Project Number	Project Title	Investigators
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
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
08-202	Anvik River Chum Salmon Sonar Enumeration	ADF&G

Project Number	Project Title	Investigators
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	E Fork Andreafsky Salmon	USFWS
14-203	Gisasa R Salmon	USFWS
14-206	Yukon R Coho Salmon	USFWS
14-207	Yukon R Chum Salmon	USFWS
14-208	Koyukuk R Chum Salmon	USFWS
14-209	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	ADF&G
16-255[b]	Yukon River In-Season Community Surveyor Program	YRDFA, USFWS
16-256[b]	In Season Salmon Management Teleconferences	YRDFA
18-201[b]	East Fork Andreafsky River Chinook and summer Chum Salmon abundance and run timing, Yukon Deltan National Wildlife Refuge	USFWS
18-202[b]	Gisasa River Chinook and summer Chum Salmon abundance and run timing assessment, Koyukuk National Wildlife Refuge, Alaska	USFWS
18-250[b]	Documentation of salmon spawning and rearing in the Upper Tanana River Drainage	ADF&G
18-251[b]	Traditional knowledge of anadromous fish in the Yukon Flats with a focus on the Draanjik Basin	TCC
18-252[b]	Subsistence salmon networks in Yukon River communities	ADF&G
	Nonsalmon Fish 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

Project Number	Project Title	Investigators
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
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	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	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 Associations, 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 2
EXECUTIVE SUMMARIES

The following executive summaries were written by principal investigators and were submitted to the Office of Subsistence Management as part of proposal packages. They may not reflect the opinions of the Office of Subsistence Management or the Technical Review Committee. Executive summaries may have been altered for length.

Project Number:	20-200
Title:	Yukon River Coho Salmon Radio Telemetry
Geographic Region:	Yukon Region
Data Type:	Stock Status and Trends
Principal Investigator:	Bonnie Borba, Fisheries Biologist III, Alaska Department of Fish and Game, Division of Commercial Fisheries
Co-investigators:	Andrew Padilla, Fisheries Biologist II, Alaska Department of Fish and Game, Division of Commercial Fisheries, Fairbanks Raymond Hander, United States Fish and Wildlife Service, Fairbanks Randy Brown, United States Fish and Wildlife Service, Fairbanks
Project Cost:	2020: $212,957 2021: $214,727 2022: $28,535 2023: $0
Total Cost:	$456,219

Issue: This is a proposal for a conducting a one-year radiotelemetry study to track coho salmon (*Oncorhynchus kisutch*) in the Yukon River drainage to gain knowledge about their migratory distribution patterns, run timing, and identify spawning areas. Coho salmon occur and are harvested for subsistence throughout the Yukon River drainage including many waters adjacent to or within Federal public lands. Alaska Department of Fish and Game (ADF&G) and U.S. Fish and Wildlife Service (USFWS) have broad overlap in management authority pertaining to coho salmon fisheries within the Yukon River drainage. Coho salmon harvests occur within the federal conservation units beginning in August in the lower river and through ice up well into October in the upper river areas. Currently, there is a deficit of baseline information for coho salmon in the Yukon River drainage and this radiotelemetry project will be informative in many aspects. Information on migratory distribution patterns, run timing, and spawning areas is critical to both habitat protection and sustainability of coho salmon in the Yukon River drainage for subsistence use. The project will address priority needs identified for the Yukon Region by providing baseline information about geographic distribution, migration patterns, run timing, genetic structure, and tributary escapements of Yukon River Coho Salmon. Geographic distribution information will be used to make nominations to the Anadromous Waters Catalog (AWC) to provide habitat protection and direct future genetic baseline sampling.

Objectives:

1. Estimate run timing, migration rate, movement patterns, and distribution of coho salmon based on date/time tags deployed relative to date/time fish passes each successive tower/aerial receiver and detected at final locations.

2. Identify migration routes and spawning areas within the Yukon River drainage and provide nominations to the Anadromous Waters Catalog to directly preserve habitat used by coho salmon.

3. Estimate proportional contributions of fish from five drainage groups to the overall Yukon River coho salmon population with 95% confidence interval bounds which will be no wider than 7% of the mean.

4. Identify areas to add to the genetic baseline.

Methods: 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 radiotracking stations located strategically along the mainstem and main tributaries of the Yukon River. These radiotracking stations will provide information needed to evaluate inriver migration corridors and quantify migration timing and speed. Tracking stations and aerial survey tracking flights will be used in combination to determine the final fate of each tag fish and locate fish within tributaries. 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).

Partnerships/Capacity Building: This project will build capacity and develop partnerships by working with Yukon Drainage Fisheries Development Association, Tanana Chiefs Conference (TCC) and Iqurmuit Traditional Council in Russian Mission. ADF&G will work with YDFDA to contract local fishing crews to capture and assist with coho salmon tagging. Training will provide opportunities to learn techniques in capture, handling, tagging, biological sampling, data recording, and release of live fish. Conversely, the local fishermen share their traditional knowledge of fishing techniques and fishing areas that will be necessary to target and capture coho salmon while minimizing the capture of other fish species. Additional partnerships and capacity with TCC will assist with collection of radio tags from subsistence harvested coho salmon. Integrating YDFDA and TCC into this project follows precedent to include rural and Alaska Native organizations into future fisheries research that is directly connected to Federal subsistence fisheries throughout the Yukon River drainage.

Project Number:	20-201			
Title:	Application of mixed-stock analysis for Yukon River chum salmon			
Geographic Region:	Yukon Region			
Data Type:	Stock Status and Trends			
Principal Investigator:	Blair Flannery, Conservation Genetics Laboratory, U.S. Fish and Wildlife Service, Anchorage			
Co-investigators:	John Wenburg, Conservation Genetics Laboratory, U.S. Fish and Wildlife Service, Anchorage			
Project Cost:	2020: $129,532	2021: $219,532	2022: $129,532	2023: $129,532
Total Cost:	$518,128			

Issue: This project relates to the following priority information need identified in the 2020 Office of Subsistence Management (OSM) Request for Proposals: In-season estimates of genetic stock composition of summer chum and fall chum salmon runs and 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 allocations.

Objective: The goal is to provide fishery managers with data that will assist them in meeting escapement, passage, and harvest allocations to ensure that the fishery is managed in a sustainable and equitable manner. The following objective will be executed to achieve this goal.

1) Estimate the stock compositions of summer and fall chum salmon sampled from the Pilot Station test fishery each year (June 1 – September 7).

Methods: Genetic samples will be collected from every chum salmon caught in the Pilot Station sonar test fishery from June 1 – September 7, 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.

Partnerships/Collaboration: We have worked with ADFG biologists to coordinate sample collection. We have contracted 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 have consulted, with ADFG, USFWS, and DFOC managers.

Project Number:	20-202
Title:	Evaluating dart and telemetry tags in an effort to track run timing and migration patterns of Yukon River Arctic lamprey
Geographic Region:	Yukon Region
Data Type:	Stock Status and Trends
Principal Investigator:	Katie Shink, U.S. Fish and Wildlife Service, Fairbanks Fish and Wildlife Conservation Office
Co-investigators:	Trent Sutton, University of Alaska Fairbanks, College of Fisheries and Ocean Sciences Sabrina Garcia, Alaska Department of Fish and Game, Division of Commercial Fisheries, Anchorage

Project Cost:	2020: $20,913	2021: $12,923	2022: $0	2023: $0
Total Cost:	$33,836			

Issue: Arctic lamprey (*Lethenteron camtschaticum*) are an important subsistence and commercial resource for native Alaskan communities along the lower Yukon River drainage. Despite annual harvests, a lack of basic run timing, relative abundance, and migration data increases the uncertainty of this fishery and complicates quantitative impact estimates of harvests on spawning populations. Within the past three years, subsistence users and local communities have expressed concerns in meeting subsistence needs. As a result, there has been an increased interest in identifying the run timing and migratory patterns of Arctic lamprey through the use of mark-recapture and telemetry methods. Arguably, these data would provide a benchmark from which to begin tracking Arctic lamprey population dynamics. Although mark-recapture

and telemetry methods are widely applied and useful tools in fisheries management, the major assumption of this methodology is that tagged and non-tagged fish exhibit similar behavior, physiological responses, and survival rates. To date, this assumption has not been validated in a controlled laboratory setting for Arctic lamprey. It is critical to assess the effects of tagging on physiology and survival before a basin-wide markrecapture or telemetry study can be conducted. Without an objective assessment of tag performance under controlled conditions, time-intensive and high-cost mark-recapture and telemetry studies may yield inaccurate representations of migratory behavior or risk little to no data collection due to poor tag retention and/or survival. The deliverable of this project is a determination if external dart tags and surgically implanted radio transmitters can be used as a tool to monitor run-timing, estimate relative abundance, and identify the migration patterns of Yukon River Arctic lamprey to inform management.

Objectives:

1. Assess the retention rate of external and internal tags over a 180-d study period.
2. Evaluate the effects of surgically implanted transmitter size on wound healing.
3. Determine if tag type (external or internal) or size of internal tags affects survival over a 180-d
1. study period.
4. Determine the effects of different tags on short (24-h) and long-term (30-d) swimming performance.

Methods: Arctic lamprey (N = 225) will be captured in fyke nets at test fish sites operated by local contracted fishermen, transported live to the UAF Fish Laboratory, and held in 890-L circular tanks for a one week acclimation period. Before the start of the experiment, lamprey will be tagged with a Passive Integrated Transponder (PIT) tag to track individuals for the duration of the experiment. Lamprey will be assigned to one of six treatment groups: 1) control; 2) sham (surgery but no transmitter); 3) an external plastic-dipped dart tag; 4) a surgically implanted small dummy transmitter; 5) a surgically implanted medium dummy transmitter; and 6) a surgically implanted large dummy transmitter. Tagging and subsequent swim trials will be staggered over a period of three months (November 1 – January 31). A surgical protocol developed for Pacific lamprey (Entosphenus tridentatus) by Moser et al. (2002) will be used as a guide for surgically implanted dummy transmitters. External tags will be injected below the left side of the anterior dorsal fin using a Floy pistol-grip implanter. After tagging, a subset of lamprey from each treatment group (n = 20, 120 total across all six treatments) will undergo swimming performance assessment trials to assess the impact of different tags on swimming performance. The first swim trial will occur 24 hours after tagging to assess short-term effects; the second will occur 30 days after tagging to assess long-term effects. Lamprey will be monitored daily for expelled tags and mortalities for the duration of the 180 day study. Every 14 days post-tagging, lamprey will be anesthetized and examined to evaluate wound healing. Wound healing will be scored on a scale of one to six following the criterial described by Wagner et al. (2000). At the end of the experiment (May 31), all lamprey will be given a lethal dose of methanesulfonate (MS-22) and necropsies will be performed.

Partnerships/Capacity Building: This project will be a collaborative effort among federal and state agencies (FFWCO; ADF&G), Alaska Native organizations (Yukon Delta Fisheries Development

Association; YDFDA), and research institutions (UAF) to address (1) a 2020 Priority Information Need identified by the Office of Subsistence Management (OSM) and (2) concerns regarding declining lamprey harvests by local subsistence users. Local YDFDA Community Development Quota (CDQ) fishermen will have a significant role in the project, for they have agreed to lead lamprey collection efforts. These collection efforts will also provide an additional opportunity for ADF&G to monitor run timing and track the location of the lamprey run for subsistence users. Further, both the YDFDA and the Asa'carsarmiut Tribal Council have expressed support for this project. Ultimately, the overarching goal of this project is to ensure a diverse group of stakeholders have the information necessary to select the most efficient and effective monitoring tool(s) to collect baseline information and inform the management of Yukon River Arctic lamprey, a poorly studied subsistence species.

Project Number:	20-204			
Title:	Abundance and Run Timing of Adult Salmon in Henshaw Creek, Kanuti National Wildlife Refuge, Alaska			
Geographic Region:	Yukon Region			
Data Type:	Stock Status and Trends			
Principal Investigator:	Nicole Farnham, Tanana Chiefs Conference, Fairbanks			
Co-investigators:	Brian McKenna, Tanana Chiefs Conference, Fairbanks			
Project Cost:	2020: $185,813	2021: $182,481	2022: $182,481	2022: $182,481
Total Cost:	$733,256			

Issue: Management of the Koyukuk River salmon fishery is complex. The Alaska Department of Fish and Game, Division of Commercial Fisheries (ADF&G-DFC) has conducted aerial surveys within this drainage since 1960 (Barton, 1984) but the usefulness and reliability of that information is limited. This project addresses the priority information needs outlined for Yukon River salmon, including maintaining reliable estimates of Chinook and chum salmon escapement over time, and assessment of trends in Chinook age, sex and length.

Both Chinook *Oncorhyncus tshawytscha* and chum *O. keta* salmon from Henshaw Creek contribute 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 in managing the complex mixed stock subsistence and commercial salmon fisheries in the Yukon River. In-season management and post-season evaluations of management actions are enhanced by the data from this project. Further, the Henshaw Creek weir is the only upper Koyukuk River drainage salmon escapement monitoring project and its information can facilitate comparisons with lower drainage escapement projects (Berkbigler and Elkin 2006). In more recent years, subsistence and commercial harvesters have identified a concern with the apparent decrease in the size of Chinook salmon (JTC 2013). The continuation of reliable escapement estimates and the collection of age, sex, and length data at Henshaw Creek will assist in future analyses of trends in Chinook salmon and summer chum salmon run timing, escapements, gender composition, and size and age structure over time. In addition, this project aids the Kanuti National Wildlife Refuge (KNWR) in meeting objectives outlined in the 1993 KNWR Fishery Management Plan, and addresses the priority information needs outlined for Yukon Region salmon by

providing reliable estimates of Chinook and chum escapements. With the Tanana Chiefs Conference (TCC) as the primary investigator and through the hire of local residents, this project will enhance capacity building to allow local communities a continued role in the management of the resources

Objectives:

- Determine daily escapement and run timing of adult salmon;
- Determine age, sex and length (ASL) composition of adult salmon;
- Determine the number of resident fish species passing through the weir;
- Consult with and provide outreach and communication for the village of Allakaket; and
- Serve as an outreach platform for KNWR staff and TCC staff to conduct an on-site science camp.

Methods: A resistance board weir will be installed and operated on Henshaw Creek located 721 km upriver from the mouth of the Koyukuk River in north central Alaska (see Figure 1, Map of Project Area). A live trap, installed near mid-channel, will allow salmon and resident species to move through the weir. Their passage will be enumerated daily and will provide an area where fish will be sampled to collect biological information. The daily counting period will begin at midnight and end at midnight the following day. Sampling will begin at the beginning of each week and will be conducted over a 3-4 day period to collect 160 fish per week for each species. Sample size goals were established so that simultaneous 90% interval estimates of the sex and age composition for each week have maximum widths of 0.20 (Bromaghin 1993). The sample size obtained using this method was increased to account for the expected number of unreadable scales. Lengths of Chinook salmon will be measured to the nearest 1 mm and chum measured to the nearest 5mm from mid-eye to fork of the caudal fin (MEFL). Sex ratios will be determined by visual inspection of secondary sexual characteristics. Scales will be used for aging salmon, with ages being reported using the European technique (Foerster 1968). Three scales will be collected from Chinook salmon and one scale will be collected from summer chum salmon. Scales will be taken from the area located on the left side of the fish, two rows above the lateral line on a diagonal line from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin (Price, ADF&G, personal communication). Once the scales are removed, they will be placed on scale gum cards for later analysis with ADF&G.

The staff at KNWR and TCC will continue to work with the local schools to identify students from each of the four villages, Bettles/Evansville, Allakaket, Alatna, and Hughes to be participants in the Henshaw Creek science camp. Students will be exposed to the operations of a weir and will receive lessons in fisheries management, stream ecology, aquatic invertebrates, fish identifications, natural resources career opportunities, the plants and wildlife in the KNWR, and traditional and cultural knowledge.

Partnerships/Capacity Building: The partnerships TCC has developed with the USFWS, KNWR, ADF&G and local tribal councils presents a great opportunity to build capacity within the TCC and the local communities of the Upper Koyukuk River. The relationships TCC already has with federal and state resource management agencies will continue to be strengthened through the continuation of this project and will be an important asset to the fishery program at TCC. The local communities of the upper Koyukuk River will be strengthened through this project as well. TCC plans to continue to hire weir staff

from within these communities, which will provide much needed employment opportunities and will expose people to the project and different aspects of fishery management. Additionally, the annual science camp will engage local youth with the issues facing fishery resource managers and will provide elders a chance to interact with the students and teach them traditional skills.

Project Number:	20-250			
Title:	Fall Chum Salmon Community Outreach along the Yukon River			
Geographic Region:	Yukon			
Data Type:	Information Sharing and Outreach			
Principal Investigator:	Alida Trainor, Division of subsistence, Alaska Department of Fish and Game, Fairbanks			
Co-investigators:	Jeff Estensen, Division of Commercial Fisheries, Alaska Department of Fish and Game, Fairbanks			
Project Cost:	2020: $27,760	2021: $29,347	2022: $13,234	2022: $0
Total Cost:	$70,341			

Issue: Communities located above the confluence with the Tanana River, primarily have access to two types of salmon; Chinook and fall chum. For subsistence fishermen in the upper portions of the Yukon River, the strength of the fall chum run during times of Chinook salmon conservation has created a level of anxiety. At AC meetings and, during public testimony at the Board of Fisheries, round table discussions at the Yukon River Drainage Fisheries Association preseason planning meeting and during discussions at the Yukon River Panel, stakeholders from this region worry that the increased harvest pressure on fall chum during times of Chinook salmon conservation could jeopardize subsistence fishermen's ability to harvest any salmon if the fall chum begin to decline as well.

While there is no known factors or data that indicates Yukon River fall chum are certain to crash again, it is possible that fall chum might experience a dip in productivity and abundance. Consequently, it is critical that managers preemptively meet with a variety of communities to hear from fishermen and discuss ways to mitigate these impacts if a crash does occur.

Objectives: This three-year project will address the following objectives:

1. Develop and maintain more effective ways to reach Yukon River subsistence fishers throughout the middle and upper portions of the Yukon River drainage in-season so communities in these regions have access to timely and accurate information about fall season management decisions in their district;

2. Facilitate community meetings that will allow managers, research biologists, and Commercial Fisheries staff to interact directly with local stakeholders and provide meaningful opportunities for stakeholder input

Methods: Subsistence Division staff will coordinate community visits with tribal councils and/or city councils prior to the beginning of the fall chum fishing season. Community visits will occur slightly before or at the beginning of the fall chum fishing effort in each community in order to maximize the

opportunity to listen to concerns and provide information about the salmon runs, management actions, and other related issues. Subsistence Division staff will travel with Commercial fisheries managers to help facilitate positive and effective meetings by building off the relationships and knowledge of the local communities that Subsistence Division staff already possess. During community visits/ meetings, staff will:

- Attend a community meeting or otherwise be accessible to community members throughout each two-day visit
- Administer a short survey to meeting attendees to ask about and document local concerns
- Document and answer questions about the fisheries and management issues
- Promote direct contact with fisheries managers by providing their contact information, the toll free 1-800 number and ADF&G Facebook page
- Facilitate discussions to identify local issues and brainstorm possible solutions with managers that could be implemented immediately or in the future depending upon regulatory constraints
- Visit local fishing and/or processing sites to further facilitate discussions of local issues and concerns and to expand managers understanding of the local fishing profile

Partnerships/Capacity Building: The principal investigators will work with tribal councils in the project communities to facilitate community meetings and fishing site visits. Time spent with managers will add to local involvement and local understanding of the Yukon River fall chum salmon management.

Project Number:	20-251
Title:	In-season Yukon River Subsistence Salmon Survey Program
Geographic Region:	Yukon Region
Data Type:	Harvest Monitoring and Traditional Ecological Knowledge
Principal Investigator:	Catherine Moncrieff, Staff Anthropologist, Yukon River Drainage Fisheries Association
Co-investigator:	Gerald Maschmann, U.S. Fish and Widlife Service, Fairbanks Field Office

Project Cost:	2020: $77,234	2021: $81,210	2022: $80,033	2023: $82,280
Total Cost:	$320,756			

Issue/Need: This project addresses the need for inclusive in-season management for Chinook salmon fisheries on the Yukon River. Salmon are a critical resource for subsistence and commercial users in this region, which includes 14 Federal conservation units, and fisheries managers must have a means to gather input, assess harvests, and share information with these fishermen and fisheries stakeholders throughout the fishing season. Through this program, fishers report their concerns, fishery success, observations, and concerns to a locally hired surveyor, weekly, during the Chinook salmon run in their community. This information is shared anonymously by village with state and federal managers in preparation for the weekly in-season management teleconference.

Goal: To contribute local information into fisheries management discussions and build capacity along the Yukon River to participate in fisheries management.

Objectives: 1. Hire 10 local surveyors in 10 Yukon River drainage villages to work in-season to conduct interviews on an annual basis; **2.** Build capacity of local surveyors in 10 Yukon River villages to participate in in-season fisheries management; **3.** Conduct annual reviews pre-season and post-season to evaluate survey program and design for next season to maximize effectiveness of program

Methods: Methods for this project include communication, outreach, survey instrument, annual trainings, data analysis, and annual evaluations. Participating communities were selected based on the needs and goals of the managers as well as the geographic location and interest of the communities. The local hire surveyors will be selected based on tribal council recommendations, rehire of high performing past surveyors, and other recommendations for quality local hire candidates.

The survey methodology follows the National Academy of Science's Principles for Conduct of Research in the Arctic and will include informed consent for participants, to be conducted prior to the first interview. Privacy and confidentiality will be protected in the reporting. The survey methodology and instrument will be reviewed and revised annually as needed to ensure that the recording and reporting formats and content are useful for managers and fishermen. The project investigators (PI) and co-PI will work with managers prior to each summer season to identify priority information to be collected and shared for the upcoming season and will update data collection forms, surveyor training and protocols, and reporting on the teleconferences. The in-season subsistence salmon survey methodology focuses on interviewing fishers weekly to collect qualitative information to provide managers with a real time assessment of the run. The survey form includes qualitative questions designed in consultation with the managers and aimed at gathering fishers' observations about changes in their subsistence harvest related to species targeted, fishing locations, fish quality, harvest methods and means, and methods of preservation. In addition to collecting information from fishers, surveyors will disseminate relevant information to fishers.

Surveyors will receive focused training at an annual training event to build their capacity and enhance their ability to communicate with local fishers, river-wide fishers, and managers on the teleconferences and through the surveys. The annual training event will cover interview methods, appropriate research ethics, and reporting requirements. Additionally, the training event will focus on enhancing listening and communication skills. As part of capacity building and to maximize the experience of some long-term surveyors, two to three of the top performing surveyors will be trained as "train the trainers." The surveyors will also attend the annual pre-season summer fishery preparation meeting to gain important information to share with fishers in their communities about the pre-season outlook. Surveyors will submit their data weekly and report a summary on the in-season salmon management teleconferences. For the data analysis, at the end of the season the PI will review all the survey forms and compile a MS Excel spreadsheet and produce summary narrative reports.

YRDFA staff will attend two federal regional advisory council meetings in person annually to provide project reports and listen to RAC priorities. Attendance at the other Yukon River RAC meetings will be

accomplished by teleconference or with funds from other programs. Annual pre-season and post-season evaluations of the program will be conducted with the state and federal managers, with the surveyors and with community representatives. This will include the priority information to share and collect and create an adaptive program that will allow maximum communication efforts. YRDFA will evaluate each in-season subsistence salmon surveyor, their participation and effectiveness at sharing and gathering information, and their reliability in delivering a report on the teleconferences as well as their ability to engage in productive fisheries management discussions on the teleconferences.

Partnerships/Capacity Building: This project will build the capability and expertise of rural and Alaska Native individuals and organizations by providing an opportunity to learn about Yukon River fisheries management, participate in local reporting and building their skills through focused annual trainings on communication with local fishers, river-wide fishers, and managers. Surveyors also attend the annual preseason fisheries preparation meeting, increasing their fisheries knowledge and enhancing their ability to participate in the management of federal subsistence fisheries. Partnerships will continue with the state and federal managers, village tribal councils, and individuals working as a part of the project. YRDFA will consult annually with the tribal councils of the 10 communities invited to participate in the in-season harvest interview portion of the project. As part of the consultation the tribal councils are invited to provide suggestions for improvement of the program. All of the communities participating in 2018 have been contacted and their knowledge of, support of, and suggestions for this proposal were discussed. The communities have expressed interest to continue their participation in the project, noting the value they find it for their community. With the decline in Chinook salmon and the need to conserve, the feedback received from both managers and fishers is that the strength of this program is its ability to enhance productive river-wide communication between fishers and managers. Additionally, consistent participation and representation from 10 key villages on the teleconferences was noted as an important contribution and notably missed when the Chinook season ends. There is value in having local surveyors participate in each teleconference and leads to better understanding in those communities and engaging more people prior to the teleconference.

Project Number:	20-252
Title:	Customary Trade in the Lower and Middle Yukon River
Geographic Region:	Lower and Middle Regions of the Yukon River
Data Type:	Harvest Monitoring and Traditional Ecological Knowledge
Principal Investigator:	Alida Trainor, Division of Subsistence, Alaska Department of Fish and Game, Fairbanks
Co-investigators:	David Koster, Division of Subsistence, Alaska Department of Fish and Game, Anchorage

Project Cost:	2020: $163,558	2021: $71,549	2022: $75,380	2023: $0
Total Cost:	$310,487			

Issue: In recent years, the Yukon River has seen a significant decline in the number of returning Chinook salmon. These declining salmon returns greatly affect subsistence salmon harvests and uses by community residents and require more conservative management by federal and state agencies. Regional

Advisory Councils and community members remain concerned about these declines and the role of customary trade in changing patterns of salmon use. This study will document traditional and contemporary practices of customary trade in lower and middle Yukon River communties with particular attention to understanding the nature and scope of customary trade and its role in a larger continuum of exchange practices.

The commercial fishing that largely occurs in the lower parts of the river supports subsistence economies by providing much needed cash to buy equipment and supplies that are often reinvested in subsistence activities. Because of this revenue source, residents in the lower river may not consider customary trade a means to support their subsistence activity. Participation in customary trade in the lower river likely will have different justifications than that in the upper river. In the middle river, some residents participate in commercial fishing while others solely subsistence fish. Recent research on customary trade (Fienup-Riordan 1986, Magdanz et. al 2007, Moncrieff 2007) suggests that customary trade plays a long-term and important role in the continuum of exchange that serves to distribute subsistence resources within and between communities. However, the importance of customary trade varies by area (Krieg et al. 2007). Buying or selling fish, is not solely an economic consideration. The presence of a commercial fishery is not a likely predictor of the extent of customary trade in any given community. Conducting this research in the lower and middle river regions will expand our understanding of the social, economic, and cultural factors that drive participation in this practice.

This project seeks to build on earlier research by administering the same methods used in Brown (2017) in the lower and middle Yukon River regions in order to establish comparable data sets across all regions of the Yukon River.

Objectives: This two-year study will develop case studies, addressing the following objectives:

1. Through ethnographic methods, describe how customary trade practices fit within the overall subsistence use of salmon in the lower and middle Yukon area, both historically and in present times of declining salmon.

2. Using a survey on barter and exchange practices, document the scope and local nature of customary trade in four Yukon River communities. Describe exchange networks and transaction in terms of the species and types (e.g. processing) of fish traded. Where possible, quantify transactions.

3. Improve understanding of the role of customary trade within a continuum of exchange practices, including any potential effects on customary trade resulting from declining runs within the context of subsistence management and uses.

Methods: Community-level characterizations of customary trade will be made through the use of a short, confidential survey on barter and trade practices by community households. The survey will be primarily designed to document local views and *prevalence* of different types of exchange involving salmon, in addition to quantifying or estimating the actual extent of those practices on a household or community level. However given the politicized nature of customary trade practices in the present moment, it may be

challenging to quantify exchanges in all of the communities. The survey will include questions about the frequency of different types of exchanges, including sharing (analyzed through forms of reciprocity), barter, and customary trade.

The ethnographic research for this project will include anthropological methods of participant observation and semi-structured interviews. In each study community, individuals will be identified who are active in customary trade and, or barter. Generally, it is well known within a community who is active or skilled in an activity such as fishing or trade (Usher 2000) and these individuals will be identified through a snowball sampling design.

Partnerships/Capacity Building: The principal investigators will work with tribal councils in the study communities to hire local project assistants, to select key respondents, and facilitate community meetings. The local research assistants will be trained in anthropological sampling methods. This adds to local involvement and local understanding of the Yukon River Chinook salmon management issues. This also increases coordination between agencies, Tribal entities, and community members – working together in data collection increases communication and leads to better understanding of local issues and local understanding of science and management issues.

Project Number:	20-256
Title:	Yukon River In-Season Salmon Management Teleconferences
Geographic Region:	Yukon Region
Data Type:	Harvest Monitoring and Traditional Ecological Knowledge
Principal Investigator:	Wayne Jenkins, Executive Director, Yukon River Drainage Fisheries Association
Co-investigators:	Catherine Moncrieff, Anthropologist, Yukon River Drainages Fisheries Association
Project Cost:	2020: $19,713 2021: $19,713 2022: $19,713 2023: $19,713
Total Cost:	$78,854

An executive summary was not submitted for this project.

FISHERIES RESOURCE MONITORING PROGRAM
KUSKOKWIM REGION OVERVIEW

Since the inception of the Monitoring Program in 2000, a total of 99 projects have been undertaken in the Kuskokwim Region costing $20.9 million (**Figure 1**). Of these, the State of Alaska received funds to conduct 59 projects, Alaska rural organizations conducted 16 projects, the U.S. Department of the Interior conducted 21 projects, and other organizations conducted 3 projects (**Figure 2**). See **Appendix 1** for more information on Kuskokwim Region projects completed since 2000.

Figure 1. Monitoring Program Funds Distributed, by Organization Type, in the Kuskokwim Region since 2000

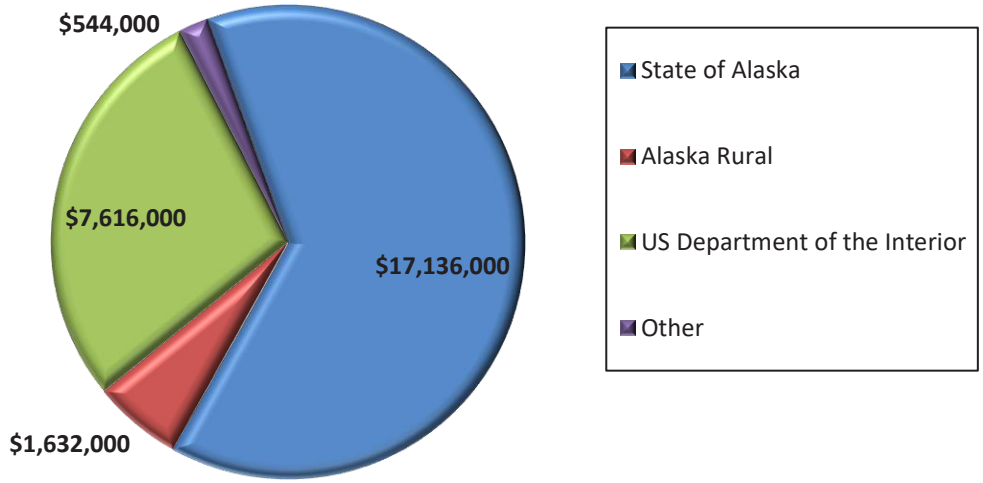
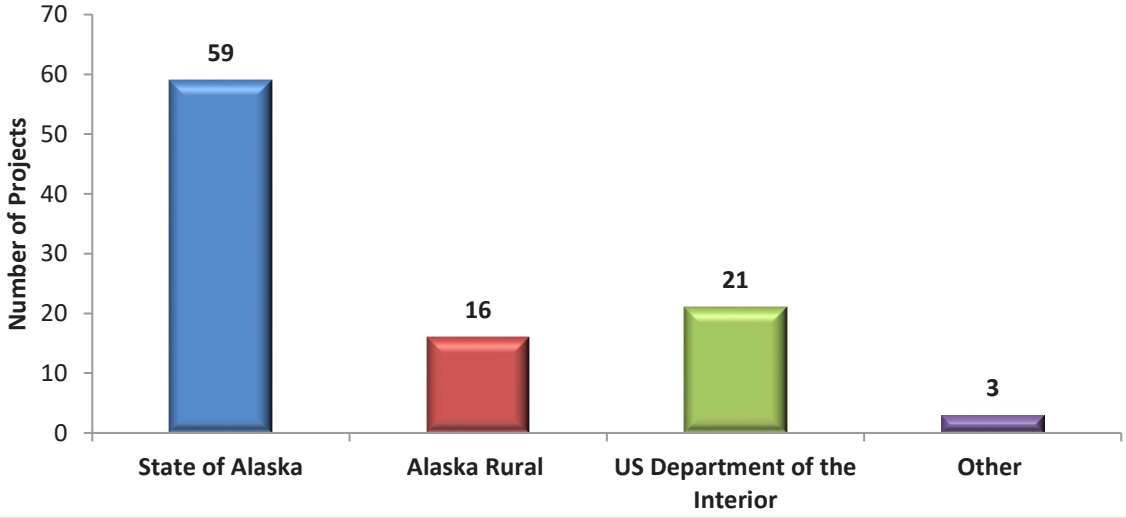


Figure 2. Number of Monitoring Program Projects Funded, by Organization Type, in the Kuskokwim Region since 2000



PRIORITY INFORMATION NEEDS

The 2020 Notice of Funding Opportunity for the Kuskokwim Region identified the following 13 priority information needs:

- Documentation of oral histories describing salmon harvest methods in the Kuskokwim River drainage, specifically the period before the development of the modern commercial fishery.
- Documentation of local knowledge concerning how salmon subsistence harvest restrictions have affected people's uses of fish and other resources in the Kuskokwim River drainage.
- Reliable quantitative and/or qualitative estimates of salmon run size, escapement, and harvest in the Kuskokwim River drainage including Kuskokwim Bay tributaries.
- Estimates of "quality of escapement" measures to help inform salmon stock assessments (potential egg deposition, age, sex, and size composition of spawners, advancing genetic baselines).
- New methods for conducting in-season salmon run assessments in the Kuskokwim River drainage, for example community-based harvest monitoring, sonar, and village test fisheries
- Improved Kuskokwim River drainage-wide and sub-stock specific salmon run size and timing forecasts.
- Distribution, abundance, condition, and survival of juvenile and out-migrating salmon in the Kuskokwim River drainage.
- Improved methods to estimate Chinook Salmon sub-stock specific run abundance, run timing, and harvest in the Kuskokwim River drainage.
- Traditional ecological knowledge of salmon.
- Information sharing between stakeholders and agencies concerning salmon conservation in the Kuskokwim river drainage, for example outreach to villages using the media and other methods.
- A spatially robust indexing method for estimating species-specific whitefish harvests on an annual basis; and/or geographic distribution and abundance of whitefish species.
- Traditional ecological knowledge of whitefish species. Groups of communities might include Kalskag, Lower Kalskag, Aniak, and Chuathbaluk, or Red Devil, Sleetmute, and Stony River.
- The meaning and significance of sharing, barter, and/or customary trade of subsistence foods in the context of the social, cultural, and economic life of people in the lower Kuskokwim drainage.

AVAILABLE FUNDS

Federal Subsistence Board guidelines direct initial distribution of funds among regions. Regional budget guidelines provide an initial target for planning. For 2020, the Department of the Interior, through the U.S. Fish and Wildlife Service, will provide an anticipated $1.5 million in funding statewide for new projects in 2020. The U.S. Department of Agriculture, through the U.S. Forest Service, has historically provided some funding. The amount of U.S. Department of Agriculture funding available for 2020 projects is uncertain.

ROLE OF THE TECHNICAL REVIEW COMMITTEE

The mission of the Monitoring Program is to identify and provide information needed to sustain subsistence fisheries on Federal public lands for rural Alaskans through a multidisciplinary and collaborative program. It is the responsibility of the Technical Review Committee to develop the strongest possible funding plan for each region and across the entire state.

For the 2020 Monitoring Program, eight proposals were submitted for the Kuskokwim Region. The Technical Review Committee evaluated and scored each proposal on Strategic Priority, Technical and Scientific Merit, Investigator Ability and Resources, Partnership and Capacity Building, and Cost/Benefit (**Table 1**). These scores remain confidential. An executive summary for each proposal submitted to the 2020 Monitoring Program for the Kuskokwim Region is in **Appendix 2**.

TECHNICAL REVIEW COMMITTEE JUSTIFICATIONS FOR PROPOSAL SCORES

Project Number: 20-301
Project Title: Kuskokwim River Coho Salmon Abundance Estimation and Whitefish Indices Using Sonar

Technical Review Committee Justification: Restrictions placed on subsistence Chinook Salmon harvest in the past has resulted in an increase in the harvest of other salmon species, particularly Coho Salmon. In this funding request, the Alaska Department of Fish and Game proposes to add one month (August) to an existing project (18-305) to more fully and accurately estimate the abundance of Coho Salmon and migrating whitefish in the maintstem of the Kuskokwim River using sonars and gillnet apportionment. If funded, this project would directly address two of the 2020 Kuskokwim Region priority information needs (provide reliable quantitative estimates of salmon run size and escapements and abundance indices of whitefish species). The annual average cost of the project ($104,000) appears high, considering there is only three to four weeks of work proposed each season. One local hire, selected by the Orutsararmiut Native Council, would gain experience and training in the use of the sonar and apportionment methods, thereby increasing local technical capacity. A robust list of local stakeholders has given their support for this project, indicating considerable communication with nearby communities has occurred. The partnership between the Alaska Department of Fish and Game and the Orutsararmiut Native Council is meaningful and provides the opportunity for building local technical capacity; specifically, by on-site training of a local technician providing experience working the drift-gillnet and learning how to operate

and count fish from a sonar. The technician and the co-investigator will both travel to nearby communities to give presentations on the sonar operation and monitoring results.

Table 1. Projects submitted for the Southwest Alaska Region, 2020 Monitoring Program, including total funds requested and average annual funding requests.

Project Number	Title	Total Project Request	Average Annual Request
20-301	Kuskokwim River coho salmon abundance estimation and whitefish indices using sonar	$417,750	$104,437
20-302	Salmon River of the Pitka Fork Chinook Salmon Escapement Monitoring	$423,257	$105,814
20-303	Middle Kuskokwim River Chinook and Chum Salmon In-Season Assessment	$368,988	$92,247
20-308	Kwethluk River Salmon Run Timing and Abundance	$726,333	$181,583
20-350	Community-Based Harvest Monitoring Network for Kuskokwim River Chinook Salmon	$460,724	$115,181
20-351	Food Knowledge and Place Name Documentation on the Kuskokwim River: Continuity and Change	$858,708	$214,677
20-352	Improving Communication and Outreach in the Kuskokwim River Drainage	$231,806	$77,269
20-353	Subsistence Harvest Use, and Local and Traditional Knowledge of Whitefishes in the Middle Kuskokwim River	$335,396	$111,799
Total		$3,822,962	$1,003,007

Project Number: 20-302
Project Title: Salmon River of the Pitka Fork Chinook Salmon Escapement Monitoring

Technical Review Committee Justification: The proposal directly addresses one of the 2020 priority information needs identified by the Kuskokwim Region Councils (obtain reliable quantitative estimates of salmon escapements and estimates of "quality of escapement" measures (i.e., age, sex, length composition) in the Kuskokwim River drainage) and fulfills the need for an on-the-ground salmon monitoring project in the upper Kuskokwim River drainage. This is in contrast to aerial surveys, which do not capture age, sex, length, or other critical run timing data. Information and data gathered for this project will be directly applied to management of important subsistence fisheries resources and aid in the post-season decisions made by fisheries managers. Even though a majority of the harvest occurs downriver of this weir, this data is still important for fisheries managers to understand how well the harvest opportunity windows worked and if escapement goals were met. The proposed investigation plan is technically sound and the project objectives are clear, measurable, and achievable. The ADF&G investigators and MTNT co-investigators have a successful track record for managing past projects and submitting all deliverables on time. This project identified areas to be more cost efficient and is now one

of the most cost-effective weirs proposed on the Kuskokwim River for the management of Chinook Salmon. Investigators are encouraged to add a detailed justification in future proposals regarding why continued funding support is needed for a long term weir such as the Pitka Fork weir.

Project Number: 20-303
Project Title: Middle Kuskokwim River Chinook and Chum Salmon In-Season Assessment

Technical Review Committee Justification: Through this four-year project, the investigator proposes to provide an index of relative salmon abundance in a stretch of the middle Kuskokwim River using a test fishery at Aniak and a weir on the Salmon River. While the proposal addresses a 2020 Priority Information Need, specific details connecting it directly to fishery management for the region would have strengthened the proposal. Combining two projects into one proposal made it difficult to evaluate the merits of each project. This proposal should be split into two and include a detailed description of each project and separate budgets. A description of project methods was not provided. The proposed project is a collaboration between the Native Village of Napaimute and Alaska Department of Fish and Game staff. Investigators are qualified to conduct the study and the budget request is reasonable.

Project Number: 20-308
Project Title: Kwethluk River Salmon Run Timing and Abundance

Technical Review Committee Justification: Investigators seek four years of funding for the operation of the Kwethluk River weir. Additionally, they seek to increase the role that the Organized Village of Kwethluk has in the project, thereby increasing their capacity to perform such operations in the future. The project has direct linkage to the Federal public waters of the Yukon Delta National Wildlife Refuge and fully addresses one 2020 Priority Information Need, while only marginally addressing a second. Data from the Kwethluk River weir is used to inform the run reconstruction model, which in turn is used to produce the preseason forecast for the next year. In addition, information collected from the weir is used for post season assessment of in-season management actions, but the project has limited value for in-season management. The majority of objectives of this study are clear, measurable, and achievable, although objective five (Build local capacity to plan and operate a community-based stock assessment project and conduct community outreach) is poorly defined. Investigators should lay out duties for year one, with a timeline of increased responsibilities for the Organized Village of Kwethluk in years 2, 3, and 4 of the project. Six letters of support were submitted for this project. Local hires from Kwethluk and the surrounding villages will be hired to serve as the crew leader and fish technicians, with administrative support from the Organized Village of Kwethluk. Investigators plan to support Alaska Native Science and Engineering Program students participating in biological internships, and have identified two meaningful partnerships.

Project Number: 20-350
Project Title: Community-Based Harvest Monitoring Network for Kuskokwim River Chinook Salmon

Technical Review Committee Justification: This four-year interdisciplinary project proposes to implement a community-based harvest monitoring of catch and effort data necessary for in-season

estimation of Chinook Salmon subsistence harvest on the Kuskokwim River. Biological data will also be collected. The project builds upon a two-year community harvest monitoring effort in five Kuskokwim communities. Building upon the knowledge, expertise, and collaborations achieved during the 2017 and 2018 field seasons, investigators will directly involve residents from six villages in the collection of harvest data for integration into in-season fishery management. This project addresses four regional priority information needs, has Federal nexus through the Yukon Delta National Wildlife Refuge, and involves a subsistence resource of primary importance to Kuskokwim River communities, Chinook Salmon. Technical and scientific merit are conditional upon collaboration with others; this is not a stand-alone project, but one component of an in-season harvest assessment program that has a high price tag for data collection only. Investigators have experience conducting and completing similar projects with success. The project proposes to hire and train nine village monitors who will be considerably compensated for their time. There are no representatives from any rural, Alaska Native, or tribal organizations that are serving as co-investigators, however many are participating on the project as partners or consultants. Four letters of support were submitted with this proposal.

Project Number: 20-351
Project Title: Food Knowledge and Place Name Documentation on the Kuskokwim River: Continuity and Change

Technical Review Committee Justification: This project seeks to document traditional ecological knowledge related to use of food resources generally and salmon in particular in the central Kuskokwim River area. Dr. Fienup-Riordan is a respected investigator in her field. Methodologies include topic-based meetings on local, sub-regional, and regional levels, as well as a multi-disciplinary survey of the central Kuskokwim River with elders and collaborating scientists. Four 2020 Monitoring Program priority information needs fall within the very broad scope of the project. The investigators would use methods for knowledge production that include placing subsistence users and scientists in the field simultaneously to discuss, generate, and document knowledge about interrelated natural, historical, social, and biological systems. The emphasis is on immediate concerns about preserving knowledge that will be lost with the passing of elders, rather than urgency of its application in a limited management problem-solving context; relevance to the Monitoring Program would have been strengthened by a narrower focus on salmon in the context of management applications. This is a large, intricate project with many moving parts, and an equally elaborate budget.

Project Number: 20-352
Project Title: Improving Communication and Sharing of Information Among Subsistence Salmon Fishers, Stakeholder Groups, and Management Agencies in the Kuskokwim River Drainage

Technical Review Committee Justification: This three-year project proposes to address the need for information sharing between subsistence salmon fishers and management agencies regarding salmon conservation in the Kuskokwim River drainage. Investigators propose to do this through a series of public meetings and in-person contacts in eight communities along the Kuskokwim River. This project directly addresses one priority information need, and Federal nexus is provided through the Yukon Delta National

Wildlife Refuge. Both investigators have substantial resources available to them through the Alaska Department of Fish and Game, and both investigators have good track records of leading and completing other Monitoring Program projects in good standing. The technical and scientific merit of the project is challenging. The investigation plan does not clearly indicate the proven utility of the chosen methodologies to achieve technical or demonstrable results and with further discussion they are hard to assess. Much in-season work is attributed to local research assistants but compensation in the budget detail is not adequate for the effort described. Otherwise, the total project budget is reasonable for the work proposed. The principal investigator is the Alaska Department of Fish and Game, no representatives from any rural, Alaska Native, or tribal organizations will serve as project co-investigators. However consultations with local tribal organizations will occur and permissions will be obtained. Eight local research assistants will be hired. No letters of support were submitted with the application materials.

Project Number: 20-353
Project Title: Subsistence Harvest Use, and Local and Traditional Knowledge of Whitefishes in the Middle Kuskokwim River

Technical Review Committee Justification: This three year project proposes to collect local and traditional knowledge related to whitefishes and to assess the harvest and use of whitefishes by residents of eight middle Kuskokwim River area communities. The project would compare the harvest and use of whitefishes in 2020 with the harvest and use of whitefishes documented by previous studies and augment the results with local traditional knowledge of whitefishes and whitefish ecology. The project objectives could be more streamlined but are measureable and achievable. The methods include; participant observation, key respondent interviews, and harvest surveys. All are proven means of ethnographic quantitative and qualitative research. The investigation plan, schedule, budget, and budget narrative do not align in describing the two years of survey administration and the two years of key respondent interviews. The investigation plan describes data collection and reduction processes for the surveys, and a particularly robust 63 key respondent interviews. While participant observation is the first method described in the project design, investigators do not describe how this methodology will be addressed and incorporated into the report. The investigators have the experience, local expertise, and resources to complete the work proposed. There are no partnerships or collaborations proposed for this project. Capacity building is addressed through the hire and training of seven local research assistants in consultation with local tribal and village organizations. The cost is reasonable but perhaps under budget for the work proposed, especially considering extensive time and travel in eight rural Alaskan communities, and two years of field work. No letters of support were submitted with this project.

APPENDIX 1
PROJECTS FUNDED IN THE KUSKOKWIM REGION SINCE 2000

Project Number	Project Title	Investigators
	Salmon Projects	
00-007	Tatlawiksuk River Salmon Weir	ADF&G, KNA
00-008	Bethel Inseason Subsistence Harvest Data	ONC
00-009	Bethel Postseason Harvest Monitoring	ADF&G, ONC
00-019	Kwethluk River Salmon Weir	USFWS, OVK
00-027	Goodnews River Salmon Weir	ADF&G
00-028	Kanektok River Salmon Weir	ADF&G, USFWS
00-029	Documentation/Communication on Floating Weirs	AVCP
00-030	Kuskokwim Salmon Project Site Surveys	ADF&G, USFWS
01-019	Planning Meetings in AVCP Region	AVCP, KNA
01-023	Upper Kuskokwim River Inseason Data	ADF&G, MNVC
01-024	Bethel Postseason Fishery Household Surveys	ADF&G, ONC
01-053	Tuluksak River Salmon Weir	USFWS, TNC
01-070	Kuskokwim River Chinook Salmon Genetic Diversity	ADF&G, USFWS
01-086	Kuskokwim River Escapement Project Technician	ONC
01-088	Natural Resource Internship Program	KNA
01-116	Kuskokwim River Salmon Work Group support	ADF&G
01-117	Kuskokwim Salmon Age-Sex-Length Assessment	ADF&G
01-118	Kanektok River Salmon Weir	ADF&G, BSFA
01-132	Bethel Inseason Subsistence Salmon Harvest Data	ONC, ADF&G
01-141	Holitna River Chinook, Chum and Coho Telemetry	ADF&G
01-147	Aniak River Sport Fisheries Survey	ADF&G, KNA
01-225	Middle Kuskokwim River Inseason Salmon Harvest	KNA, ADF&G, USFWS
01-226	Subsistence Fisheries Research Capacity Building	ADF&G
02-036	Aniak Postseason Subsistence Fishery Surveys	ADF&G, KNA
02-046	Kuskokwim River Chinook Salmon Inriver Abundance	ADF&G
03-030	Kuskokwim River Salmon Mark-Recapture	ADF&G, KNA
03-041	Kuskokwim Coho Salmon Genetics	ADF&G, USFWS
03-931	Kuskokwim Science Plan	BSFA
04-301	Kwethluk River Salmon Weir	USFWS, OVK
04-302	Tuluksak River Salmon Weir	USFWS, TNC
04-305	Kanektok River Salmon Weir	ADF&G, BSFA
04-310	Tatlawiksuk River Salmon Weir	ADF&G, KNA
04-311	Kuskokwim Coho Salmon Genetic Mixed Stock Assessment	USFWS
04-312	Goodnews River Coho Salmon Weir	ADF&G
04-351	Kuskokwim Bay Traditional Ecological Knowledge and Oral History	USFWS

Project Number	Project Title	Investigators
04-353	Bethel Inseason Subsistence Salmon Data Collection	ADF&G, ONC
04-359	Kuskokwim Postseason Salmon Subsistence Harvest Surveys	ADF&G, KNA, ONC
05-302	Kuskokwim River Chinook Salmon Inriver Abundance	ADF&G
05-304	George and Takotna River Salmon Weirs	ADF&G
05-305	Kuskokwim Chinook Salmon Genetic Stock Identification	ADF&G
05-306	Kuskokwim River Inseason Subsistence Harvest Data Collection	ADF&G, ONC
05-307	Lower Kuskokwim Subsistence Fisheries Catch Monitoring	ONC
05-353	Nunivak Island Subsistence Cod Fisheries	NPT
05-356	Kuskokwim Area Postseason Subsistence Salmon Harvest Survey	ADF&G
06-306	Lower Kuskokwim Salmon Inseason Subsistence Catch Monitoring	ADF&G
06-307	Kuskokwim River Salmon Management Working Group	ADF&G
07-302	Kuskokwim River Chum Salmon Run Reconstruction	ADF&G, BC
07-303	Kuskokwim River Salmon Age-Sex-Length Assessment	ADF&G
07-304	Tatlawiksuk River Salmon Weir	ADF&G, KNA
07-305	Kanektok-Goodnews River Salmon and Dolly Varden Weirs	ADF&G
07-306	Kwethluk River Salmon Weir	USFWS, OVK
07-307	Tuluksak River Salmon Weir	USFWS, TNC
08-302	Lower Kuskokwim Subsistence Chinook Salmon Age-Sex-Length	ADF&G
08-303	George River Salmon Weir	ADF&G
08-304	Takotna River Salmon Weir	ADF&G
08-351	Tuluksak River Subsistence Chinook Salmon Age-Sex-Length	USFWS
08-352	Bethel and Aniak Postseason Subsistence Salmon Harvest Surveys	ADF&G
10-300	Kanektok and Goodnews River Salmon Assessment	ADF&G
10-303	Kuskokwim River Salmon Age Sex Length Assessment	ADF&G
10-304	Tatlawiksuk River Salmon Assessment	ADF&G
10-306	Kwethluk River Salmon Assessment	USFWS
10-307	Tuluksak River Salmon Assessment	USFWS
10-352	Kuskokwim Salmon Postseason Harvest Monitoring	ADF&G
10-353	Kuskokwim Salmon Working Group Support	ADF&G
10-354	Kuskokwim Salmon Inseason Harvest Monitoring	ADF&G
12-302	Lower Kuskokwim River Subsistence Chinook Salmon Harvest ASL	ADF&G, ONC
12-303	George River Salmon Weir	ADF&G, KNA
12-304	Takotna River Salmon Weir	ADF&G, TCA
12-309	Kwethluk River Salmon Weir	USFWS
14-302	Tatlawiksuk River Salmon Weir	ADF&G
14-303	George River Salmon Weir	ADF&G

Project Number	Project Title	Investigators
14-306	Tuluksak River Salmon Weir	USFWS
14-308	Kwethluk River Salmon Weir	USFWS
14-351	Kuskokwim Delta Chinook Salmon Non-local Harvesters	USFS
14-352	Kuskokwim Area Salmon Post-season Subsistence Harvest Surveys	ADF&G
14-353	Kuskokwim River Salmon Inseason Subsistence Survey	ADF&G
14-354	Kuskokwim River Support for Cooperative Management	ADF&G
16-301	Lower Kuskokwim River Subsistence Chinook Salmon Harvest ASL	ADF&G, ONC
16-302[b]	Salmon River of the Pitka Fork Weir	ADF&G, MTNT
16-351[a]	Middle Kuskokwim River In season Subsistence Salmon Harvest Monitoring and estimation	ADF&G, NVN
18-304[b]	George River Salmon Weir	ADF&G
18-350[b]	Bethel Subsistence Harvest Surveys	ONC, ADF&G
18-351[b]	Kuskokwim Area Salmon Post Season Subsistence Harvest Surveys	ADF&G, ONC
	Resident Species	
01-052	Whitefish Lake Humpback & Broad Whitefish	USFWS, KNA
01-112	Aniak River Subsistence Fisheries Study	ADF&G, KNA
01-235	Upper Kuskokwim Community Use Profiles	ADF&G
04-304	Whitefish Lake Whitefish Telemetry	USFWS
05-301	Whitefish PIT Tags	USFWS
06-303	Kuskokwim River Whitefish Migratory Behavior	USFWS, KNA
06-305	Kuskokwim River Inconnu Spawning Distribution	ADF&G
06-351	Lower Kuskokwim Non-salmon Harvest and TEK	ADF&G, AVCP
08-300	Aniak River Rainbow Trout Seasonal Distribution	ADF&G
10-305	Kuskokwim River Sheefish Spawning, Distribution and Timing	ADF&G
12-312	Status of sheefish in Highpower Creek and Upper Kuskokwim River	ADF&G
12-313	Location, Migration Timing, and Description of Kuskokwim River Bering Cisco Spawning Origins	KNA, USFWS
12-352	Whitefish Trends on the Upper Kuskokwim, Alaska	ADF&G
14-301	Kuskokwim River Broad Whitefish Spawning above McGrath	USFWS
14-307	Upper Kuskokwim River Sheefish Enumeration	USFWS
14-356	Lower Kuskokwim Villages Whitefish	UAA
16-303[a]	Enumeration and spawning area characterization of Sheefish in the Upper Kuskokwim River	ADF&G

a = Final Report in Preparation.
b = On-going projects during 2019.
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 Associations, 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 2
EXECUTIVE SUMMARIES

The following executive summaries were written by principal investigators and were submitted to the Office of Subsistence Management as part of proposal packages. They may not reflect the opinions of the Office of Subsistence Management or the Technical Review Committee. Executive summaries may have been altered for length.

Project Number:	20-301			
Title:	Kuskokwim River Coho Salmon Abundance Estimation and Whitefish Indices Using Sonar			
Geographic Region(s):	Kuskokwim Region			
Data Type:	Stock Status and Trends			
Principal Investigator:	Keegan O. Birchfield, Alaska Department of Fish and Game			
Co-investigators:	Janessa Esquible, Orutsaramiut Native Council Nicholas J. Smith, Alaska Department of Fish and Game Carl T. Pfisterer, Alaska Department of Fish and Game			
Project Cost:	**2020:** $101,251	**2021:** $102,321	**2022: $**105,469	**2023:** $108,709
Total Cost:	$417,750			

Issue: We propose to use sonar and drift gillnet apportionment methods to estimate daily and total abundance of upriver migrating coho salmon (*Oncorhynchus kisutch*) and whitefish species (*Coregonus sp.*) in the Kuskokwim River during the month of August. Our proposal addresses multiple priority information needs identified for the Kuskokwim Region by providing *reliable quantitative estimates of salmon run size and escapements* and *abundance indices of whitefish species* for the mainstem Kuskokwim River and is consistent with Alaska Department of Fish and Game's (ADF&G) strategic plan towards integrating a sonar-based assessment program within the current suite of Kuskokwim River assessment projects. Towards that goal, ADF&G has secured long-term funding for sonar operations, but the existing budget is only adequate to operate the project through the overlapping Chinook (*O. tshawytscha*), chum (*O. keta*), and sockeye (*O. nerka*) salmon runs in June and July. Coho salmon (*O. kisutch*) enter the Kuskokwim River beginning in late July, after the migration of other salmon species has all but ended. By the end of July, only about 20% of the coho salmon run has passed through the lower river, where most harvest occurs. Whitefish species including least cisco (*Coregonus sardinella*), Bering cisco (*C. laurettae*), humpback whitefish (*C. pidschian*), broad whitefish (*C. nasus*), and inconnu (sheefish; *Stenodus nelma*) navigate the mainstem from mid-May to late September. Our request would continue annual sonar operation during the month of August to enumerate the annual coho salmon run and provide a first ever mainstem indices of migrating whitefish species. Coho salmon escapement is

easily obtained by incorporating existing harvest estimate programs to sonar-based estimates of abundance. Establishing a baseline estimate of coho salmon abundance and a whitefish abundance index *before* populations suffer a downturn is critical for timely and appropriate management responses. Given the cost and time to establish new management standards for fisheries following declines, proactive assessment would be more effective for responsible management of fisheries resources.

Objectives: The primary goal of the Kuskokwim River sonar extension is to estimate daily and total abundance of upriver migrating adult coho salmon and provide an index of migrating whitefish species near Bethel and provide those estimates to State and Federal fisheries managers inseason to inform sustainable fisheries management. The State of Alaska has already secured long-term funding to operate the sonar program during June and July annually to assess the overlapping Chinook, chum, and sockeye salmon runs. This proposal seeks to continue project operations through August, to meet the following specific objective:

1. Estimate the daily and total passage of Kuskokwim River coho salmon and whitefish species at rkm 130 between August 1 and August 25, 2020, 2021, 2022, and 2023.

Methods: We propose to use sonar and drift gillnet apportionment methods on the mainstem Kuskokwim River just upriver from Bethel to estimate daily and total number of adult coho salmon and whitefish species through August 25, 2020, 2021, 2022, and 2023. Sonar data files will be processed using software developed by ADF&G. A drift gillnet test fishery that overlaps the ensonified areas will be used to apportion abundance estimates to species. ADF&G/Commercial Fisheries (CF) staff will maintain all physical and electronic data produce tabular and graphical summaries for use by State and Federal managers and advisory groups engaged in inseason salmon management. Abundance estimates will be updated daily in the publicly accessible Arctic Yukon Kuskokwim Database Management System and ADF&G Fish Counts Page.

Project results are expected to influence inseason management decisions by providing the first ever reliable daily estimates of coho salmon abundance near the dominant fishery and mainstem estimates of migrating whitefish abundance. This information will be used by managers within formal and informal decision-making frameworks to evaluate management options and execute the fishery. Final project results will be published in the ADF&G Fishery Data Series.

Partnerships/Capacity Building: Staff from ADF&G and ONC will conduct this project in partnership. ADF&G is responsible for staff support, logistical support, data processing, reporting, and assisting with outreach opportunities. ONC is responsible for providing staff to assist inseason at the project, logistical guidance and insight, and assist with community outreach. Working in collaboration will provide an avenue to improve community outreach and further engage Kuskokwim River communities in Kuskokwim Area salmon research and management issues. This proposal seeks salary and transportation funds to facilitate this capacity building effort. Starting August 1 each year of operation, an ONC technician will spend several days training and joining ADF&G crews to assist with test fishing and sonar counts. Once their training is complete, they will be incorporated into daily technician shifts to directly contribute to salmon and whitefish estimates of abundance. After the season has concluded, the PI will

assist in creating a presentation ONC technicians to summarize their efforts for community members in Kwethluk, Akiachak, and Bethel as the closest neighbors to sonar operations. Funding requests include salary and transportation for these presentations.

Fish harvested in the sonar test fishery will be donated to local communities. In 2017 and 2018, ADF&G coordinated directly with community members near the test fish site and in the community of Kwethluk and Bethel to distribute fish. We are continuing efforts to support more deliveries to the nearby communities of Akiachak as well.

Project Number:	20-302
Title:	Salmon River of the Pitka Fork Chinook Salmon Escapement Monitoring
Geographic Region:	Kuskokwim Region
Data Type:	Stock Status and Trends
Principal Investigator:	Bobette R. Dickerson, Alaska Department of Fish and Game, Anchorage
Co-investigators:	Nicholas Smith, Alaska Department of Fish and Game, Anchorage Michele Christiansen, McGrath Takotna Nikolai Telida (MTNT) Energy LLC Timothy Barnum, MTNT Energy LLC
Project Cost:	2020: $139,997 2021: $103,370 2022: $106,067 2023: $73,823
Total Cost:	$423,257

Issue: We propose to continue operations of a weir on the Salmon River of the Pitka Fork, hereafter referred to as Salmon (Pitka Fork) River, to index Chinook salmon (*Oncorhynchus tshawytscha)* escapement to the headwaters of the Kuskokwim River, upriver from McGrath. Our proposal is in response to the priority information needs identified in the 2020 FRMP request for proposals to obtain *reliable quantitative estimates of salmon escapements* and *estimates of "quality of escapement" measures* (i.e., age, sex, length composition) in the Kuskokwim River drainage. The Salmon (Pitka Fork) River weir is currently the only ground-based salmon assessment project operated in the Kuskokwim River that indexes genetically distinct headwaters Chinook salmon. Local and traditional knowledge combined with eight years of intensive mark–recapture studies indicate that the Salmon (Pitka Fork) River is the best location for indexing Chinook salmon escapement to the headwaters.

Goals: To continue operations of a ground-based monitoring project that will adequately index escapement to the headwaters of the Kuskokwim River.

Objectives:

1. Estimate daily and total annual Chinook salmon escapement to the Salmon (Pitka Fork) River using a fixed picket fish weir from 20 June – 15 August;
2. Collect age, sex, length (ASL) data from 250 Chinook salmon in proportion to abundance;
3. Foster local interest in natural resource management, field biology, and expose students to employment possibilities.

Methods: We propose to operate a weir on the Salmon River of the Pitka Fork to index Chinook salmon escapement to the headwaters of the Kuskokwim River from 20 June – 15 August (2020, 2021, 2022, and

2023). Fish will be counted throughout the daytime by trained technicians. Visual counts will take place through a clear plastic viewing window placed on the stream surface. Age, sex, and length data will be collected in proportion to run timing using live fish trap that is integrated into the weir design. The crew will record daily fish passage numbers of each salmon species in field logs and report the information to ADF&G staff in Bethel or Anchorage. We will estimate any missed escapement of Chinook salmon that occurs within the target operational period (generally due to high water or scouring) using hierarchical Bayesian estimation technique. ADF&G staff will be responsible for maintaining the information physically and electronically in tabular and graphical formats for the use of various managers and advisory groups engaged in inseason management. In addition, escapement counts and estimates will be updated daily in the Arctic Yukon Kuskokwim Database Management System and ADF&G Fish Counts Page.

Partnerships/Capacity Building: Staff from ADF&G and MTNT will conduct this project in partnership. ADF&G will be responsible for staff support, logistical support, data processing, reporting, and assisting with outreach opportunities. MTNT will be responsible for providing staff to assist inseason at the project, logistical guidance and insight, and assist with community outreach. Working in collaboration will provide an avenue to improve community outreach and further engage headwaters communities of McGrath, Takotna, Nikolai, and Telida in Kuskokwim Area salmon research and management issues. Planned outreach includes presentations on the purpose and operation of the weir to the schools in McGrath, Nikolai, and Takotna. Ideally, these presentations will be done by one of the previous seasons weir technicians, a local hire. These presentations were first implemented in the winter of 2018-19 and thus far has been very successful, in the opinion of the weir technician, educators, and students.

Project Number:	20-303			
Title:	Middle Kuskokwim River Chinook and Chum Salmon In-Season Assessment			
Geographic Region:	Kuskokwim Region			
Data Type:	Stock Status and Trends			
Principal Investigator:	Dan Gilikin, Native Village of Napaimute, Aniak			
Project Cost:	2020: $92,247	2021: $92,247	2022: $92,247	2023: $92,247
Total Cost:	$368,988			

Issue: The Kuskokwim River supports the largest subsistence salmon fishery in the state of Alaska, based on both the number of residents who participate in the fishery and the number of salmon harvested. Customary and traditional use determinations have been made for the 32 communities (comprised of 14,739 people living in 4,266 households) in the Kuskokwim River drainage.

Kuskokwim River Chinook Salmon stocks have been in a period of low productivity since 2007, requiring managers to enact significant fishing restrictions to meet established escapement goals. Both of the proposed projects will provide Fisheries Managers (State and Federal) with timely in-season information for determining the needed to restrict or liberalize harvest opportunity, while providing for the conservation of Chinook and chum salmon.

Objectives: Specific objectives for the Aniak Test Fishery (ATF) are:

1. Calculate a daily catch per unit effort (CPUE) of adult salmon from June 1st until July 15th
2. Calculate cumulative CPUE as an index of run timing of adult salmon species
3. Calculate a daily ratio of each salmon species as an index of relative abundance
4. Build tribal capacity to participate in future fisheries assessment projects

Specific objectives for the Salmon River Weir (SRW) operations are:

1. Operate and maintain an adult salmon counting weir and field camp on the Salmon River from July 1st through August 15th.
2. Estimate daily and total season escapement of salmon into the Salmon River for Chinook and chum salmon.
3. Collect data on the age, sex and length of salmon in the Salmon River
4. Build tribal capacity to participate in future fisheries assessment projects

Specific objectives related to Capacity Building (CAP) are:

1. Recruit, hire and train Tribal Members for the proposed assessment projects
2. Recruit, hire and train at least one Alaska Native Science and Engineering Program Intern
3. Procure necessary supplies identified in the budget to implement the assessment projects
4. Conduct outreach activities related to the projects with local stakeholders

Methods: The Native Village of Napaimute is seeking funding from the FRMP Program to continue operating two critical in-season salmon fisheries assessment projects for the Middle Kuskokwim River Region. In partnership with the Alaska Department of Fish and Game Commercial Fisheries Division Napaimute has been conducting the Aniak Test Fishery, and operating the Salmon River Weir since 2015. The Aniak Test Fishery will provide daily information on relative abundance, species composition and run timing for Chinook and chum Salmon, on the main stem Kuskokwim River at Aniak to Fisheries Managers. The Salmon River Weir will provide information similar to the Test Fishery with the addition of; age-sex-length data, and estimations of Chinook and chum salmon escapement for one of the major tributaries of the Aniak River. Chinook salmon abundance estimates for the Salmon River will also be used postseason as a data point in the Kuskokwim River Basin Wide Chinook Run Reconstruction model which is used to evaluate achievement of the established escapement goal of 60,000 – 120,000 Chinook salmon.

Partnerships/Capacity Building: Capacity building has been identified as a specific component for each of the proposed projects objectives. The Tribe's stated vision for Napaimute is to:

> "*Capitalize on the strengths of tribal members to develop a sustainable community, through economic & workforce development, seeking opportunities that enhance the assets of Napaimute while respecting land, culture, values and the wisdom of our elders and younger tribal members."*

The Council's vision places a stronger emphasis on the professional development of tribal members to achieve a sustainable community, while retaining respecting for the land, culture, and core values; accountability, integrity, respect, and responsibility. This proposal has been developed keeping Napaimute's vision statement in mind with a focus on local workforce development.

Napaimute has identified subsistence issues, with a focus on salmon as a component of its EPA Tribal Environmental Plan. Funding provided by the FRMP program will deliver the necessary tools, training, and career opportunities to assist the Tribe with establishing a sustainable fisheries program at Napaimute and achieving its identified environmental objectives. The Tribe recognizes the critical role subsistence fisheries play in realizing its vision and is therefore committed to taking a more proactive, meaningful role in its management to protect the sustainability of this vital resource for future generations.

Napaimute has been conducting the Aniak Test Fishery, and operating the Salmon River Weir since 2015 in partnership with the Alaska Department of Fish and Game Commercial Fisheries Division. We currently have a cooperative agreement in place with ADF&G to operate both projects as proposed.

Project Number:	20-308
Title:	Kwethluk River Salmon Run Timing and Abundance
Geographic Region:	Kuskokwim Region
Data Type:	Stock Status and Trends
Principal Investigators:	Aaron Webber, U.S. Fish and Wildlife Service, Kenai Fish and Wildlife Conservation Office, Bethel Senka Guy, Organized Village of Kwethluk, Tribal Administrator, Kwethluk Kevin Whitworth, Kuskokwim River Inter-Tribal Fish Commission/ Bering Sea Fishermen's Association, McGrath Gary Decossas, US Fish and Wildlife Service, Yukon Delta NWR, Bethel
Project Cost:	2020: $185,912 2021: $184,103 2022: $176,722 2023: $179,596
Total Cost:	$726,333

Issue: This project focuses on three of the identified priority information needs for the Kuskokwim Region of the 2020 Fisheries Resource Monitoring Plan Priority Information Needs: 1) Reliable qualitative and/or quantitative estimates of salmon run size, escapement, and harvest. In this project we obtain escapement data which is provided to managers to make decisions for subsistence management; 2) Estimates of "quality of escapement" measures to help inform salmon stock assessments (potential egg deposition, age, sex and size composition of spawners, advancing genetic baselines) In this project we collect age, sex, and length data from salmon at the weir which helps us evaluate the "quality of escapement" of the salmon stocks of the Kuskokwim drainage; and 3) Distribution, abundance, condition, and survival of juvenile and out-migrating salmon in the Kuskokwim River drainage. This project follows up on an AYK-SSI project (Assessment of Chinook Salmon freshwater production) by monitoring returning Chinook Salmon that were tagged as smolts on the Kwethluk River and are expected to return

during the duration of this funding cycle to provide survival estimates of juvenile Chinook Salmon. This project also addresses the expressed desire of the Organized Village of Kwethluk (OVK) to assume more responsibility for operations at the Kwethluk River weir. Project partners are committed to work together on a series of actions to strengthen OVK's capacity to meet this goal over the next several years.

Objectives: 1) Enumerate the daily passage and characterize the run timing of Chinook, Chum and Coho Salmon. **2)** Estimate the weekly sex and age composition of Chinook, Chum, and Coho Salmon such that the simultaneous 95% confidence intervals have a maximum width of 0.2. **3)** Estimate the mean length of Chinook, Chum, and Coho Salmon by sex and age such that the simultaneous 95% confidence intervals have a maximum width of 0.2**. 4)** Identify and count other fish species passing through the weir. **5)** Build local capacity to plan and operate a community-based stock assessment project and conduct community outreach. **6)** Identify PIT-tagged adult Chinook Salmon returning to the weir.

Methods: The Organized Village of Kwethluk (OVK), Kuskokwim River Inter-Tribal Fish Commission (KRITFC), Bering Sea Fishermen's Association (BSFA), and the United States Fish and Wildlife Service (USFWS) will operate a resistance board weir affixed with an underwater video system in the Kwethluk River approximately 88 river kilometers upstream from the confluence with the Kuskokwim River. Enumeration of salmon will occur between mid-June and September 10 each year. Daily escapement counts will be relayed to staff daily, thus contributing to daily in-season management decisions. Data on fish age, sex, and length will be collected weekly. Sampling consists of measuring length, determining sex, collecting scales, examining fish for gill net marks, and then releasing the fish upstream of the weir. Days with partial or zero counts will be considered incomplete and estimates will be calculated for those dates. Tagged salmon from a previous study where juvenile Chinook Salmon were tagged as they migrated downstream between 2015-2018 will pass through a PIT tag antenna array affixed to the weir entrance, which will record them and allow for a survival estimate.

Partnerships/Capacity Building: The OVK, KRITFC, BSFA, and USFWS are committed co-investigators for this project in the development of a robust community capacity building effort to increase local expertise to manage this and future fish monitoring projects. Meetings during February 2019 with all co-investigators were conducted to foster relationships between partners, to develop this joint FRMP proposal, and begin formulating a long-term plan for capacity building. The project partners have agreed to work together over the next five years and beyond to (1) ensure the highest quality data from the weir operations, (2) enhance OVK's capacity to operate the Kwethluk Weir, and (3) strengthen and sustain relationships needed to maintain healthy subsistence fisheries on the Kuskokwim River and its tributaries. This project promotes partnerships and capacity building through direct employment and training opportunities for rural Alaskans working on fisheries monitoring and assessment projects (e.g. weir management) and interactive education opportunities promoting salmon monitoring and the importance of data collection in fisheries management.

The partners will work together to draft an action plan that lays out the specific steps needed to eventually transition weir management to the Organized Village of Kwethluk, including collaboration to develop a Tribal Wildlife Grant Application or other funding sources to help facilitate long-term capacity building. This long-term capacity building plan will establish specific goals that OVK will work toward with

support from the Service, BSFA, and KRITFC. Preliminary discussion of the plan among partners lays out a 5-year process to transfer knowledge to OVK on weir installation and operation with a 2023 goal of OVK as the project lead for installing and operating the weir. During the 2019 and 2020 field seasons, the Service will take the lead role on installation with OVKs assistance and OVK will learn all the necessary elements. Year 2021 will be considered a transition year, where both the Service and OVK work side by side on installation. During the 2022 and 2023 field seasons, OVK will take the lead role on installation and the Service will assist, and the USFWS will provide on-the-job training in post-season scale processing and ageing analysis. Post-season meetings among partners will be conducted after each field season to evaluate plan success and make any needed adjustments.

Another key element of community capacity building is education. To raise awareness of weir operations among communities, the partners propose to have annual tours of the Kwethluk Weir to any who are interested, and will provide direct invitations to elders from OVK to tour the weir. The Service will provide Information Technicians who speak Yupik and transportation for residents to the weir. The tour of the facility will allow residents to take part in Age-Sex-Length (ASL) sampling so they can actively participate in salmon management. The partners want to promote awareness of weirs and weir operations among elders and others in the villages to encourage active involvement by community members in salmon management. Additionally, the partners will coordinate with the Service to provide education opportunities in local schools with the goal of teaching young people about the importance of salmon management and how they can be engaged in managing their resource.

The USFWS is partnering with the Alaska Native Science and Engineering Program (ANSEP) to support students participating in biological internships throughout Alaska. ANSEP strives to increase the number of Alaska Natives employed in the fields of science, technology, engineering and mathematics (STEM) by increasing the number of individuals on career paths to leadership in STEM fields. The Kwethluk River weir provides a meaningful summer internship that exposes Alaska Native and rural students to the field of fisheries management. Special emphasis will be placed on recruiting local students from Western Alaska. This science based resource monitoring and management internship will help students develop the knowledge and skills required to succeed in professional resource management positions.

Additionally, project partners commit to working together to assist OVK in developing administrative capacity essential to assuming a more active role in overall project management, including assistance developing a negotiated indirect cost rate agreement. By doing so, OVK will improve its overall capacity to apply for and receive Federal funds, complete performance reports, and address fisheries or other community needs.

Project Number:	20-350			
Title:	Community-Based Harvest Monitoring Network for Kuskokwim River Chinook Salmon			
Geographic Region:	Kuskokwim Region			
Data Type:	Harvest Monitoring			
Principal Investigator:	Joseph Spaeder, Research Coordinator, Bering Sea Fishermen's Association, Anchorage			
Project Cost:	2020: $115,181	2021: $115,181	2022: $115,181	2023: $115,181
Total Cost:	$460,724			

Issue: Over 18,000 people, primarily Alaska Natives, reside in the Kuskokwim region of Alaska. With some of the lowest per capita monetary income in the state, this region is characterized by a mixed subsistence and cash economy with a high production and cultural dependence on subsistence foods. Salmon represent the single largest category of wild food harvests in most communities, with Chinook salmon being the most important salmon species in most communities due to cultural, nutritional, and logistical factors. Thus, sustainable harvests of salmon, especially Chinook salmon, are critically important to the culture and subsistence economy of the Kuskokwim region.

Recent declines in Chinook salmon have challenged inseason efforts to manage subsistence fishing at a level that provides some subsistence harvests but ensures adequate spawning escapement for stock rebuilding. Currently, there no alternate means of assessing subsistence harvests in lower river communities inseason during the return of Kuskokwim River Chinook salmon. Given the importance of Chinook salmon to Kuskokwim area residents, a mechanism to monitor inseason subsistence harvests of Chinook salmon is a high priority.

Community-based harvest monitoring (CBM) has long been recognized as a process for local stakeholders to build capacity for increased participation in the western science management of natural resources. The proposed project will implement CBM for inseason assessments of subsistence harvests of Chinook salmon in the lower Kuskokwim River.

The overarching goal of the proposed project is to implement CBM for inseason assessments of subsistence harvests of Chinook salmon at six villages located in federal waters on the lower Kuskokwim River. Preliminary efforts in 2017 and 2018 demonstrated the value of community-based harvest monitoring to inseason managers and the proposed project builds on those previous efforts. Annual activities will include: working with tribal and community councils to explain project goals and objectives and identify potential candidates for hire as future harvest monitors; hiring and training of monitors in collaboration partner organizations; preliminary interviews and collection of biological data during restricted mesh subsistence opportunities prior to the arrival of the primary component of the Chinook salmon return; interviews and collection of biological data during the limited restricted mesh openings during the period when most of the Chinook salmon return passes through federal refuge waters of the lower Kuskokwim River; debriefing of monitors after the Chinook salmon returns have largely passed out of federal waters; and, postseason public recognition of monitors in the home villages. This project facilitates the integration of locally-collected data into inseason fishery management, increasing

local ownership and transparency of the management process while directly contributing to capacity building for harvest monitors.

Objectives: Specific project objectives are to:

1. Identify participant villages willing to support community-based monitors in interview sampling; the number of villages participating is expected to increase as the merits of the program continue to be revealed.
2. Train village monitors to respectfully conduct harvest interviews and collect ASL data from harvested fish.
3. Through community monitors, relay information on subsistence fishing opportunities to local community members, and relay local concerns to inseason managers (note – monitors are unequivocally not involved in regulation enforcement).
4. Collect subsistence harvest data from subsistence fishing opportunities during early June to the end of the lower river Chinook salmon run in July, and electronically transfer data within 12 hours of a fishing period closure.
5. Collect biological data (ASL) from fish harvested in subsistence fisheries.
6. Work with other agency and NGO staff to compile, review, and report on inseason harvest summaries as collected from this and related projects including aerial surveys.

Methods: Inseason, monitors are encouraged to achieve at least 10 interviews from each subsistence opportunity. Transferred data are imported into a Microsoft Excel worksheet with the data coordinator working with village monitors to resolve any data issues, such as missing data or formatting problems. Cleaned data are then culled (e.g., the data and time of data transfers are dropped), and data files transferred to the USFWS biometrician for integration with aerial survey and other interview data from other sources to develop harvest estimates. The data coordinator maintains copies of all CBM interview data including the raw original transfers, the cleaned data, and the data transferred to the USFWS biometrician, with all data copied to an external hard drive. Following each subsistence opportunity and harvest estimation by the USFWS biometrician, the CBM data coordinator participates as part of a technical review team to evaluate the data sources and the harvest estimates prior to release of the estimates to fishery managers and the public. The CBM data coordinator also participates in technical review of the postseason report summarizing harvest estimates for the Chinook salmon return.

Partnerships/Capacity Building: This project is strongly linked to rural villages on the Kuskokwim River. This project requires strong relationships with the village councils of Napaskiak, Napakiak, Kwethluk, Aniak, Tututuliak, Nunapitchuk as well as closely working with biologists at Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, Orutsararmiut Native Tribal Council, Kuskokwim River Inter-Tribal Fish Commission, the Kuskokwim River Salmon Management Working Group, and general stakeholders of the Kuskokwim River drainage. During its initial pilot project phase over the past two years, this project has already made significant direct contributions to capacity building through hiring, training and mentoring of young village residents working in fisheries monitoring. Through this project, we will build on these early contributions in a number of ways. Just prior to the Chinook salmon return, local residents will be hired as community-based harvest monitors to conduct

harvest interviews and collect biological data. After individual monitors are identified, hiring protocols are implemented and monitors are brought to Bethel, Alaska, for hands-on training. Through this process, we aim to inspire and help equip these young people to further explore careers in fisheries research and monitoring.

A major project goal through this process remains to involve local individuals that may potentially become links between traditional knowledge and western science, and ultimately become future fisheries leaders in their village and the region.

Project Number:	20-351			
Title:	Food Knowledge and Place Name Documentation on the Kuskokwim River: Continuity and Change			
Geographic Region:	Kuskokwim Region			
Data Type:	Traditional Ecological Knowledge			
Principal Investigators:	Ann Fienup-Riordan, Calista Education and Culture Inc., Anchorage Mark John, Calista Education and Culture Inc., Anchorage			
Project Cost:	2020: $214,962	2021: $214,747	2022: $214,611	2023: $214,388
Total Cost:	$858,706			

Objectives Our primary objective is a holistic documentation of traditional ecological knowledge pertaining to the harvest, processing, sharing, and use of food resources generally and salmon in particular along the Kuskokwim River. These documentation efforts will be carried out through a series of topic-specific gatherings (meetings with elders, youth, and CECI staff). Our gatherings will take place at three levels, including village gatherings in Kuskokwim River communities between Lower Kalskag and Stony River, sub-regional gatherings in Aniak, and regional gatherings and steering committee meetings in Bethel.

Need for Project This project was initiated by central Kuskokwim villages which have asked CECI to work with elders in their communities to document place names and traditional knowledge specific to their area--an area poorly understood and often ignored in southwest Alaska.

A major breakthrough in understanding Yup'ik cultural history was the establishment of the CECI and the placement of heritage preservation efforts in local hands. A community-engaged approach has been the hallmark of CECI research since 2000. Research topics--especially the emphasis on documenting traditional instructions and place names--have been chosen by CECI's board of elders, and subsequently pursued by CECI staff in collaboration with anthropologist Fienup-Riordan.

Elders and other community members are deeply concerned with maintaining their traditional knowledge base, which many feel is at the heart of their survival. CECI gatherings and their resulting publications are viewed as important steps in ensuring that Yup'ik cultural perspectives are not only broadly shared but preserved for future generations.

Project Activities Activities during Year 1 will focus on gatherings with central Kuskokwim elders from Kalskag, Aniak, Chuathbaluk, Crooked Creek, Napaimute, Red Devil, Sleetemute, and Stony River.

Work in central Kuskokwim communities will be expanded upon during Years 2 and 3 by four topic-specific gatherings on specific aspects of food knowledge held at the Yukon Delta National Wildlife Refuge (YDNWR) in Bethel and including selected elder representative from lower as well as central Kuskokwim communities.

Our project will be guided by three regional Steering Committee meetings, which will include representatives from Yukon River and coastal as well as Kuskokwim River communities to allow us to put what we are learning in perspective. These larger regional meetings will also provide an opportunity for non-Native scientists (including USFWS staff) to present findings and obtain feedback from elders. During the project's second year, we will carry out a summer field survey of the central Kuskokwim, traveling from Stony River to Lower Kalskag with elders, youth, and collaborating scientists, including a cultural anthropologist, archeologist, geologist, and fisheries biologist. During the field survey we will focus on documenting elder and younger community member observations of cultural and physical geography on site. To allow residents to share knowledge about the places they know best, the trip will be divided into two five-day segments--the first with 6 participants from Stony River, Sleetmute, Red Devil, Napaimute, and Crooked Creek, and the second with 6 participants from Chuathbaluk, Aniak, and Upper and Lower Kalskag.

Following the trip, two student interns will work with Fienup- Riordan to add place names to the Yup'ik Atlas as well as attach photographs, videos, and stories recorded at sites during the field survey. The understanding students gain of the benefits of collaboration in solving problems and advancing knowledge will be more important than any specific information learned.

Anticipated Outcomes Our project has three anticipated outcomes.

- As with all past CECI research, project results will be published in an English language text as well as a bilingual companion volume focused on food knowledge generally and salmon in particular along the Kuskokwim River.

- We will also share oral narratives in both text and audio format on our Yup'ik Atlas, hosted by ELOKA (Exchange of Local Observation and Knowledge in the Arctic). Launching the Yup'ik Atlas has been important in initiating an innovative and technologically sophisticated means of both sharing and archiving Yup'ik perspectives on their homeland. The Yup'ik Atlas has been incorporated into LKSD's 9th grade curriculum, and we hope that the Kuspuk School District can also make use of this resource.

Our project will be important in terms of capacity building, providing many opportunities for Native and non-Native experts, community members, agency representatives, and youth to work together. The project will leave a legacy of community infrastructure through training and cross-regional, community-agency contacts. Community members and agency scientists working toward common, locally-determined goals will model collaborative practices that offer rich possibilities for future research.

Project Number:	20-352
Title:	Improving Communication and Sharing of Information Among Subsistence Salmon Fishers, Stakeholder Groups, and Management Agencies in the Kuskokwim River Drainage
Geographic Region:	Kuskokwim Region
Data Type:	Harvest Monitoring and Traditional Ecological Knowledge
Principal Investigators:	David Runfola, Alaska Department of Fish and Game, Division of Subsistence, Fairbanks Nicholas Smith, Alaska Department of Fish and Game, Division of Commercial Fisheries, Anchorage

Project Cost:	2020: $128,124	2021: $67,799	2022: $35,883	2023: $0
Total Cost:	$231,806			

Issue: Kuskokwim River Chinook salmon abundance has been below average for at least the last decade, and particularly low run sizes have been observed since 2010. As a result, managers have enacted unprecedented closures to subsistence salmon fishing during the early part of the season when Chinook salmon are present in large numbers. Stakeholders have consistently shared concerns about the status of the subsistence fishery, with many households finding the lack of salmon fishing to be a great source of stress for their families. In hopes of alleviating some of that stress, residents have expressed a desire for less restrictive harvest opportunities, more predictable fishing schedules, and more reliable sources of information about upcoming openings. This study will address the need for improved information-sharing between subsistence salmon fishery stakeholders and management agencies regarding salmon conservation in the Kuskokwim River drainage. During two seasons of fieldwork, this study will develop a program to increase opportunities for Kuskokwim Area subsistence fishing households to share their concerns directly with management agency staff and stakeholder organizations. It will also develop multiple tools to effectively inform the public of management decisions, such as locations, times, and gear restrictions during fishing openings. To obtain fisher input into the management process and to share fishery information, research and management staff will engage directly with fishers and their household members through public meetings in communities throughout the drainage, as well as in-person contacts at fishers' homes, in fish camps, and on the river. Staff will also publish fishery information in multiple electronic, print, and radio formats. The P.I.s will coordinate closely with village tribal governments, the Kuskokwim River Salmon Management Working Group, the Kuskokwim River Inter-Tribal Fisheries Commission, and management and research staff from ADF&G Division of Commercial Fisheries and the U.S. Fish and Wildlife Service.

Objectives:

1. Identify three issues integral to the Kuskokwim Area subsistence salmon fishery and design three educational exercises as foundations for a dialogue between agency staff and subsistence fishing communities.
2. Travel to eight study communities to engage fishers, managers, and researchers in a dialectical forum where management agency staff present educational exercises and subsistence fishers

apply local knowledge and critical assessment to improve agency awareness of community perspectives on the issues.

3. Share and publish educational forum outcomes during the salmon fishing season in management meetings, in public meetings in communities, in social media and other electronic postings, and in written publications and notices.

Methods: The investigators will conduct field work in 8 communities throughout the Kuskokwim River drainage. Prior to each field season, the principal investigators will identify 3 critical issues in Kuskokwim Area salmon management that can be developed into modules for discussion with fishing communities. Collaborating with representative stakeholder groups and fishery managers, P.I.s will share the issues they identify with the research communities in preseason scoping meetings. The P.I.s will review the proposed issues of concern and invite communities to offer their perspectives and opinions on the significance of each management issue. Communities will also be encouraged to offer other possible issues of concern that could be developed into educational modules for further inquiry. The P.I.s and community members will come to a consensus on which issues are most important to each individual community, following which the P.I.s will prepare as many as three educational modules for presentation and discussion with communities inseason.

The P.I.s will travel during the salmon-fishing season to participating communities where they will present educational modules that were selected for investigation in the scoping meetings. Educational exercises will facilitate dialogue among all participants, as opposed to a unidirectional transfer of knowledge from management agency staff to subsistence fishers. Agency staff will particularly focus on being receptive to learning about how fishers understand management issues and concerns. Agency staff will also develop their awareness of how fishers express and communicate their knowledge and experience of the fishery.

Educational module outcomes from inseason dialogues and activities will be recorded and organized into communications materials that will be shared with the general public, agency staff, and stakeholder groups. The P.I.s and community members will collaborate to develop materials that increase the effectiveness of agencies' communication of management decisions. The ADF&G will develop a social media web page for this project where educational module outcomes and other fishery information and updates will be shared with the public. The P.I.s will hold community review meetings following each field season to discuss outcomes. They will also work with participating communities to develop recommendations for improved communication and outreach in the Kuskokwim River subsistence salmon fishery.

Partnerships/Capacity Building: The P.I.s will work with tribal councils in the study communities to hire LRAs to facilitate community meetings and develop communication materials for release to the public. The LRAs will be trained in all project methods where appropriate. The P.I.s will work with LRAs to develop a presentation of study results for community review. This aspect of the study design adds to local involvement and local understanding of critical Kuskokwim River salmon management issues. It will also increase coordination between agencies, tribal entities, and community members. Working together in educational module implementation and public communications increases the effectiveness of

outreach efforts and leads to agency staff's improved understanding of local issues as well as fishers' understanding of techniques of fishery science and management.

Project Number:	20-353
Title:	Subsistence Harvest, Use, and Local and Traditional Knowledge of Whitefishes in the Middle Kuskokwim River
Geographic Region(s):	Kuskokwim Region
Data Type:	Havest Monitoring and Traditional Ecological Knowledge
Principal Investigators:	David Runfola M.S., Division of Subsistence, Alaska Department of Fish and Game, Fairbanks David Koster, Division of Subsistence, Alaska Department of Fish and Game, Anchorage

Project Cost:	2020: $154,138	2021: $118,288	2022: $62,970	2023: $0
Total Cost:	$335,396			

Issue: Whitefishes and sheefish represent critical subsistence resources throughout rural Alaska; however, the management of these species is not well-informed regarding stock status, harvest levels, or critical life history variables. Contemporary harvest data for nonsalmon fishes, and whitefish species more specifically, is generally lacking throughout rural Alaska. Comprehensive subsistence survey data from harvests in 2009 for eight middle Kuskokwim River communities provide the most recent and useful data on harvest estimates relevant to this study. This proposal is submitted in response to a more recent focus on whitefishes for subsistence use, information needs identified by the USFWS 2019 Fisheries Resource Monitoring Program Priority Information Needs, and the information gaps identified in recent biological and social science studies recommending local and traditional knowledge research on whitefishes in the region. This study proposes to collect local and traditional knowledge related to whitefishes and to assess the harvest of whitefishes utilized by residents of middle Kuskokwim River area communities of Lower Kalskag, Upper Kalskag, Aniak, Chuathbaluk, Crooked Creek, Red Devil, Sleetmute, and Stony River.

Residents of the middle Kuskokwim River rely on a variety of nonsalmon species for subsistence, and harvest occurs within or adjacent to the Yukon Delta National Wildlife Refuge. While salmon compose the largest portion of the total subsistence fish harvest in the eight communities, nonsalmon fishes are vital components of the subsistence harvest. This is especially true for harvests of whitefish species present in the Kuskokwim River drainage. Whitefishes have long been important to local subsistence economies of the middle Kuskokwim region, due in large part to their year-round availability; however, the use of and local perspectives on the ecology of these fishes in the middle Kuskokwim River area is not well understood, and data collection has been limited to single-year efforts as part of subsistence surveys in each community. The area is socially and geographically complex, with a long-term history of subsistence fishing, and distinct environments that provide critical habitats for whitefishes during various stages of their life histories.

Few studies have focused on subsistence fishing by residents of the middle Kuskokwim River. Since the 1980s, some research has indicated the long-term importance of whitefish species to indigenous inhabitants of the area. More recent subsistence harvest surveys conducted in each of the proposed study

communities documented harvests of all extant whitefish species of the region. Multiple years of poor Chinook salmon returns to the Kuskokwim River have also contributed to increased focus on whitefishes. Subsistence restrictions on harvesting Chinook salmon have resulted in low salmon harvests, and ADF&G has actively encouraged fishers to reduce their harvest of Chinook and essentially replace the loss with other salmon and nonsalmon fishes. In light of these data gaps, and because there exists little current and comprehensive harvest information for whitefishes in the middle Kuskokwim River region, it is timely to conduct harvest assessment work.

Objectives: 1) Document local and traditional knowledge related to historical and contemporary patterns of subsistence whitefish species and harvests in eight communities of the Middle Kuskokwim River. **2)** Estimate subsistence harvest levels and percentages of households using, harvesting, giving away, and receiving resident freshwater and anadromous nonsalmon fishes for the calendar year 2020 by species and season for the eight study communities.

Methods: Ethnographic interviews and participant observations will be conducted in all communities. With assistance from village tribal council staff, key respondents will be selected based on their expertise and experience of whitefish and other nonsalmon fish. Investigators will use a general semi-structured interview guide organized by species and will investigate biological and social topics related to these species. All interviews will be audio-recorded. Subsequent to the interviews, interview data will be transcribed and analyzed for inclusion in the final report.

Harvest data will be collected in face-to-face interviews using a standardized survey form. Respondents will be asked to provide specific information on numbers and species harvested and used during the calendar year prior to the date of the survey. Respondents will also be asked questions to record demographic information, as well as other information related to the harvest and use of nonsalmon. Survey responses will be coded following standardized ADF&G codebook conventions. Survey data will be entered into a database and analyzed using a statistical software package. Data will be analyzed to produce summary information describing all aspects of nonsalmon harvest and use investigated in the surveys.

Researchers will review and analyze all information for discussion in a final project technical report. Participation in surveys and ethnographic interviews will be voluntary and all information recorded will be kept confidential. Communities will have the opportunity to consent to participation in the study prior to staff deployment to the field. Researchers will review all data products with communities before publication in the final technical report.

Partnerships/Capacity Building: Investigators will work with tribal councils in the study communities to hire local project assistants who will assist with survey implementation and ethnographic research. The local assistants will be trained in sampling methods. This adds to local involvement and understanding of the Kuskokwim River whitefish management issues. Investigators will work with local assistants to develop a presentation on study results for community review. It will also increase coordination between agencies, tribal entities, and community members. Working together in data collection increases

communication and leads to better understanding of local issues among researchers, and local understanding of science and management issues.

ANNUAL REPORTS

Background

ANILCA established the Annual Reports as the way to bring regional subsistence uses and needs to the Secretaries' attention. The Secretaries delegated this responsibility to the Board. Section 805(c) deference includes matters brought forward in the Annual Report.

The Annual Report provides the Councils an opportunity to address the directors of each of the four Department of Interior agencies and the Department of Agriculture Forest Service in their capacity as members of the Federal Subsistence Board. The Board is required to discuss and reply to each issue in every Annual Report and to take action when within the Board's authority. In many cases, if the issue is outside of the Board's authority, the Board will provide information to the Council on how to contact personnel at the correct agency. As agency directors, the Board members have authority to implement most of the actions which would effect the changes recommended by the Councils, even those not covered in Section 805(c). The Councils are strongly encouraged to take advantage of this opportunity.

Report Content

Both Title VIII Section 805 and 50 CFR §100.11 (Subpart B of the regulations) describe what may be contained in an Annual Report from the councils to the Board. This description includes issues that are not generally addressed by the normal regulatory process:

- an identification of current and anticipated subsistence uses of fish and wildlife populations within the region;
- an evaluation of current and anticipated subsistence needs for fish and wildlife populations from the public lands within the region;
- a recommended strategy for the management of fish and wildlife populations within the region to accommodate such subsistence uses and needs related to the public lands; and
- recommendations concerning policies, standards, guidelines, and regulations to implement the strategy.

Please avoid filler or fluff language that does not specifically raise an issue of concern or information to the Board.

Report Clarity

In order for the Board to adequately respond to each Council's annual report, it is important for the annual report itself to state issues clearly.

- If addressing an existing Board policy, Councils should please state whether there is something unclear about the policy, if there is uncertainty about the reason for the policy, or if the Council needs information on how the policy is applied.
- Council members should discuss in detail at Council meetings the issues for the annual report and assist the Council Coordinator in understanding and stating the issues clearly.

- Council Coordinators and OSM staff should assist the Council members during the meeting in ensuring that the issue is stated clearly.

Thus, if the Councils can be clear about their issues of concern and ensure that the Council Coordinator is relaying them sufficiently, then the Board and OSM staff will endeavor to provide as concise and responsive of a reply as is possible.

Report Format

While no particular format is necessary for the Annual Reports, the report must clearly state the following for each item the Council wants the Board to address:

1. Numbering of the issues,
2. A description of each issue,
3. Whether the Council seeks Board action on the matter and, if so, what action the Council recommends, and
4. As much evidence or explanation as necessary to support the Council's request or statements relating to the item of interest.

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

SEP 13 2019

OSM 19058.KW

Alissa Rogers, Chair
Yukon-Kuskokwim Delta
Subsistence Regional Advisory Council
c/o Office of Subsistence Management
1011 East Tudor Road, MS 121
Anchorage, Alaska 99503-6199

Dear Chairwoman Rogers:

This letter responds to the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council's (Council) fiscal year 2018 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. Warmer and wet weather effects on the fall moose hunt

The Council discussed the experience of the fall Unit 18 moose hunt on the Kuskokwim River and relayed feedback from communities that warmer weather in recent years is making it difficult to harvest and protect the meat from spoilage during the early part of the season. Cooler temperatures are needed to adequately dry and preserve the meat for the winter. Local observations indicate that increasingly warm and wet weather in the early fall has made it more difficult to locate moose since they tend to be less active in the heat, and high water covers up normally exposed river banks that moose would otherwise frequent. In warmer weather, moose tend to be far up the tributary rivers in the foothills of the Kilbuck Mountains where it is cooler. These headwater areas are far away and difficult for Federally qualified subsistence users to reach, hindering most from hunting moose there during the current season. Shifting the fall moose hunt opening back by two weeks from the current September 1 opening date would allow for a hunt to occur when the weather conditions may be cooler and more conducive to a successful hunt and safe preservation of the meat.

Additionally, the moose population in Unit 19A is growing and expanding into and around the Kalskag area with many cow sightings. Communities in this area of the Kuskokwim have been experiencing very rainy fall weather conditions that make it very difficult to get out and hunt moose. A second moose hunt in November for this area would be beneficial, as the moose population is expanding and weather is more likely to be conducive to a successful hunt.

The Council will pursue these matters to change the moose harvest season dates through the Federal subsistence regulatory process. The Council raises these issues in its annual report so that the Board is aware of these widely shared experiences about impacts to subsistence due to changing weather in order to help build flexibility into the subsistence management process.

Response:

The Board appreciates bringing these valuable observations to its attention. As the Council has noted, the best way to address these concerns is to submit one or more proposals to change the Federal subsistence regulation to the Federal Subsistence Board. Given the coordinated nature of Federal and State moose hunts in the Kuskokwim area, the Council may also consider engaging in the Alaska Board of Game's regulatory process, now or in the future. The Alaska Board of Game will consider regulatory proposals for Units 18 and 19 during their 2019/2020 meeting cycle.

2. <u>Abundance of moose on the lower Yukon River causing habitat decline</u>

Council members who live and hunt on the Yukon River in Unit 18 note the abundance of moose increasing in the region and signs of related habitat destruction, such as trampled berry bushes and over-browsed trees. Moose browse is becoming scarce to support such a large population. Even areas where subsistence greens are traditionally harvested have seen a decline in subsistence plants due to concentrated amounts of moose feces and ammonia from moose urine. The Council is interested in exploring management options for Yukon River moose to ensure the population does not continue to increase and risk further habitat destruction, which could result in a population crash.

Response:

Growth of moose populations can often be limited through careful harvest management. Long seasons, liberal harvest limits and few antler/sex restrictions can all be effective in limiting growth. However, these regulatory conditions already exist along the Yukon River in Unit 18, where the Federal season is nine months long and the harvest limit is two moose. Further liberalization of harvest regulations may not have a significant impact on the growth rate of this population, given the number of moose available for harvest and the relatively limited user base.

Shifting the harvest toward females, which is possible within the existing regulatory framework, may be somewhat effective in limiting population growth. Female moose have a disproportionate influence on population growth, due to their contribution of calves to the population. In the most recent three years for which harvest information is available (2015 – 2017), fewer than 25 percent of the moose taken in the Unit 18 general season were cows. Encouraging cow harvest may have an effect on population growth in the lower Yukon area.

3. Interest in fisheries research focused on important but lesser studied subsistence fish

The Council discussed the Fisheries Resource Monitoring Program priorities and made recommendations on a wide range of subsistence research topics for the Yukon and Kuskokwim regions. While it is recognized that there is limited funding for all the broad and varied research needs in the region, the Council would like to emphasize the importance of some research to focus on the lesser studied fish species that are important to subsistence.

The Council discussed declines in humpback whitefish and would like to see research on the population, reproduction, and health of spawning habitat for this important subsistence fish. The Council also raised concerns about recent declines in Coho Salmon returns on the Kuskokwim and a need for ongoing monitoring of this increasingly important subsistence fishery. Decline in Coho Salmon numbers raises some alarm, since it has been an important secondary subsistence fish in the fall if subsistence salmon fishing is restricted earlier in the season for Chinook Salmon conservation. The Council requests that surveys be conducted to accurately record the number of Coho Salmon being harvested to compare with Coho Salmon harvest increases after imposing Chinook Salmon restrictions. This will assist with developing run reconstruction statistics. According to the Council's observations, the Coho Salmon run comes later in the year up to freeze up. Therefore, the Council requests that State and Federal governments conduct research at the appropriate time to account for this change.

Last, the Council would like to see research focused on Bering Cisco, which has been a historically abundant and important subsistence fish on both the Yukon and Kuskokwim Rivers, but very little is known about its population and spawning habitat.

Response:

In 2008, a strategic plan was initiated for whitefish in the Yukon-Kuskokwim region though Fisheries Resource Monitoring Program (FRMP) project 08-206. The end product of that project was the report *Whitefish Biology, Distribution, and Fisheries in the Yukon and Kuskokwim River Drainages in Alaska: a Synthesis of Available Information*. The report provided information known about these species, and also noted data gaps for future research needs.

Since 2010, the FRMP has funded the following projects related to whitefish and Sheefish in the Yukon and Kuskokwim drainages:

- Project 10-209 – Yukon River Commercial Harvest Genetics of Bering Cisco
- Project 10-205 – Kuskokwim River Sheefish Radio Telemetry
- Project 12-200 – Alatna River Sheefish
- Project 12-312 – Highpower Creek Sheefish
- Project 12-313 – Kuskokwim River Bering Cisco
- Project 14-252 – Lower Yukon Whitefish
- Project 14-301 – Kuskokwim River Broad Whitefish
- Project 16-203 – Yukon Flat Bering Cisco Spawning Abundance
- Project 16-303 – Upper Kuskokwim Sheefish Enumeration and Spawning Characteristics

If you would like to obtain a copy of any of these research reports, please give this request to your Council Coordinator.

The FRMP is a Federal grant program for funding research and monitoring that is needed to sustain subsistence fisheries. The best way for the Council to direct research on these species is to identify them in your Priority Information Needs for the FRMP. For the 2020 FRMP Priority Information Needs on the Yukon, two PINs related to Coho Salmon research, one proposal was submitted and one PIN related to Bering Cisco, no proposals were received. For the Kuskokwim region, seven PINs related to salmon research in general, two proposals were submitted for Coho Salmon and two PINs related to whitefish, two proposals were submitted that addressed these PINs.

4. <u>Increasing observations of fish with deformities and disease</u>

The Council is concerned about increasing observations of fish with deformities or indications of disease in both Yukon and Kuskokwim salmon and other species of subsistence-caught fish. Council members have shared pictures of some of the latest examples with fisheries biologists who concur that they had never seen such strange deformities before. The Council would like to see a systematic way to track these observations and be able to submit pictures or send specimens to a lab for pathology testing.

Response:

The Board shares the Council's concern related to the increase in fish with deformities or indications of disease in Western Alaska salmon stocks. There is a program already in place called the Local Environmental Observer (LEO) Network where individuals report unusual environmental events. This can be found online at www.leonetwork.org. It is searchable, and past events such as the early arrival of trumpeter swans in Anchorage in 2019, or fungal infection of Smelt near Bethel in 2018, are recorded.

Residents in rural communities and elsewhere can send their images and detailed observations of fish kills or fish abnormalities, as well as other unusual observations, to a LEO coordinator who then sends this information to agency experts for comments, including the fish pathology labs if

applicable. The State's fish pathology lab can request samples if necessary. Generally, 95 percent of the observations are common problems that do not require processing samples and can be diagnosed by images and descriptions. The State pathology lab also has field guides on fish and shellfish diseases that LEO coordinators can provide to the public. There is a short video provided on the website to learn more about the program and participation.

The State pathology lab also takes direct inquiries from area agency biologists who have received reports of various fish abnormalities. They always request good quality images first and then evaluate whether samples are necessary.

The Board hopes that this information is useful to the Council for future tracking of the uncharacteristic events.

5. Increasing observations of sick and injured seals and other marine life

The Council has concerns about increasing observations of sick and injured seals with blood in the fat and meat as though they had suffered major trauma. Many coastal communities are seeing increasing incidents of seals and other marine creatures washing up on shore, either sick or dead. While the Council recognizes that the marine environment is outside the jurisdiction of the Federal Subsistence Board, marine resources are essential for the life and livelihood of most communities in the region. Seal oil is central to the diet of nearly all communities in the Yukon-Kuskokwim Delta. It is used for dipping dry fish and dry meat, as well as mixing with traditional wild greens and berries for agutak. Seal oil is traded widely for other subsistence foods such as salmon, moose, and caribou. Some coastal communities are seeing a shift in the migration of salmon through marine waters where they have fished for generations. The Council requests support from the Federal Subsistence Management Program to get more information on changes to critical marine resources—what is causing these injuries and illnesses to marine life, and what can be done to mitigate the impacts to subsistence communities.

Response:

The Board appreciates hearing Council observations about all subsistence species and environmental changes effecting subsistence resources and activities. Management of marine mammals is outside the jurisdiction of the Board; however, the Federal Subsistence Management Program can facilitate connections with other agencies that can directly address sick and injured marine mammals. Your Council Coordinator has reached out to marine mammals experts at the National Oceanic and Atmospheric Administration (NOAA) and the National Marine Fisheries Service (NMFS) and they have responded with information and offered to attend your next meeting to hear reports about marine mammal observations and answer questions. NOAA indicated that while they received many reports of sick or dead seals from the North Slope and Bering Strait regions, they have not yet received reports from the Yukon-Kuskokwim Delta region and are very interested to engage with communities in the region on this issue. A more detailed response from the Marine Mammal Stranding biologists and procedures for submitting

samples from subsistence caught animals is attached as an enclosure to this letter. NOAA and NMFS are not able to address human health concerns associated with subsistence food consumption but other agencies can. The Alaska Native Tribal Health Consortium (ANTHC) Food Security and Contamination Support Program is one such group that can provide testing of subsistence foods and assist with guidelines and support for continuing to eat healthy traditional foods. More information and contacts for this ANTHC program are also enclosed.

6. Elders teachings and the story about famine

Council member David Bill, Sr. of Toksook Bay shared a story about the teachings of his elders and their observations about the changing environment. The Council shares this story to help convey to the Board and others to be aware of what the changes in the environment and shifting animal populations may foreshadow.

During his childhood in Hooper Bay and Nelson Island, David was taught that when a famine is about to begin the fish will swim in areas where they are not normally present and animals will start to go where they do not normally roam. He was told when trees start to appear and moose and caribou become abundant and come into coastal areas (not their normal habitat) that a famine will follow. Then animal numbers will decrease and go underground for a while.

Now an elder himself, David has seen a lifetime of changes to the environment and the weather. He shared his observations of changing habitat, shifting animal migrations, and changing weather. Even the stars they rely on for navigation are changing. He further recounted how his grandmother used to say "poor you, you're still alive to see all these changes and even the weather is changing." David concluded; however, that even though the older generations have been gone and so many changes are happening to the land and sea and air, if people care for one another and live within traditional Yup'ik values they will be able to continue to live their subsistence way of life. It is important to remember that according to traditional Yup'ik values, one should respect subsistence resources and "not play with them," otherwise they will be diminished.

Response:

The Board values awareness of changes on the land and how these changes could affect the future. Knowing that Yup'ik cultural traditions are based on thousands of years of observation, and many people have first-hand knowledge of food shortages; the Board is grateful for the knowledge and wisdom shared by each Council member and encourages the Council to continue to educate staff and the public by offering these observations.

7. Engaging youth in subsistence management

The Council has enjoyed working with students, and hearing their reports about internship experiences through the Alaska Native Science and Engineering Program (ANSEP) and the Fisheries Resource Monitoring Program. The Council would like to further engage with local

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students at the grade school and high school levels to hear their observations and subsistence concerns and then work with them to address them. Young people need to be taught and encouraged to get involved in subsistence management.

The Council would like to share with the Board two success stories of the young people being involved with the Council and subsistence management at an early age. Alissa Nadine Rogers, the current Council Chair, was brought as a little girl to many Council meetings by her grandfather John Hanson and was able to learn how to advocate for the moose moratorium when she was as young as 9 years old. Growing up, she continued taking interest in management issues and eventually graduated from the ANSEP. Soon thereafter, the late Greg Roczicka, Yukon Kuskokwim Delta RAC Vice Chairman, became Ms. Rogers' mentor and taught her about the laws and regulation process. Then, Ms. Rogers became an intern with ONC Fisheries and learned about weirs, fishwheels, tagging/recapture, sonars, water quality, ecology, juvenile salmon studies, and science and culture camps with ADF&G and USFWS. Aaron Moses, Subsistence Specialist for the Yukon Delta National Wildlife Refuge, is another example of successful engagement of youth in subsistence management. Mr. Moses was an ANSEP graduate as well and worked as an intern with USFWS, which built a foundation for him to continue his career in subsistence management.

The Council requests the assistance of the Federal Subsistence Management Program staff to engage with local schools and help facilitate more in-depth youth involvement with the Regional Advisory Council meetings and Federal subsistence regulatory proposal development process.

Response:

The Board agrees on the value of youth participation in the Federal Subsistence Management Program (FSMP). Several Federal Subsistence Regional Advisory Councils (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.

In September 2018, OSM's Tribal Liaison held a video conference with a class in Dillingham High School to introduce OSM staff to students and discuss the Federal Subsistence Management Program. OSM would be happy to set up similar video or teleconferences in the Yukon-Kuskokwim Delta (Y-K Delta) region in the future. Additionally, with the Council's input, OSM staff could reach out to specific Y-K Delta region schools and invite teachers to encourage class participation in the Federal Subsistence Management Program and practice with proposal or comment development in conjunction with the Council meeting. Staff could also send notices to schools announcing the calls for proposals to change Federal Subsistence regulation, or upcoming Council meetings. At the Council's request, the Council Coordinator can make arrangements to add time to future Council meeting agendas to hear from local high school or grade school students. The Council members can also play a role in making those

invitations and connections with youth. The Program can help facilitate student engagement with the Council through in person attendance when possible or by teleconference to hear their ideas and answer questions about getting involved in the FSMP.

OSM's Subsistence Outreach Coordinator is available to work with the Y-K Delta Council Coordinator to assist in coordinating specific outreach projects, and can provide outreach materials upon request. The Board also encourage youth to visit the FSMP website (www.doi.gov/subsistence), or follow the FSMP Facebook page (www.facebook.com/subsistencealaska), to learn more about the program.

8. <u>Need for full and balanced membership on the Council</u>

The Council is very concerned about the number of vacancies created due to the lack of sufficient Council appointments in 2017. Most importantly, the Council lost a lifetime of knowledge and experience when four incumbent Council members were not reappointed to serve another term. The Yukon-Kuskokwim Delta Subsistence Regional Advisory Council serves a large and diverse region with over 40 communities and several of the largest rivers and coastal deltas in both size and importance for subsistence fishing. The Council cannot adequately represent the many communities of the region and address resource management on the diverse subsistence hunting and fishing issues from the Yukon to the Kuskokwim, Kenektok, and Goodnews Rivers and Deltas and everything in between without a full membership of the 13-seat Council. The Council desperately needs a balanced membership and representation from throughout the region. The complexity of fisheries management on the Yukon and Kuskokwim Rivers in particular truly requires having representatives who are residents of at least several villages along each river in order to adequately inform the Council's recommendations. The Council wishes to convey to the Board and Secretaries the great loss and importance of having the expertise, knowledge and leadership when so many incumbents were not reappointed last year. The Council requests the Board's support to ensure ample outreach in the region to recruit a balance of applications from the 41 villages and to ensure that the Secretary of the Interior appoints highly qualified applicants in a timely manner.

Response:

The Board acknowledges the Council's concerns regarding its membership and vacancies and wants to remind the Council about the Nominations process. Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA) provides rural residents who have personal knowledge of local conditions and requirements the opportunity to actively participate in subsistence management. Title VIII of ANILCA established the Federal Subsistence Regional Advisory Councils (Councils) to ensure participation. The work of the Councils is guided by the purpose of the statute—specifically to provide a priority for rural subsistence users.

All of the Councils were established under the Federal Advisory Committee Act (FACA), which requires that all Federal committees have a membership that is "fairly balanced in terms of points

of view and functions." This means that the residents of each region with knowledge of fish and wildlife resources, subsistence uses, and commercial and sport uses must be fairly represented on the Councils. Therefore, the Board's goal is to seat seventy percent subsistence use representatives and thirty percent commercial or sport use representatives on each Council.

The Office of Subsistence Management (OSM) provides administrative support to the Councils' member selection process. The process is composed of multiple stages and takes about sixteen months to complete. The process begins in the early fall of each year with a public notice that the Board is accepting applications and nominations to serve three-year terms on the Councils. The call for applications and nominations is typically open four to five months and is accompanied by an extensive outreach effort through public newspaper and radio announcements, mass mailing and distribution of the applications, and targeted outreach regarding this opportunity with key contacts in the regions.

The second stage of the process begins upon receipt of the applications by OSM when an independent group of panelists conducts interviews of the applicants and their references and prepares Nomination Panel reports for the Interagency Staff Committee (ISC) recommendations to the Board. The Board considers all the information and ISC recommendations before making its recommendations to the Secretaries of the Department of the Interior and Department of Agriculture. The Secretary of the Interior's office reviews the nominations packet, which includes each applicant's information, and oversees the vetting process. Upon the completion of the latter, the Secretary of the Interior makes appointments with the concurrence of the Secretary of Agriculture.

The Board wants to assure the Council that when it makes its recommendations, it will take into consideration the Council's request to have a balanced membership and representation from the Yukon and Kuskokwim areas. However, the Board notes that the appointees selection process largely depends on the number and diversity of applications received from the region and on the results of the vetting process by the office of the Secretaries of the Interior and Agriculture. The Board fully supports extensive outreach efforts in the region to get a diverse applicant pool.

In closing, I want to thank you and your Council for your 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 am confident that the subsistence users of the Yukon-Kuskokwim Delta Region are well represented through your work.

Sincerely,

Anthony Christianson
Chair

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Enclosures

cc: Federal Subsistence Board
Thomas Doolittle, Acting Assistant Regional Director, Office of Subsistence Management
Thomas Whitford, Acting Deputy Assistant Regional Director
Office of Subsistence Management
Jennifer Hardin, PhD, Subsistence Policy Coordinator, Office of Subsistence Management
Steven Fadden, Acting Council Coordination Division Supervisor,
Office of Subsistence Management
Chris McKee, Wildlife Division Supervisor, Office of Subsistence Management
Greg Risdahl, Fisheries Division Supervisor, Office of Subsistence Management
George Pappas, State Subsistence Liaison, Office of Subsistence Management
Eva Patton, Council Coordinator, Office of Subsistence Management
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council
Benjamin Mulligan, Deputy Commissioner, Alaska Department of Fish and Game
Mark Burch, Special Project Coordinator, Alaska Department of Fish and Game
Interagency Staff Committee
Administrative Record

2018 Email reply from Mandy Migura, Marine Mammal Stranding Coordinator, NOAA.
mandy.migura@noaa.gov

The National Marine Fisheries Service (NMFS) and multiple partners have been monitoring seals in Alaska (primarily the Arctic and Bering Strait regions, but also some seals from the Yukon-Kuskokwim region) for several years that have been observed with similar symptoms as you described. In 2011 there was a large number of seals (mostly ringed) and walrus observed with these and other symptoms, with elevated numbers of dead animals reported. That prompted our agency to declare an official Northern Pinniped Unusual Mortality Event (UME) for ice seals and walrus in December 2011, and a team of experts was convened to investigate the situation. In 2014 it was determined that walrus would be removed from the UME investigation due to a lack of new cases. We are still receiving report of ice seals with patchy fur loss, skin sores on the flippers or face, and some animals exhibiting unusual behavior (such as allowing humans to approach closely). However, we are not receiving reports of the elevated mortality levels like those observed in 2011, and we are now in the process of compiling the data into a report and recommending that the UME event be closed. The information will be submitted to the Working Group on Marine Mammal Unusual Mortality Events, and they will review the data and decide if the UME should be closed or remain open.

NMFS and our partners have developed fliers, fact sheets, and news releases regarding this UME; many of those documents have been posted on our NMFS Alaska Region website. Below I have included links to where those documents can be viewed, as well as a link to our national webpage which explains the UME process and what it means. We would appreciate it if you could help circulate this information (especially the fliers, fact sheets, and news releases) to interested community members in an effort to help answer some of their questions and concerns. I do note that NMFS is not a public health agency, and while we do collect and share information on the health of the marine mammals, our agency does not provide advice regarding human consumption of marine mammals.

What is an Unusual Mortality Event (UME), and other UME program topics: http://www.nmfs.noaa.gov/pr/health/mmume/events.html

Information about the Alaska Ice Seal UME from NMFS and partners (you will need to click the tab labeled "Diseased Ice Seals"): https://alaskafisheries.noaa.gov/pr/ice-seals

https://www.fisheries.noaa.gov/alaska/marine-life-distress/diseased-ice-seals

Thank you and I hope this information is helpful,
Mandy

Mandy Migura
Marine Mammal Stranding Coordinator
Cook Inlet Beluga Whale Recovery Coordinator
NOAA Fisheries, Alaska Region, Protected Resources Division
mandy.migura@noaa.gov
907-271-1332
AK Stranding Hotline: 877-925-7773

Spring 2019 email response from Barbara Mahoney, Marine Mammals Biologist, NOAA. barbara.mahoney@noaa.gov

If you see sick, injured, or beached dead marine mammals:

IF beached marine mammals are sick, alive or dead, then NMFS would like to know. Lots of pictures, especially of the injury and/or sickness, is best.

IF subsistence hunted animals are sick (dead), then NMFS would like to know. Hunters can take lots of pictures, provide tissue samples from the area that hunters are concerned: 1) bloody blubber and/or 2) trauma bones, muscles, organs, etc.

Everyone can call our NMFS stranding hotline at: 877-925-7773.
Everyone can send/text pictures with minimal information to: barbara.mahoney@noaa.gov and/or kate.savage@noaa.gov

Please include your name and contact information, date, location, species, and what is not normal (behavioral or physical difference).

If you wish to provide tissue samples Barbara Mahoney has provided the guidelines for shipping samples to NOAA free of charge and a full detailed instruction and forms can be provided to the Council to help get the information out to communities in the region.

Alaska Native Tribal Health Consortium Food Security and Contamination Support Program. https://anthc.org/what-we-do/community-environment-and-health/brownfield-contaminated-sites/climate-change-food-security/

Food Security

Studying the connection between changes in our environment and traditional food and water sources

Food Security
(907) 729-4008
(907) 729-4043

Many individuals and families in Alaska rely on subsistence activities for food and nutrition. The warming climate is causing changes to our environments, which impact traditional food and water sources. Strong oceanic and atmospheric currents worldwide transport chemicals, pesticides and contaminants that are produced, used and disposed of at lower latitudes to the waters in the Arctic. These contaminants eventually enter the food chain and make their way to wildlife species that are our traditional food sources.

To address these concerns, ANTHC's Community Environment and Health program offers training through the 7 Generations Education Program. It also provides sampling and monitoring of water sources and traditional foods for contaminants and disease causing microorganisms using two different monitoring programs:

Rural Alaska Monitoring Program (RAMP)

The Rural Alaska Monitoring Program is an EPA grant funded monitoring program, operated by ANTHC in partnership with Kawerak, Inc. and the communities of the Bering Strait region. RAMP provides training to residents who wish to participate in testing their subsistence-harvested marine and land mammals and traditional water sources for wildlife infections that might be a risk. Communities can elect to participate and submit a resolution requesting to participate in the RAMP study.

Maternal Organics Monitoring Study (MOMS)

In response to a concern of the people from the Yukon-Kuskokwim Delta Region, the Maternal Organics Monitoring Study was developed to determine contaminants present in residents that regularly consume traditional foods. It is a monitoring study aimed at Alaska Native mothers and their newborn infants who are most likely to be exposed through a subsistence diet. The results of the MOM Study also show the benefit of the nutrients in the traditional diet and their health benefits to mothers and infants.

Applying for an Alaska Real ID License, Permit or ID Card?

U.S. Citizens, Permanent Residents, Temporary Resident with Lawful Status in the U.S. need the following documents:

DMV Division of MOTOR VEHICLES

To ensure your application process is as smooth as possible, please complete all elements below:

Use the checklist below to ensure that you have the correct documentation before visiting a Driver License office. If you have any questions about what is required, please visit our website at *www.Alaska.gov/DMV*

To be issued an Alaska **Real ID** driver license, permit or ID card, you must prove the following elements: your full legal name, identity, date of birth, lawful status in the United States, social security number, and proof of residential address. Multiple documents may be required to show all name changes.

All documents presented must be unaltered certified originals, certified amended originals, or true copies certified by the issuing agency. Documents **must** be valid and unexpired and may not be laminated. Foreign documents must have certified English translation (DMV Form COFAT.PDF).

If you cannot prove each of the required elements with the documents set forth below, you may be eligible to apply for a standard card. These guidelines may not cover every situation. Knowledge, vision, and/or other eligibility criteria may apply to your individual situation.

Proof of your Name, Identity, Date of Birth, Lawful Status, and Primary Residency:

You can provide any combination of documents that prove the elements (some documents may be used to prove more than one element)

Identity
Name / Date of Birth

- ☐ Valid, unexpired U.S. passport or passport card
- ☐ Certified copy of U.S birth certificate (issued by a city, county, or state vital statistics office)
- ☐ Certified copy of birth certificate from a U.S. Territory. Puerto Rico birth certificates issued on or after July 1, 2010
- ☐ Consular Report of Birth Abroad of U.S. Citizen
- ☐ Unexpired foreign passport with valid U.S. Visa and approved I-94 form
- ☐ Certificate of Naturalization or Certificate of U.S. Citizenship
- ☐ Valid, unexpired I-551 Resident Alien / Permanent Resident Card
- ☐ Valid, unexpired I-766 Employment Authorization Document Card
- ☐ Valid REAL ID license or ID card from a compliant state (Documentation of U.S. citizenship or lawful status is required)

Lawful Status

- ☐ Valid, unexpired U.S. passport or passport card
- ☐ Certified copy of U.S birth certificate (issued by a city, county, or state vital statistics office)
- ☐ Certified copy of birth certificate from a U.S. Territory. Puerto Rico birth certificates issued on or after July 1, 2010
- ☐ Consular Report of Birth Abroad of U.S. Citizen
- ☐ Certificate of Citizenship / Certificate of Naturalization
- ☐ Unexpired foreign passport with valid U.S. Visa and approved I-94 form
- ☐ Refugee/Asylee I-94
- ☐ I-551 Resident Alien / Permanent Resident Card
- ☐ I-766 Employment Authorization Document Card

Name Change

- ☐ Adoption documents that contain the legal name as a result of the adoption
- ☐ Court Certificate of document that contains the legal name both before and after the name change
- ☐ Marriage certificate
- ☐ A certificate, declaration, or registration document verifying the formation of a civil union or domestic partnership
- ☐ Certified Divorce Decree, Dissolution of marriage/civil union/domestic partnership document that contains the legal name as a result of the court action
- ☐ Amended Birth Certificate
- ☐ Certificate of Naturalization/ Certificate of Name Change
- ☐ Certified Court Order That Contains all previous and current Names, and Date of Birth.

SSN
Complete SSN

- ☐ Social security card (not metal)
- ☐ W-2 form
- ☐ Social Security Administration (SSA) 1099 form
- ☐ Non-SSA-1099 form
- ☐ Pay stub
- ☐ I am ineligible for a social security number, a letter from SSA will issued within 90 days be required

Principal Residency
Two documents must be presented and cannot be handwritten.
One document must have been issued within 90 days
Resident documents may have account numbers and balances redacted.

- ☐ Rental or Lease Agreement with The Signature of The Owner/Landlord and The Tenant/Resident
- ☐ Deed or Title to Residential Real Property
- ☐ Mortgage Document
- ☐ Home Utility Bills (Including Cellular Phone)
- ☐ Employment Documents
- ☐ Insurance Documents, Including Medical, Dental, Vision, Life, Home, Rental and Vehicle
- ☐ Government Issued Tax Document
- ☐ Statement from A Financial Institution/Bank
- ☐ Voter Registration Confirmation Letter or Postcard Issued by The Alaska Division of Elections
- ☐ Proof of Payment of Resident Tuition at A Public Institution of Higher Education in Alaska
- ☐ A Letter on Letterhead from A Homeless Shelter, Shelter for Abused Women, Nonprofit Entity, Faith-Based Organization, Employer or Government Agency Within the United States Attesting That the Applicant Resides in Alaska
- ☐ Alaska Certificate of Vehicle Titles or Registration (Issued At Least 30 Days Prior To The Date of Application)
- ☐ Change of Address Confirmation by The U.S.P.S.
- ☐ 1st Class Mail with Postmark (Mail May Be Handwritten)
- ☐ Alaska Tribal Card (For Non-Standard Remote Alaska Addresses Only, Within the Tribal Area Indicated on The Card)
- ☐ At DMV's Discretion Other Documents May Be Accepted. Please Contact 907-269-5551 For Assistance

The Alaska DMV must electronically verify documents to determine validity and status before Issuance of an ID / Driver License

For Renewals, you may be able to skip the office completely – Go to *ALASKA.GOV/DMV* to see if you are eligible!

(06/19/2019)

Applying for an Alaska Standard License, Permit or ID Card?

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DMV Division of MOTOR VEHICLES

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All documents presented must be unaltered certified originals, certified amended originals, or true copies certified by the issuing agency. Documents must be valid and unexpired and may not be laminated. Foreign documents must have certified English translation (DMV Form COFAT.PDF).

FEDERAL LIMITS APPLY

Proof of your Name, Identity, Date of Birth, Lawful Status and Primary Residency:

You can provide any combination of documents that prove the elements (some docs may be used to prove more than one element)

Identity
Name / Date of Birth

- ☐ Valid, Unexpired U.S. Passport or Passport Card
- ☐ Certified Copy Of U.S Birth Certificate (Issued by A City, County, Or State Vital Statistics Office)
- ☐ Certified Copy of Birth Certificate from A U.S. Territory. Puerto Rico Birth Certificates Issued on Or After July 1, 2010
- ☐ Consular Report of Birth Abroad of U.S. Citizen
- ☐ Unexpired Foreign Passport with Valid U.S. Visa And Approved I-94 Form
- ☐ Certificate of Naturalization or Certificate of U.S. Citizenship
- ☐ Valid, unexpired I-551 Resident Alien / Permanent Resident Card
- ☐ Valid, unexpired I-766 Employment Authorization Document Card
- ☐ Valid REAL ID License or ID Card from A Compliant State, Additional Documentation of U.S. Citizenship or Lawful Status Is Required
- ☐ US Adoption Order W/Birth Information
- ☐ Active or Retired Military ID / Common Access Card

Secondary Identity

- ☐ Any Document in The Previous Column
- ☐ Social Security Card
- ☐ Canadian Tribal Card
- ☐ State Issued Driver License or ID Card That Has NOT Been Expired Over A Year
- ☐ Court Order That Contains the Applicant's Date of Birth
- ☐ Foreign Birth Certificate
- ☐ Health Insurance Card
- ☐ Marriage License or Certificate
- ☐ Individual's Medical Records from A Doctor or A Hospital
- ☐ Military Dependent Identification
- ☐ Military Discharge or Separation Papers (DD214)
- ☐ Gun Permit
- ☐ Pilot's License
- ☐ Certified School Record or Transcript
- ☐ Photographic Government / Employer / School Identification Card
- ☐ Vehicle Title (Must Be Issued 30 Days Prior To Application)
- ☐ Welfare Card
- ☐ Prison Release Document or Photographic Prison Identification Card
- ☐ TWIC Card (Transportation Worker Identification Credential)

Lawful Status

- ☐ U.S. Passport or Passport Card
- ☐ Certified Copy Of U.S Birth Certificate (Issued by A City, County, Or State Vital Statistics Office)
- ☐ Certified Copy of Birth Certificate from A U.S. Territory. Puerto Rico Birth Certificates Issued on Or After July 1, 2010
- ☐ Consular Report of Birth Abroad of U.S. Citizen
- ☐ Certificate of Citizenship / Certificate of Naturalization
- ☐ Unexpired Foreign Passport with Valid U.S. Visa And Approved I-94 Form
- ☐ Refugee/Asylee I-94
- ☐ I-551 Resident Alien / Permanent Resident Card
- ☐ I-766 Employment Authorization Document Card

Name Change.

- ☐ Adoption Documents That Contain the Legal Name as A Result of The Adoption
- ☐ Court Certificate of Name Change Document That Contains the Legal Name Both Before and After the Name Change
- ☐ Marriage Certificate
- ☐ A Certificate, Declaration, Or Registration Document Verifying the Formation of a Civil Union or Domestic Partnership
- ☐ Certified Divorce Decree, Dissolution of Marriage/Civil Union/Domestic Partnership Document That Contains the Legal Name as A Result of The Court Action
- ☐ Amended Birth Certificate
- ☐ Certificate of Naturalization/ Certificate of Name Change
- ☐ Certified Court Order That Contains All Previous and Current Names, And Date of Birth.

SSN
Complete SSN

- ☐ SSN On Application Verified By SSA
- ☐ Social Security Card (Not Metal)
- ☐ W-2 Form
- ☐ SSA-1099 Form
- ☐ Non-SSA-1099 Form
- ☐ Pay Stub
- ☐ I Am Ineligible for A Social Security Number, A Letter from SSA Issued Within 90 Days Will Be Required

Principal Residency
(Cannot Be Handwritten)

- ☐ Rental or Lease Agreement with The Signature of The Owner/Landlord and The Tenant/Resident
- ☐ Deed or Title to Residential Real Property
- ☐ Mortgage Document
- ☐ Home Utility Bills (Including Cellular Phone)
- ☐ Employment Documents
- ☐ Insurance Documents, Including Medical, Dental, Vision, Life, Home, Rental and Vehicle
- ☐ Government Issued Tax Document
- ☐ Statement from A Financial Institution/Bank
- ☐ Voter Registration Confirmation Letter or Postcard Issued by The Alaska Division of Elections
- ☐ Proof of Payment of Resident Tuition at A Public Institution of Higher Education in Alaska
- ☐ A Letter on Letterhead from A Homeless Shelter, Shelter for Abused Women, Nonprofit Entity, Faith-Based Organization, Employer or Government Agency Within the United States Attesting That the Applicant Resides in Alaska
- ☐ Alaska Certificate of Vehicle Titles or Registration (Issued At Least 30 Days Prior To The Date of Application)
- ☐ Change of Address Confirmation by The U.S.P.S.
- ☐ 1st Class Mail with Postmark (Mail May Be Handwritten)
- ☐ Alaska Tribal Card (For Non-Standard Remote Alaska Addresses Only, Within the Tribal Area Indicated on The Card)
- ☐ At DMV's Discretion Other Documents May Be Accepted. Please Contact 907-269-5551 For Assistance

The Alaska DMV must electronically verify documents to determine validity and status before Issuance of an ID / Driver License

For Renewals, you may be able to skip the office completely – Go to *ALASKA.GOV/DMV* to see if you are eligible!

(06/19/2019)

Winter 2020 Regional Advisory Council Meeting Calendar

Due to travel budget limitations placed by Department of the Interior on the U.S. Fish and Wildlife Service and the Office of Subsistence Management, the dates and locations of these meetings will be subject to change.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Feb. 2	*Feb. 3* *Window Opens*	*Feb. 4* **BB — Naknek**	*Feb. 5*	*Feb. 6*	*Feb. 7*	*Feb. 8*
Feb. 9	*Feb. 10*	*Feb. 11* **YKD — Bethel** **WI — Fairbanks**	*Feb. 12*	*Feb. 13*	*Feb. 14*	*Feb. 15*
Feb. 16	*Feb. 17* ***PRESIDENT'S DAY*** ***HOLIDAY***	*Feb. 18*	*Feb. 19* **NS — Utqiaġvik**	*Feb. 20* **NWA — Kotzebue**	*Feb. 21*	*Feb. 22*
Feb. 23	*Feb. 24*	*Feb. 25* **SE — Petersburg**	*Feb. 26*	*Feb. 27* **KA — Kodiak**	*Feb. 28*	*Feb. 29*
Mar. 1	*Mar. 2*	*Mar. 3* **EI — Fairbanks**	*Mar. 4* **SC — Anchorage**	*Mar. 5*	*Mar. 6*	*Mar. 7*
Mar. 8	*Mar. 9*	*Mar. 10*	*Mar. 11* **SP — Nome**	*Mar. 12*	*Mar. 13* *Window Closes*	*Mar. 14*

Fall 2020 Regional Advisory Council Meeting Calendar

Due to travel budget limitations placed by Department of the Interior on the U.S. Fish and Wildlife Service and the Office of Subsistence Management, the dates and locations of these meetings will be subject to change.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Aug. 16	*Aug. 17 Window opens*	*Aug. 18*	*Aug. 19*	*Aug. 20*	*Aug. 21*	*Aug. 22*
Aug. 23	*Aug. 24*	*Aug. 25*	*Aug. 26*	*Aug. 27*	*Aug. 28*	*Aug. 29*
Aug. 30	*Aug. 31*	*Sep. 1*	*Sep. 2*	*Sep. 3*	*Sep. 4*	*Sep. 5*
Sep. 6	*Sep. 7* **LABOR DAY HOLIDAY**	*Sep. 8*	*Sep. 9*	*Sep. 10*	*Sep. 11*	*Sep. 12*
Sep. 13	*Sep. 14*	*Sep. 15*	*Sep. 16*	*Sep. 17*	*Sep. 18*	*Sep. 19*
Sep. 20	*Sep. 21*	*Sep. 22*	*Sep. 23*	*Sep. 24*	*Sep. 25*	*Sep. 26*
Sep. 27	*Sep. 28*	*Sep. 29*	*Sep. 30*	*Oct. 1*	*Oct. 2*	*Oct. 3*
Oct. 4	*Oct. 5*	*Oct. 6*	*Oct. 7*	*Oct. 8*	*Oct. 9*	*Oct. 10*
Oct. 11	*Oct. 12* **COLUMBUS DAY HOLIDAY**	*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 Window closes*	*Nov. 7*

Subsistence Regional Advisory Council Correspondence Policy

The Federal Subsistence Board (Board) recognizes the value of the Regional Advisory Councils' role in the Federal Subsistence Management Program. The Board realizes that the Councils must interact with fish and wildlife resource agencies, organizations, and the public as part of their official duties, and that this interaction may include correspondence. Since the beginning of the Federal Subsistence Program, Regional Advisory Councils have prepared correspondence to entities other than the Board. Informally, Councils were asked to provide drafts of correspondence to the Office of Subsistence Management (OSM) for review prior to mailing. Recently, the Board was asked to clarify its position regarding Council correspondence. This policy is intended to formalize guidance from the Board to the Regional Advisory Councils in preparing correspondence.

The Board is mindful of its obligation to provide the Regional Advisory Councils with clear operating guidelines and policies, and has approved the correspondence policy set out below. The intent of the Regional Advisory Council correspondence policy is to ensure that Councils are able to correspond appropriately with other entities. In addition, the correspondence policy will assist Councils in directing their concerns to others most effectively and forestall any breach of department policy.

The Alaska National Interest Lands Conservation Act, Title VIII required the creation of Alaska's Subsistence Regional Advisory Councils to serve as advisors to the Secretary of the Interior and the Secretary of Agriculture and to provide meaningful local participation in the management of fish and wildlife resources on Federal public lands. Within the framework of Title VIII and the Federal Advisory Committee Act, Congress assigned specific powers and duties to the Regional Advisory Councils. These are also reflected in the Councils' charters. *(Reference: ANILCA Title VIII §805, §808, and §810; Implementing regulations for Title VIII, 50 CFR 100 _.11 and 36 CFR 242 _.11; Implementing regulations for FACA, 41 CFR Part 102-3.70 and 3.75)*

The Secretaries of Interior and Agriculture created the Federal Subsistence Board and delegated to it the responsibility for managing fish and wildlife resources on Federal public lands. The Board was also given the duty of establishing rules and procedures for the operation of the Regional Advisory Councils. The Office of Subsistence Management was established within the Federal Subsistence Management Program's lead agency, the U.S. Fish and Wildlife Service, to administer the Program. *(Reference: 36 CFR Part 242 and 50 CFR Part 100 Subparts C and D)*

Policy

1. The subject matter of Council correspondence shall be limited to matters over which the Council has authority under §805(a)(3), §808, §810 of Title VIII, Subpart B §___.11(c) of regulation, and as described in the Council charters.

2. Councils may, and are encouraged to, correspond directly with the Board. The Councils are advisors to the Board.

3. Councils are urged to also make use of the annual report process to bring matters to the Board’s attention.

4. As a general rule, Councils discuss and agree upon proposed correspondence during a public meeting. Occasionally, a Council chair may be requested to write a letter when it is not feasible to wait until a public Council meeting. In such cases, the content of the letter shall be limited to the known position of the Council as discussed in previous Council meetings.

5. Except as noted in Items 6, 7, and 8 of this policy, Councils will transmit all correspondence to the Assistant Regional Director (ARD) of OSM for review prior to mailing. This includes, but is not limited to, letters of support, resolutions, letters offering comment or recommendations, and any other correspondence to any government agency or any tribal or private organization or individual.
    a. Recognizing that such correspondence is the result of an official Council action and may be urgent, the ARD will respond in a timely manner.
    b. Modifications identified as necessary by the ARD will be discussed with the Council chair. Councils will make the modifications before sending out the correspondence.

6. Councils may submit written comments requested by Federal land management agencies under ANILCA §810 or requested by regional Subsistence Resource Commissions (SRC) under §808 directly to the requesting agency. Section 808 correspondence includes comments and information solicited by the SRCs and notification of appointment by the Council to an SRC.

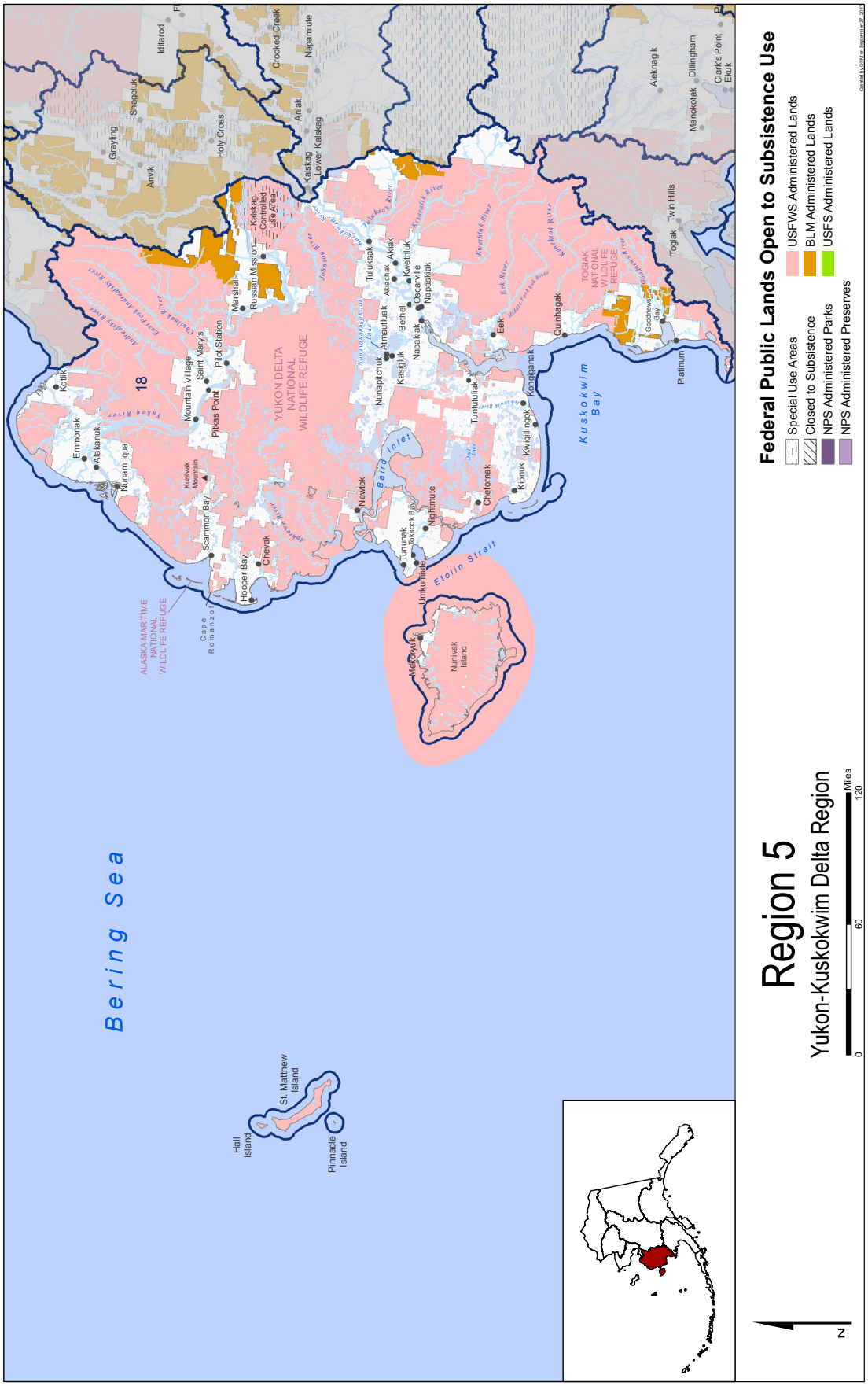
7. Councils may submit proposed regulatory changes or written comments regarding proposed regulatory changes affecting subsistence uses within their regions to the Alaska Board of Fisheries or the Alaska Board of Game directly. A copy of any comments or proposals will be forwarded to the ARD when the original is submitted.

8. Administrative correspondence such as letters of appreciation, requests for agency reports at Council meetings, and cover letters for meeting agendas will go through the Council's regional coordinator to the appropriate OSM division chief for review.

9. Councils will submit copies of all correspondence generated by and received by them to OSM to be filed in the administrative record system.

10. Except as noted in Items 6, 7, and 8, Councils or individual Council members acting on behalf of or as representative of the Council may not, through correspondence or any other means of communication, attempt to persuade any elected or appointed political officials, any government agency, or any tribal or private organization or individual to take a particular action on an issue. This does not prohibit Council members from acting in their capacity as private citizens or through other organizations with which they are affiliated.

Approved by the Federal Subsistence Board on June 15, 2004.


Federal Public Lands Open to Subsistence Use
Special Use Areas
Closed to Subsistence
NPS Administered Parks
NPS Administered Preserves
USFWS Administered Lands
BLM Administered Lands
USFS Administered Lands
Region 5
Yukon-Kuskokwim Delta Region
Miles
0
60
120
N
Bering Sea
Kuskokwim Bay
Etolin Strait
Baird Inlet
YUKON DELTA NATIONAL WILDLIFE REFUGE
TOGIAK NATIONAL WILDLIFE REFUGE
ALASKA MARITIME NATIONAL WILDLIFE REFUGE
Cape Romanzof
Hooper Bay
Chevak
Scammon Bay
Newtok
Nightmute
Tuntutuliak
Chefornak
Kipnuk
Kongiganak
Quinhagak
Eek
Bethel
Napakiak
Oscarville
Akiak
Akiachak
Tuluksak
Kwethluk
Atmautluak
Napaskiak
Kasigluk
Nunapitchuk
Umkumiute
Mekoryuk
Nunivak Island
St. Matthew Island
Hall Island
Pinnacle Island
Emmonak
Alakanuk
Nunam Iqua
Kotlik
Mountain Village
Saint Mary's
Pilot Station
Pitkas Point
Marshall
Russian Mission
Kalskag
Lower Kalskag
Aniak
Crooked Creek
Napamiute
Holy Cross
Anvik
Grayling
Shageluk
Iditarod
Aleknagik
Dillingham
Manokotak
Clark's Point
Ekuk
Twin Hills
Togiak
Goodnews Bay
Platinum
18

Department of the Interior
U. S. Fish and Wildlife Service

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Charter

1. **Committee's Official Designation.** The Council's official designation is the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council (Council).

2. **Authority.** The Council is renewed by virtue of the authority set out in the Alaska National Interest Lands Conservation Act (ANILCA) (16 U.S.C. 3115 (1988)), and under the authority of the Secretary of the Interior, in furtherance of 16 U.S.C. 410hh-2. The Council is regulated by the Federal Advisory Committee Act (FACA), as amended, 5 U.S.C. Appendix 2.

3. **Objectives and Scope of Activities.** The objective of the Council is to provide a forum for the residents of the Region with personal knowledge of local conditions and resource requirements to have a meaningful role in the subsistence management of fish and wildlife on Federal lands and waters in the Region.

4. **Description of Duties.** Council duties and responsibilities, where applicable, are as follows:

   a. Recommend the initiation of, review, and evaluate proposals for regulations, policies, management plans, and other matters relating to subsistence uses of fish and wildlife on public lands within the Region.

   b. Provide a forum for the expression of opinions and recommendations by persons interested in any matter related to the subsistence uses of fish and wildlife on public lands within the Region.

   c. Encourage local and regional participation in the decision-making process affecting the taking of fish and wildlife on the public lands within the Region for subsistence uses.

   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. Make recommendations on determinations of customary and traditional use of subsistence resources.

f. Make recommendations on determinations of rural status.

g. Provide recommendations on the establishment and membership of Federal local advisory committees.

h. Provide recommendations for implementation of Secretary's Order 3347: Conservation Stewardship and Outdoor Recreation, and Secretary's Order 3356: Hunting, Fishing, Recreational Shooting, and Wildlife Conservation Opportunities and Coordination with States, Tribes, and Territories. Recommendations shall include, but are not limited to:

(1) Assessing and quantifying implementation of the Secretary's Orders, and recommendations to enhance and expand their implementation as identified;

(2) Policies and programs that:

(a) increase outdoor recreation opportunities for all Americans, with a focus on engaging youth, veterans, minorities, and other communities that traditionally have low participation in outdoor recreation;

(b) expand access for hunting and fishing on Bureau of Land Management, U.S. Fish and Wildlife Service, and National Park Service lands in a manner that respects the rights and privacy of the owners of non-public lands;

(c) increase energy, transmission, infrastructure, or other relevant projects while avoiding or minimizing potential negative impacts on wildlife; and

(d) create greater collaboration with states, tribes, and/or territories.

i. Provide recommendations for implementation of the regulatory reform initiatives and policies specified in section 2 of Executive Order 13777: Reducing Regulation and Controlling Regulatory Costs; Executive Order 12866: Regulatory Planning and Review, as amended; and section 6 of Executive Order 13563: Improving Regulation and Regulatory Review. Recommendations shall include, but are not limited to:

Identifying regulations for repeal, replacement, or modification considering, at a minimum, those regulations that:

(1) eliminate jobs, or inhibit job creation;

(2) are outdated, unnecessary, or ineffective;

(3) impose costs that exceed benefits;

(4) create a serious inconsistency or otherwise interfere with regulatory reform initiative and policies;

(5) rely, in part or in whole, on data or methods that are not publicly available or insufficiently transparent to meet the standard for reproducibility; or

(6) derive from or implement Executive Orders or other Presidential and Secretarial directives that have been subsequently rescinded or substantially modified.

At the conclusion of each meeting or shortly thereafter, provide a detailed recommendation meeting report, including meeting minutes, to the Designated Federal Officer (DFO).

5. **Agency or Official to Whom the Council Reports.** The Council reports to the Federal Subsistence Board Chair, who is appointed by the Secretary of the Interior with the concurrence of the Secretary of Agriculture.

6. **Support.** The U.S. Fish and Wildlife Service will provide administrative support for the activities of the Council through the Office of Subsistence Management.

7. **Estimated Annual Operating Costs and Staff Years**. The annual operating costs associated with supporting the Council's functions are estimated to be $190,000, 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:

(a) Approve or call all of the advisory committee's and subcommittees' meetings;

(b) Prepare and approve all meeting agendas;

(c) Attend all committee and subcommittee meetings;

(d) Adjourn any meeting when the DFO determines adjournment to be in the public interest; and

(e) Chair meetings when directed to do so by the official to whom the advisory committee reports.

9. **Estimated Number and Frequency of Meetings.** The Council will meet 1-2 times per year, and at such times as designated by the Federal Subsistence Board Chair or the DFO.

10. **Duration.** Continuing.

11. **Termination.** The Council will be inactive 2 years from the date the Charter is filed, unless, prior to that date, 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:

Thirteen 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 Board in their nomination recommendations to the Secretary will strive to ensure that nine of the members (70 percent) represent subsistence interests within the Region and four 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 Council or subcommittee deliberations or votes relating to a specific party matter before the Department or its bureaus and offices including a lease, license, permit, contract, grant, claim, agreement, or litigation in which the member or the entity the member represents has a direct financial interest.

14. **Subcommittees.** Subject to the DFOs approval, subcommittees may be formed for the purpose of compiling information and conducting research. However, such subcommittees must act only under the direction of the DFO and must report their recommendations to the full Council for consideration. Subcommittees must not provide advice or work products directly to the Agency. Subcommittees will meet as necessary to accomplish their assignments, subject to the approval of the DFO and the availability of resources.

15. **Recordkeeping.** Records of the Council, and formally and informally established subcommittees or other subgroups of the Council, 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

DEC 0 1 2017

Date Signed

DEC 0 4 2017

Date Filed

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