



YUKON-KUSKOKWIM DELTA SUBSISTENCE
REGIONAL ADVISORY COUNCIL

October 10-12, 2023

Anchorage, Alaska



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Moose along roadside



Photo by Davy Hiller

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YUKON-KUSKOKWIM DELTA SUBSISTENCE REGIONAL ADVISORY COUNCIL

Gordon Watson Conference Room
U.S. Fish and Wildlife Service Regional Office
Anchorage, AK
October 10-12, 2023
convening at 9:00am daily

TO JOIN THE MEETING:

Call **1-833-436-1163** (tollfree) then enter Phone Conference ID: **110 590 053#**

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. Written comments may be emailed to subsistence@fws.gov.

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*)
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- 5. Welcome and Introductions** (*Chair*)
- 6. Review and Adopt Agenda*** (*Chair*) 1
- 7. Review and Approve Previous Meeting Minutes*** (*Chair*) 6
- 8. Reports**
 - a. Council Member Reports
 - b. Chair’s Report
- 9. Service Awards** (*Council Coordinator*)
- 10. Public and Tribal Comment on Non-Agenda Items** (available each morning)
- 11. Old Business** (*Chair*)
 - a. 805(c) Report – summary (*Council Coordinator*)
 - b. Board Work Session – summary (*Council Coordinator*) 20
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- d. Summary of Council Correspondence (*Council Coordinator*)
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12. **New Business** (*Chair*)

- a. Proposal and closure review procedures overview (*Council Coordinator*) 64
- b. Wildlife Proposals and Closure Reviews* (*OSM Wildlife/Anthropology*)

Regional Proposals and Closure Reviews

- WCR24-38** – Unit 18 (Kuskokwim River hunt area) closed to moose hunting except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag and Kalskag 66
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- c. Alaska Board of Game Proposals*
- d. Izembek NWR Land Exchange* (*USFWS*)
- e. Identify Issues for FY2023 Annual Report* (*Council Coordinator*) 284
- f. Winter 2024 All-Council meeting proposed topics discussion (*Council Coordinator*)
- g. Fall 2023 Council application/nomination open season (*Council Coordinator*)
- h. Fisheries Program Updates (*OSM Fisheries/Anthropology*)
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 - ii. Fisheries Regulatory Cycle Update
 - iii. Partners for Fisheries Monitoring Program

12. Additional Reports (Time limit of 15 minutes unless approved in advance)

- a. Kuskokwim River Inter-Tribal Fish Commission
- b. Yukon River Drainage Fisheries Association
- c. Department of Fisheries and Oceans Canada – **Time Certain Oct. 12 @ 9am**
- d. Alaska Department of Fish and Game
 - i. Division of Wildlife Conservation - Intensive Management Update
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14. Closing Comments

15. Adjourn (*Chair*)

To join the meeting: Call 1-833-436-1163 (tollfree) then enter Phone Conference ID: 110 590 053#

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 Brooke McDavid, Council Coordinator, at 907-891-9181, brooke_mcdavid@fws.gov, or 800-877-8339 (TTY), by close of business on October 3, 2023.

REGION 5
Yukon-Kuskokwim Delta Regional Advisory Council
Members

Seat	Yr Apptd Term Expires	Member Name & Address	Represents
1	2021 2025	Henry Parks <i>Nunapitchuk</i>	Subsistence
2	2021 2025	Norma T. Evan <i>Marshall</i>	Subsistence
3	2006 2025	John W. Andrew <i>Kwethluk</i>	Subsistence
4	2022 2025	Walter A. Morgan, Sr. <i>Lower Kalskag</i>	Subsistence
5	2021 2023	Jacqueline K. Cleveland <i>Quinhagak</i>	Subsistence
6	2018 2023	James C. Landlord <i>Mountain Village</i>	Subsistence
7	2017 2023	Alissa Nadine Rogers <i>Bethel</i>	Subsistence
8	2021 2023	Phillip K. Peter, Sr. <i>Akiachak</i>	Subsistence
9	2021 2023	Wassilly B. Alexie <i>Russian Mission</i>	Subsistence
10	2001 2024	Raymond J. Oney <i>Alakanuk</i>	Chair Subsistence
11	2021 2024	Myron P. Naneng, Sr. <i>Bethel</i>	Vice Chair Subsistence
12	2021 2024	Robert J. Hoffman <i>Bethel</i>	Subsistence
13	2018 2024	Richard B. Slats <i>Chevak</i>	Secretary Subsistence

**YUKON-KUSKOKWIM DELTA SUBSISTENCE REGIONAL ADVISORY
COUNCIL
Meeting Minutes**

Orutsararmiut Native Council Multi-Purpose Building
Bethel, AK
April 4-6, 2023

Invocation:

Father Martin Nicolai provided an invocation.

Call to Order, Roll Call, and Quorum Establishment:

The meeting was called to order Tuesday, April 4, 2023, at 9:22 AM. Council Chair Raymond Oney and Council members Henry Parks, John Andrew, Jaqueline Cleveland, Richard Slats, and Wassily Alexie were present in person. Alissa Rogers, Myron Naneng, Sr., and Norma Evan attended via teleconference. With 9 of 13 Council members present a quorum was established. James Landlord was delayed by weather and joined in person the afternoon of the first day. Robert Hoffman, Walter Morgan, and Phillip Peter Sr. were absent and were excused.

Attendees:

* Denotes attended telephonically

- Yup'ik Interpreter: Joann Andrew
- Office of Subsistence Management (OSM): Brooke McDavid, Orville Lind, Pippa Kenner, Tom Plank, Kevin Foley*, Robbin La Vine*
- U.S. Fish and Wildlife Service: Regional Office – Sara Boario*, Jill Klein*; Fisheries & Ecological Services - Gerald Maschmann; Yukon Delta National Wildlife Refuge (NWR) – Boyd Blihovde, Laurie Boeck, Aaron Moses, Christopher Tulik, David Therchik*, Christian Alexie, Jr.; Togiak NWR – Andy Aderman*
- Department of the Interior: Wizipan Garriott, Principal Deputy Assistant Secretary for Indian Affairs
- U.S. Forest Service: Greg Risdahl*
- Bureau of Indian Affairs: Glenn Chen
- Alaska Department of Fish and Game (ADF&G): Wildlife Conservation - Mark Burch*, Luke Rogers
- NOAA Fisheries: Mike Cameron
- Orutsararmiut Native Council (ONC): Delen Hooper, Janessa Esquible*, Mary Mathias
- Calista Corporation: Mary Martinez*, Rose Bennett*
- Kuskokwim River Intertribal Fish Commission: Andrew Magel
- Yukon River Drainage Fisheries Association (YRDFA): Gabe Canfield *

- Kwethluk Inc.: Nick Ayapan*
- Native Village of Napaimute: Dan Gillikin*
- Association of Village Council Presidents: Paige Peterson, Ashley Johnson, Edward Corb
- Public: Timothy Andrew, Martin Nicolai

Review and Adopt Agenda:

Motion by Member Naneng, seconded by Member Andrew, to adopt the agenda as presented and be accommodating as time certain items arise. The motion passed on a unanimous vote.

Election of Officers

Members Oney and Naneng were nominated for Chair. Member Naneng rescinded his nomination. Mr. Oney was re-elected as Chair on a unanimous vote.

Members Naneng and Andrew were nominated for Vice Chair. Member Naneng was re-elected Vice Chair on a vote of 8-1.

Member Slats was nominated and re-elected Secretary on a unanimous vote.

Review and Approve Previous Meeting Minutes:

Motion by Vice Chair Naneng, seconded by Member Alexie, to approve the fall 2022 meeting minutes as presented. The motion passed on a unanimous vote.

Council Member and Chair Reports:

Wassily Alexie of Russian Mission reported that he was happy to finally attend his first in-person meeting with fellow Council members. He stated that it was pretty tough the last couple of years without salmon fishing. Everyone is struggling to get food to replace the salmon that people cannot go out and get. Member Alexie hopes for better salmon returns so people can go out and get fish for themselves.

Richard Slats of Chevak reported on the difficulty of the salmon closures for his community over the last three years. He stated that prior to three years ago they were never closed for fishing on the coast near Chevak, even when Yukon River fishing was restricted. He said it has never been proven by any scientific study that the salmon in the local coastal rivers are Yukon River fish, and additionally, local knowledge suggests they are different fish. Yukon kings (Chinook Salmon) are rich, while the local ones are not. Secretary Slats said there needs to be more studies documenting the salmon in coastal rivers. He expressed frustration that subsistence fishers are bearing the brunt of conservation measures and being restricted from salmon fishing when subsistence users are not the cause of the crash. He said people are trying to just do what they can to get through the winters.

John Andrew of Kwethluk reported that he has been a salmon fisherman since before 1976 and noticed salmon declines starting in the 1980s. He said that intercept fisheries and marine bottom-trawl fisheries have really impacted salmon returns over time. He said that they stopped commercial fishing in the Kuskokwim River area first and that commercial fishing in marine waters and intercept fisheries were allowed to continue. Now even subsistence fishers cannot fish, but commercial fishing is still allowed elsewhere. It affects all of the Arctic-Yukon-Kuskokwim (AYK) Region. Member Andrew said that this winter there was a hard fight with the Alaska Board of Fisheries to reduce interception of AYK salmon in False Pass and Unimak areas. He said every time subsistence fishers try to fight the intercept fisheries they lose. He stated that some members of the Alaska Board of Fisheries are pro-commercial fishing and pro-intercept fisheries, and it almost feels like they do not care if subsistence fishers starve. In recent years, no one in the AYK region has met their Amounts Necessary for Subsistence salmon and it is very hard on people, especially those who live in very rural villages where the cost of living is over 200% compared to Anchorage. Mr. Andrew said the salmon fishing restrictions are causing some tensions between upper river and lower river residents.

Raymond Oney of Alakanuk reported that things have been hard for everyone because of the salmon harvest restrictions and the unpredictable weather. In the past, elders could predict the weather patterns for the coming season and also the salmon returns, but it is not possible anymore. He expressed concern that more severe storms like Typhoon Merbok may occur in the future. Chairman Oney recalled living a semi-nomadic life when he was younger, traveling between spring camp, fish camp, and winter camp. His family went to fish camp at Ingriiguk about 20 miles up the Yukon River from Marshall and it was a tent city with lots of families fishing and sharing fish wheels. Everyone fished to feed their dog teams, and there were no restrictions for subsistence. They stopped fishing when they caught what they needed. Even in the winter people traveled by dog team to fish. He recalled that Koyukuduk was a popular place to fish for pike to feed themselves and dogs. Chairman Oney said that every year he sets a net right before freeze-up to catch *imarpinraq* (Bering Cisco). After freeze-up he sets a net under the ice for Sheefish and whitefishes. He uses the same holes and changes the nets to larger mesh sizes as the winter goes on. He is concerned because this winter he caught much fewer fish than he usually does. He also caught Coho Salmon for the first time ever in winter and wonders if the warmer water temperatures are changing their run timing. Chairman Oney thanked everyone from all the regions who testified at the Alaska Board of Fisheries meeting in support of Proposal 140. He agreed with Member Andrew that it feels like subsistence users are at the bottom of the totem pole and decision makers do not care about the people who have been living off the land since as far back as anyone remembers. Chairman Oney said there is still so much to learn about fisheries in terms of what is happening in the marine environment and along the coast. He has heard about fish moving north into the Arctic, bird populations dwindling, and habitat being affected by climate change. He encouraged the Council to stay on top of these important issues and for everyone to work together to try and find what is causing all these declines for the resources that people heavily depend on.

Jacqueline Cleveland of Quinhagak reported that her aunt caught a chrome silver (Coho salmon) while ice fishing the day before this Council meeting. She said this is very weird and unordinary. She shared that people in her community are currently eating trout, smelt, ptarmigan and rabbits, and that some folks are

starting to go seal hunting. She said that overall the salmon harvest for Quinhagak last season was under what people needed. There was an abundance of reds (Sockeye Salmon), but the kings (Chinook Salmon) were few in number and small in size. There was almost no Chum Salmon until the end of July when the run showed up very late. That was the first time the Chum Salmon run showed up that late, and some families she spoke with did not meet their subsistence needs for Chum Salmon. Silvers (Coho Salmon) in the Kanektok River were low but they were reportedly okay in the Arolik River. There were no commercial fisheries last year. Member Cleveland reported that their bay and rivers are sort of the last standing fishery of this region and her community is trying to be proactive rather than reactive given the crash of species around the region. Native Village of Kwinhagak submitted two proposals to the Alaska Board of Fisheries: one about sportfishing in the Kanetok and one about subsistence and commercial fishing in the bay. The one about the fishing in the bay was lost by ADF&G and not found until after the AYK meeting cycle. She let the Council know that there will be a special meeting for Proposal 173 and that it is on the agenda if the Council wants to comment on it. She also said that Native Village of Kwinhagak submitted a Temporary Fisheries Special Action request (FSA23-01) to the Federal Subsistence Board (Board) because their Federal proposal to mirror the State sportfishing proposal did not make the deadline. FSA23-01 is also on the agenda for the Council to discuss. Member Cleveland shared that Native Village of Kwinhagak is also looking into funding for salmon assessment projects in hopes of improving in-season counts. She ended by saying that Native Village of Kwinhagak will be submitting a Federal wildlife proposal to extend moose hunting season in the Quinhagak area until October 15.

Henry Parks of Nunapitchuk reported that he is a fisherman, hunter, trapper, and berry picker. He does not like to sit around but he is starting to slow down as he gets older. He said that people on the Kuskokwim and Yukon are trying to survive without salmon by relying on other things off the land. He said one big issue is the False Pass intercept fishery because it takes a lot of fish that should come up the Kuskokwim and Yukon rivers. He said he gets a jealous feeling because the marine trawlers and Area M commercial fishers get to fish, but local subsistence and commercial fishers do not. He feels that those regions should be restricted just like in the Yukon and Kuskokwim rivers. He said he hears they make a lot of money off the intercept salmon, but local people haven't been able to fish for a long time. He is also concerned about bycatch and how many families that bycatch could feed if subsistence fishers were allowed to fish for the food they need to survive instead of commercial trawlers. Member Parks also expressed concern about declining numbers of tomcods (Saffron Cod).

Myron Naneng, Sr. of Bethel thanked Member Richard Slats for the work Chevak did to get the customary and traditional use of all Yukon River salmon recognized for Chevak, Hooper Bay, and Scammon Bay. Vice Chair Naneng reported that he attended the AYK Alaska Board of Fisheries meeting. He noted that he was upset that one of the Alaska Board of Fisheries members asked about the status of a subsistence fishing citation because it indicates that people are being criminalized for trying to put food on the table while commercial fishing still continues. He said it is unfair that commercial fishing in Area M can continue intercepting AYK salmon while subsistence fishers are restricted. He stated that an elder from the village made a comment, 'Do not disturb the land because the land is your food source, it's your plate'. He said they take that very seriously and hope that both the U.S. Fish and Wildlife

Service and ADF&G work with them instead of trying to criminalize people for trying to harvest food. He noted that Hooper Bay has had issues with law enforcement since the salmon restrictions went into place a few years ago. Vice Chair Naneng shared that Hooper Bay has been working to protect migratory bird nesting habitats. Residents are concerned about the proposed King Cove road and the potential impacts to Black Brandt and Emperor Goose habitats. Some migratory birds are starting to overwinter in the area. The community implemented restrictions on local all-terrain vehicle travel across the tundra in 2013 and the number of nesting pairs has significantly increased since then. He also shared that Typhoon Merbok completely flattened the sand dunes along the coast that helped protect Hooper Bay and that now the community will be even more at risk for future storm damage. Vice Chair Naneng agreed with Member Parks that there are less tomcods (Saffron Cod) than their used to be. He said that Halibut sizes have decreased significantly and attributes it to bycatch in the Bering Sea. Vice Chair Naneng continues to be frustrated when he hears agency and appointed Alaska Board of Fisheries members refer to traditional ecological knowledge and the teachings of elders as “anecdotal” and they refuse to believe it until it is verified by a study and put in writing by someone who went to college. He ended by thanking everyone for attending the meeting and shared his hope that the Council can come with ideas that can be beneficial to protect the resources people rely on for food. Later, Vice Chair Naneng added to his report that the State of Alaska has not been meeting its treaty obligations with Canada for escapement of salmon on the Yukon River. Given this, he does not understand why commercial fisheries that are intercepting Yukon River salmon are still allowed to operate but subsistence fishing is shut down.

Alissa Rogers of Bethel reported that she has gotten reports from across the region, from the headwaters of the Kuskokwim to the mouth of the Yukon, about how difficult subsistence living has been for people recently. Typhoon Merbok, salmon closures, COVID-19, and increasing prices and inflation have all contributed to this. She noted that the weather over the past winter made it very difficult to go out on snowmachines because of environmental conditions. There was a lot of freeze and melt that made trail conditions bad. Member Rogers also reported on strong wind conditions that ruined some dry meat and fish she was trying to make. She noted an increase in the number of ravens being a nuisance. After two years of unsuccessful hunts, her family finally harvested a moose over the winter and was very grateful to fill their freezer since prices for meat at the store have been insanely high. Member Rogers received several reports of salmon being caught under the ice throughout the winter and into March. This occurred in both the Kuskokwim, Yukon, and coastal areas. She has noticed a lot of jackrabbits (Arctic hares) this spring and thinks they may be at a peak in their cycle; however, she said there is a need to conserve them and not overhunt them. She also noted a need to conserve Snowy Owls and do more research on their population status in the Delta region. Member Rogers and her family fished for Blackfish and noticed they were skinnier than usual. They did not harvest as many as they would have liked but were glad for the food they did catch. She reported that ptarmigan hunting was not very successful because they were hard to access due to the poor snow conditions. Member Rogers ended her report by paying tribute to the late Bob Aloysius who previously served on the Council and who passed this year.

Norma Evan of Marshall reported that they did not get eels (Arctic Lamprey) in Marshall, but the surrounding villages did. She thinks that changes to the channel from erosion may have impacted their migration route past the community. She noted that moose hunting was very successful in her area this

last year and that surveys this winter showed good numbers. Due to deep snow levels, more moose have been seeking refuge near town. Wolf numbers are rising, and Marshall residents sometimes hear them howling. Member Evan noted that the ice was thicker than last year. People fishing under the ice reported decent catches of whitefishes, Sheefish, and Northern Pike. The first Sheefish was harvested February 21. Pikes were larger sized than normal. She also noted the rabbit (hare) population is high. Member Evan expressed concerns about the impact of mining in the Fairbanks area on salmon fry. She is also concerned about the impact of increased methane emissions on salmon and their ecosystems.

James Landlord of Mountain Village reported that there was no fishing this summer, not even for Chum or Coho salmon. He had good news to report about eels (Arctic Lamprey). People in Mountain Village started checking for eels using sticks and little baskets right when the ice started to form. After one day, they started catching a lot of eels and it was the first good return in the last six years. St. Mary's and Pitka's Point residents came down and dipped for eels in front of Mountain Village. He said that everyone was grateful to get eels again.

Public and Tribal Comment on Non-Agenda Items:

Tim Andrew of Bethel shared his concerns about the continuing low salmon returns, smaller burbot, erratic Arctic Lamprey returns, lower numbers of Blackfish, and low numbers of Kilbuck caribou. He said that moose and beaver numbers are high at least. He said that people are really missing the salmon as a major contributor to their diets, and it is affecting their hearts and souls. Mr. Andrew shared information about the *Forrer v. State* lawsuit relating to Yukon and Kuskokwim salmon management. He informed the Council that he is drafting a resolution for Tribes and the Association of Village Council Presidents to consider that asks the ADF&G to do genetic sampling of Chinook Salmon caught in the Area M intercept fishery in addition to sampling of Chum Salmon. He also informed the Council he is drafting an Alaska Board of Game proposal for a mainland Unit 18 muskox hunt.

Martin Nicolai of Kwethluk shared his concerns with the Council regarding the failure of Proposal 140 before the Alaska Board of Fisheries. He is concerned about some Board of Fisheries members and appointees to the Governor's Bycatch Advisory Council being biased and putting commercial fishing over subsistence fishing. He encouraged everyone in attendance to not be defeated by the decision but to continue using their voices to fight for subsistence salmon.

Chris Tulik of Bethel raised concerns about the low salmon returns. He spoke about the depth of knowledge that is gained from living a lifetime out on the land practicing subsistence and how that knowledge and the teachings of elders is important for understanding what is happening to our changing environment. Mr. Tulik agreed with others' concerns regarding the subsistence priority not being upheld when commercial fishing is allowed but subsistence fishing is closed.

Mary Matthias of Bethel expressed concerns about commercial fishing being prioritized over subsistence and the failure of Alaska Board of Fisheries Proposal 140. She also shared concerns about Donlin Mine and the impacts it may have on subsistence resources and the environment. She encouraged everyone to remain united in the fight for subsistence rights.

Old Business:

The Council received presentations on the following topics:

- North American Caribou Workshop and Arctic Ungulate Conference update by Tom Plank, OSM Wildlife Biologist
- Council Correspondence update by Brooke McDavid, Council Coordinator
- Council Correspondence Policy update by Robbin La Vine, OSM Policy Coordinator
- Update on Federal Subsistence Board Actions by Brooke McDavid
- Update on Alaska Board of Fisheries Actions by Brooke McDavid
- WSA22-04 Special Action update by Tom Plank

New Business:

2021 Council Charter Review

The Council reviewed their Charter as required every two years by the Federal Advisory Committee Act. The Council discussed adding a non-voting youth seat in the Council Membership section of the charter.

- Motion by Member Alexie, seconded by Member Cleveland, to amend the charter and add a nonvoting youth seat to the Council.

The Council feels it is extremely important to get youth involved in subsistence and on the Council. This seat would help young people understand the Federal Subsistence Management Program regulatory process and what it means to be a Council member. It will benefit youth in the region by helping educate them about issues related to subsistence and the resources local people rely on.

Motion passed on a unanimous vote.

- Motion by Member Cleveland, seconded by Vice Chair Naneng, to set an age range for the youth seat to be between 18 to 25 years.

Motion passed on a vote of 6-3.

- Motion by Member Andrew, seconded by Member Cleveland, to approve the Charter as presented with the amendment request to add a youth seat.

Motion passed on a vote of 8-1.

U.S. Senator Lisa Murkowski Addresses the Council

U.S. Senator Lisa Murkowski paid the Council a visit at the end of their first meeting day. She began her address by acknowledging the importance of subsistence in the region and throughout the state. She shared information with the Council on Federal efforts that impact subsistence users.

She noted that the Alaska Delegation has been working together to try to facilitate as much research as possible to better understand the current salmon crashes. Sixteen million dollars from the Bipartisan Infrastructure Law will go towards building the resilience of salmon ecosystems across the state, including in the Yukon-Kuskokwim Delta Region. She informed the Council that the Secretary of Commerce is currently working to appoint members to the Alaska Salmon Research Task Force, a new body that was created by legislative action last year. She noted that she will be traveling to Mekoryuk the next day to meet with residents and discuss ways to better facilitate reindeer husbandry, including necessary U.S. Department of Agriculture certifications to process and sell reindeer meat. Senator Murkowski noted that everywhere she travels across the state she hears food security brought up as a major issue and wants to continue exploring ways to address the problem and ensure that subsistence opportunities remain strong. She said that she was made aware of the proposal to move OSM out of the U.S. Fish and Wildlife Service. She asked Council members for their comments on the proposal and subsistence issues.

Chairman Oney told the Senator about the devastating impacts the salmon declines have had on families in the region. He noted that salmon are a resource that people have relied upon since time immemorial but that ever since Alaska became a State their numbers have been dwindling. He highlighted the issues of salmon bycatch in the Bering Sea and interception of AYK Region salmon in the Area M fishery, which are contributing to declines. He also recognized the impacts of climate change on salmon.

Member Landlord also brought up the issue of salmon bycatch and interception. He shared that the entire AYK Region feel defeated due to the failure of Proposal 140 during the Alaska Board of Fisheries cycle. Efforts to protect salmon returns and maintain a subsistence priority are ignored and only commercial fishermen are listened to. Member Landlord said that maybe moving OSM into the Secretary of the Interior's office would help their voices be heard. He said the Federal government's help is needed because salmon do not know borders between State and Federal waters.

Vice Chair Naneng stated that salmon fisheries have been declining for decades and research has never given an answer why. He said that it is not fair for subsistence fishing to be closed on the Yukon River to meet treaty obligations with Canada, while Area M commercial fishermen continue to harvest AYK Region fish. Subsistence fishers should not be bearing the brunt of conservation measures. He noted the extremely high prices of food, fuel, and other goods in rural Alaska. He said that First Nations people are being treated like third class citizens. Member Naneng noted that the Magnuson-Stevens Act needs to be reauthorized. He requested that the Alaska delegation look at ways to change some of the management structures and to reduce bycatch and interception to allow for salmon to return to AYK Region rivers.

Secretary Slats told the Senator about the impacts that climate change is having on his community and subsistence practices. He noted the difficulty of going through the COVID pandemic and having it immediately followed by Typhoon Merbok. He shared how important salmon is as a food source for families in the region and how important salmon fishing is as a cultural practice. Member Slats wants to ensure that future generations are able to enjoy the same subsistence lifestyle.

Member Parks shared his concerns about salmon bycatch in the Bering Sea and interception of AYK Region salmon in False Pass while subsistence is restricted. He said that the salmon declines have been very hard on people, and he hopes that salmon will return.

Member Andrew echoed the testimonies of the other Council members regarding salmon. He shared the changes in salmon returns he has observed over his lifetime.

Alaska Board of Fisheries Proposal 173

Brooke McDavid, Council Coordinator, notified the Council of an upcoming special Alaska Board of Fisheries meeting to deliberate on Proposal 173, submitted by the Native Village of Kwinhagak, which sought to close Kuskokwim Area District 4 on Sundays and allow only one gillnet to be operated per vessel in the subsistence and commercial fisheries between June 1 and July 15. Member Cleveland provided additional background on the proposal.

- Motion by Vice Chair Naneng, seconded by Member Andrew, to support Proposal 173.

Justification: The Council supported this proposal because there have been record low returns for Chinook and Chum salmon in the Kuskokwim Management Area, and residents of Kwinhagak have been observing low returns of these species in the Kanetok River. The Council agreed that only one net per boat should be allowed because conservation measures are needed to help rebuild salmon stocks.

Motion passed on a unanimous vote with one member abstaining.

Temporary Fisheries Special Action FSA23-01

Pippa Kenner, OSM Anthropologist, provide an overview of Fisheries Special Action FSA23-01 to the Council. The special action request was submitted by the Native Village of Kwinhagak after their proposal did not make the deadline to be considered during the fisheries regulatory cycle. Special Action request FSA23-01 sought to close Federal public waters of the Kanektok River drainage to the harvest of both Chinook and Chum salmon except by Federally qualified subsistence users for the month of June in 2023 and month of June in 2024.

- Motion by Vice Chair Naneng, seconded by Member Andrew, to support FSA23-01.

Justification: The Council supported the closure to the harvest of Chinook and Chum salmon by non-federally qualified users, including catch and release fishing, during the month of June because of conservation concerns for these runs into the Kanektok River. The Council further noted subsistence fishing should not be restricted by the special action.

Motion passed on a unanimous vote with one member abstaining.

Wildlife Closure Reviews

Tom Plank, OSM Wildlife Biologist, provided an overview of the closure review process and presented the analysis for one regional and one crossover closure reviews:

- **WSA24-38** Unit 18 (Kuskokwim River hunt area) closed to moose hunting except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Kalskag
- **WSA24-43** Unit 19A remainder closed to moose hunting except by residents of Tuluksak, Lower Kalskag, Upper Kalskag, Aniak, Chuathbaluk, and Crooked Creek

The Council will vote on the closure reviews at their fall 2023 meeting.

Call for Federal Wildlife Proposals

Tom Plank, OSM Wildlife Biologist, presented the call for Federal wildlife proposals for the 2024-2026 regulatory years and notified the Council that the proposal deadline is April 12, 2023.

The Council voted to submit three Federal wildlife proposals:

1. Add Kwigillingok, Kongiganak, Quinhagak to the communities eligible to harvest moose within the Kuskokwim hunt area of Unit 18 under Federal regulations
 - Motion by Vice Chair Naneng, seconded by Member Cleveland, to add the communities as stated.

Justification: Residents of Kwigillingok, Kongiganak, and Quinhagak hunt moose for subsistence. Although these communities are located outside of the Kuskokwim hunt area, residents of these communities do travel to hunt moose within the boundaries of the hunt area, especially in years when it is more difficult to harvest a moose near their communities.

Motion passed on a unanimous vote.

2. Recognize the customary and traditional use of muskoxen by residents of Unit 18 for the mainland area of Unit 18
 - Motion by Member Rogers, seconded by Vice Chair Naneng, to establish a customary and traditional use determination (C&T) for mainland muskoxen as stated.

Justification: Muskoxen were re-introduced to Alaska with the intention that one day the population would grow enough that they could be hunted and provide food for subsistence. Muskoxen have migrated from the Nelson Island and Nunivak Island herd over the past twenty years to various parts of Unit 18 “mainland” and have been observed by residents across various parts of the region to be increasing in numbers and expanding their range. Much of their current habitat is on Federal lands of the Yukon Delta National Wildlife Refuge. Recognizing the customary and traditional use of muskoxen by residents of Unit 18 is the first step to allow these animals to be potentially hunted by

Federally qualified subsistence users in the region. Residents of Unit 18 desire the opportunity to harvest muskoxen for subsistence whenever a harvestable surplus is identified and believe the additional opportunity could help alleviate food security concerns.

Motion passed on a unanimous vote.

3. Establish Federal hunt(s) for muskoxen on the mainland portion of Unit 18

- o Motion by Vice Chair Naneng, seconded by Member Alexie, to establish a mainland muskoxen hunt.

Justification: The Council would like to see mainland muskoxen hunting opportunities for federally qualified subsistence users residing in Unit 18. Muskoxen have migrated from the Nelson Island and Nunivak Island herds over the past twenty years to various parts of “mainland” Unit 18. Much of their current habitat is on Federal lands of the Yukon Delta National Wildlife Refuge. Muskoxen have been observed by residents across the region to be increasing in numbers and expanding their range. Muskoxen were re-introduced to Alaska with the intention that one day the population would grow enough that they could be hunted and provide food for subsistence.

The Council suggests that harvest limits and seasons be based on the harvestable surpluses of the various mainland herds. Updated population assessments may need to be completed to determine these amounts. Even if the harvestable surplus numbers are low, any new subsistence hunt opportunity could help alleviate on-going food security concerns in the region. The Council wants to ensure that any permits are made easily accessible and available to hunters in the rural communities near the herds. Although there is not a current C&T use determination for muskoxen in Unit 18, the Council is also submitting a companion proposal seeking to recognize a C&T for mainland muskox in Unit 18.

Motion passed on a unanimous vote.

Call for Alaska Board of Game Proposals for Western Region

Brooke McDavid, Council Coordinator, notified Council members of a call for Alaska Board of Game proposals for the Western Region. The Council did not submit any proposals.

Review and Approve FY2022 Annual Report

The Council reviewed their draft FY2022 Annual Report to the Federal Subsistence Board and proposed two more topics for addition.

- Motion by Member Parks, seconded by Member Alexie, to approve the Annual Report as written and to include two additional topics as follows: 1) Council member compensation and 2) increasing numbers of mainland muskoxen.

Motion passed on a unanimous vote.

During discussion of annual report additions, the Council also voted to write letters to the Board asking them to elevate the topics of salmon bycatch and interception, as well as Council member compensation.

- Motion by Member Andrew, seconded by Member Landlord, to write a letter to the Board asking them to elevate the topic of Council member compensation to the Secretary of Interior.

Justification: Council member compensation is determined at the Secretarial level, but the request should be sent to the Board.

Motion passed on a unanimous vote.

- Motion by Secretary Slats, seconded by Vice Chair Naneng, to write a letter to the Board asking them to elevate the topic of salmon bycatch and interception in commercial fisheries to the Secretary of the Interior.

Justification: Salmon bycatch and interception occur in the Bering Sea and Alaska Peninsula regions, which are outside the jurisdiction of the Board. However, this issue greatly impacts subsistence users in areas under Federal Subsistence Management jurisdiction throughout the AYK Region. This issue requires attention at the Secretarial level since all efforts by the Council to address it through the North Pacific Fishery Management Council and Alaska Board of Fisheries regulatory processes have failed. Salmon should be managed on an ecosystem scale because they do not know political boundaries.

Motion passed on a unanimous vote.

- Motion by Member Rogers, seconded by Member Evan, to write a letter to the North Pacific Fishery Management Council requesting reductions in Chinook and Chum salmon bycatch and to ask the other AYK Region Councils to sign and support the letter.

Justification: The Council wants the voices of AYK Region subsistence users to keep being heard on this issue until something is done about it.

Motion passed on a unanimous vote.

Fisheries Resource Monitoring Program (FRMP) Update

Pippa Kenner, OSM Anthropologist, provided an overview of the goal of the FRMP to the Council. She let the Council know that a call for FRMP research proposals closed in February 2023 and that the proposed projects will be evaluated by the Technical Review Committee in the coming months. The Council will be presented an overview of the projects at their fall meeting.

Partners for Fisheries Monitoring Program Update

Pippa Kenner, OSM Anthropologist, notified the Council that Partners Program proposals were recently evaluated by the Technical Review Committee and selections should be announced in the near future. She explained that the Partners Program aims to increase involvement by Alaska Native and other rural organizations in Federal fisheries management.

Organizations currently participating in the Partners Program gave presentations about their work. Dan Gillikin presented Native Village of Napaimute projects and Delen Hooper presented Orutsararmiut Native Council projects.

Elect Council Member to represent the Council on Wood Bison Planning Team

Luke Rogers, ADF&G Wood Bison Project Technician, provided an update to the Council about the Innoko Wood Bison Herd and the outcome of recent planning meetings. The Council elected Raymond Oney to represent the Council at future planning meetings with Wassily Alexie and Philip Peter serving as alternates.

Agency Reports:

- *Yukon Delta National Wildlife Refuge Update* by Boyd Blihovde, Refuge Manager; Aaron Moses, Subsistence Specialist; and Laurie Boeck, Deputy Refuge Manager
- *Togiak National Wildlife Refuge Update* by Andy Aderman, Wildlife Biologist
- *Kuskokwim River Inter-Tribal Fish Commission Update* by Andrew Magel, Fisheries Technician, Kuskokwim Inter-Tribal Fish Commission
- *Orutsararmiut Native Council Update* by Janessa Esquible, ONC Contractor
- *Gravel-to-Gravel DOI Keystone Initiative* by Sara Boario, Regional Director, USFWS
- *Yukon River Drainage Fisheries Association Update* by Gabe Canfield, Policy and Program Coordinator
- *2023 Yukon River Salmon Fisheries Outlook* by Gerald Maschmann, Yukon River Assistant In-season Manager, USFWS
- *Marine Mammal Update* by Mike Cameron, Polar Ecosystems Program Manager, NOAA Fisheries
- *DOI-Indian Affairs Briefing Regarding Office of Subsistence Management* by Wizipan Garriott, Principle Deputy Assistant Secretary for Indian Affairs
- *Office of Subsistence Management Update* by Orville Lind, Native Liaison

Future Meeting Dates:

The Council confirmed their Fall 2023 meeting dates as October 10-12, 2023, in Anchorage.

The Council selected the March 1-5, 2024, for their preferred dates for the All Councils Meeting in Anchorage.

The Council selected their Fall 2024 meeting dates as October 15-17, 2024, in Bethel.

Brooke McDavid, Designated Federal Officer
USFWS Office of Subsistence Management

Raymond Oney, 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 October 10-12, 2023, meeting in Anchorage, and any corrections or notations will be incorporated in the minutes at that meeting.

For a more detailed report of this meeting, copies of the transcript and meeting handouts are available upon request. Call Brooke McDavid, Council Coordinator, at 1-800-478-1456 or 907-891-9181, email brooke_mcdavid@fws.gov.



U.S. Fish and Wildlife Service
Bureau of Land Management
National Park Service
Bureau of Indian Affairs

Federal Subsistence Board Meeting Advisory



Forest Service

For Immediate Release:
August 3, 2023

Contact: Robbin La Vine
(907) 786-3353 or (800) 478-1456
robbin_lavine@fws.gov

Results from the Federal Subsistence Board Work Session

During its August 2-3, 2023, work session, the Federal Subsistence Board (Board) discussed and approved responses to Regional Advisory Council (Councils) FY22 annual reports, reviewed Council recommendations for changes to Council charters, and received briefings on updates to the Regional Advisory Council Correspondence Policy and a letter from the Southeast Council to the Board on transboundary river watersheds.

The Board voted to recommend the Secretaries of the Interior and Agriculture (Secretaries) adopt the Councils' requests to modify their Council charters to add language authorizing a non-voting young leader seat to the Membership and Designation Section of all ten Councils' charters. The Board also voted to recommend that the Secretaries adopt charter language submitted by the Northwest Arctic Council to improve geographic representation on the Council. The Board also approved individual customary and traditional use determination proposals ICTP23-01 and ICTP23-02 pertaining to areas managed by the National Park Service in Unit 13.

In addition to the public work session, the Board held an executive session on Thursday, August 3, 2023. The purpose of this meeting was to develop recommendations to the Secretaries of Interior and Agriculture for appointments to the Regional Advisory Councils. A summary of the executive session will be made available to the Councils and, upon request, to the public.

Information about the Federal Subsistence Management Program may be found on the web at www.doi.gov/subsistence or by visiting www.facebook.com/subsistencealaska.

Missing out on the latest Federal subsistence issues? If you'd like to receive emails and notifications on the Federal Subsistence Management Program, you may subscribe for regular updates by emailing fws-fsb-subsistence-request@lists.fws.gov.

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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

AUG 08 2023

OSM 23064

Raymond Oney, 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 Chair Oney:

This letter responds to the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council's (Council) fiscal year 2021 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. Kuskokwim River salmon management

The Council is concerned with disagreements between the State of Alaska and the U.S. Fish and Wildlife Service over salmon management in the Kuskokwim Region in recent years. The Council feels strongly that all salmon management parties need to work together and strive for consensus on management decisions, especially in times like the present when there are threats to conservation. However, the Council also feels that the rural subsistence priority in ANILCA must be upheld and that Federally qualified subsistence users should have the priority to harvest salmon for subsistence over other users.

Response:

The Board supports the continued desire by the Council for the State of Alaska and the U.S. Fish and Wildlife Service to work together and strive for consensus on management decisions. In response to this request the Board reached out to the U.S. Fish and Wildlife Service to learn

more about their efforts to do so and learned the Service also strongly agrees that agencies need to work together to strive for consensus to make informed conservation decisions. The Yukon Delta National Wildlife Refuge routinely communicates with the Alaska Department of Fish and Game and attends the State of Alaska Kuskokwim River Salmon Management Working Group meetings to learn about in-season biology and to obtain input on management options. Although the U.S. Fish and Wildlife Service may not agree on all management options, largely due to differing Federal and State mandates, it continues to value the State of Alaska biologists' and managers' input and data to help find consensus for the benefit of federally qualified subsistence users throughout the Kuskokwim River.

2. Typhoon Merbok impacts to communities and subsistence

The Council wants to inform the Board of the impacts that Typhoon Merbok had to communities and subsistence in our region. The storm surge generated by Merbok caused severe flooding and erosion damage in our region and resulted in a loss of infrastructure in many of its communities. Damaged infrastructure included many fish camps used for subsistence. The Council is worried that strong storms may become more common as the climate continues to change. There is a need for research projects that monitor the impacts of such storms to subsistence in our region, and we would appreciate being briefed on any such on-going projects at our next Council meeting.

Response:

The Board shares your concerns for the communities across the state impacted by Typhoon Merbok. Climate change and increasingly extreme weather patterns are affecting Alaskan communities and their abilities to continue subsistence uses of fish and wildlife that sustain them. The Board understands that the impacts of Typhoon Merbok had been devastating for several subsistence regions in Alaska and the recovery periods will be long.

The Board is aware of a number of research entities that are conducting generalized research on climate change, coastal hazards and resiliency, and changes to the subsistence way of life. Some have now expanded their efforts to monitor and document the impacts of Typhoon Merbok, but all of their work contributes to a better understanding of the impacts severe weather in Alaska.

The Alaska Division of Geological & Geophysical Surveys is mapping the impacts of Typhoon Merbok and the post-storm data response through an online mapping tool found on the following website <https://arcg.is/1umjSH0>

The Arctic Coastal Geoscience Lab, housed within the University of Alaska Fairbanks, conducts research to advance knowledge regarding coastal processes and hazards and provides data that informs decision-making. More information can be found on their website <https://acgl.community.uaf.edu/>

The Pursuing Opportunities for Long-Term Arctic Resilience for Infrastructure and Society

project seeks to understand how communities in Arctic Alaska are affected by environmental hazards and risks, including coastal erosion and flooding, declining seas ice cover, and changes in the availability and access to wild resources. The Pursuing Opportunities for Long-Term Arctic Resilience for Infrastructure and Society team is working in the communities of Dillingham and Wainwright, but their research has Alaska-wide implications. In preceding meetings, several Councils invited a climatologist from the National Oceanic and Atmospheric Administration to assist in generating greater awareness of weather outlooks for the coming year. More information can be found here: <https://arcticpolaris.org/>

The Federal Emergency Management Agency's Interagency Recovery Coordination team is working to support the long-term recovery of communities impacted by Typhoon Merbok. As of May 2023, the Interagency Recovery Coordination team is collecting information on unmet community needs that were not addressed by Alaska State and Federal Emergency Management Agency's Public Assistance and Individual Assistance programs. For example, there may be alternative sources of funding for fish camps or equipment. As part of the Interagency Recovery Coordination team, the Department of the Interior's Natural and Cultural Resources Recovery Support Function Field Coordinator is helping integrate Federal assets and capabilities to help state and tribal governments and communities address long-term environmental and cultural resource recovery needs. You can learn more about the Natural and Cultural Resources Recovery Support Function here: <https://www.doi.gov/recovery/about-recovery/ncr-rsf-overview>. The Interagency Recovery Coordination team conducted an Initial Assessment Draft Report, but it plans to develop a more complete recovery needs assessment later this year. It is also collecting information on programs, projects, and funding opportunities that can support or assist the unmet needs. The next step will be developing strategies to address the needs. The Board passed your Council's fiscal year 2022 annual report to the Interagency Recovery Coordination team for its information.

The Council can work with your coordinator to invite any or all of these entities to present their findings and updates on their efforts during an upcoming meeting.

Your Council is a public forum for information gathering and exchange on issues that impact your subsistence way of life. The Board supports your Council expanding the meeting agenda to include presentations on climate change and research that may provide recommendations for resiliency and preparedness. The Council can work with your coordinator to invite any of the entities mentioned above to present their findings and updates on their efforts during an upcoming meeting.

3. Interception and bycatch of AYK Salmon in the Alaska Peninsula Region (Area M) and Bering Sea commercial fisheries

The Council continues to be extremely concerned about the interception of Yukon and Kuskokwim River salmon in other fisheries. We have experienced low returns of Chinook and Chum salmon at unprecedented levels in recent years. It is appalling that other fisheries have

been allowed to harvest Arctic-Yukon-Kuskokwim (AYK) salmon stocks while subsistence fisheries have been closed.

We are particularly concerned about the interception of salmon in the Area M commercial fishery, especially Chum Salmon. Previous studies have shown that in this mixed stock fishery a large proportion of Chum Salmon harvested during the month of June is of AYK origin. The Council supported an Alaska Board of Fisheries proposal seeking to limit commercial harvest time in this region in an effort to reduce interception. We are anxious to hear if that proposal passed. We also support on-going genetic monitoring of the commercial salmon harvest in the Alaska Peninsula region and request that results of such research efforts be presented to the Council as they become available.

The Council also continues to be concerned about bycatch of salmon in the Bering Sea trawl fisheries. Although we understand that bycatch may not be the primary driver of declining salmon in our rivers, we feel that more strict bycatch caps are warranted during times of conservation. The burden of conservation has primarily fallen to subsistence users: we have had heavy restrictions and closures to salmon fishing in our rivers while salmon bycatch continues in the high seas.

The Council feels that salmon management must take place on an ecosystem scale and that cross-region management planning efforts between the State of Alaska, Departments of the Interior and Agriculture, and the Department of Commerce need to be implemented immediately to save our salmon. The Council requests to be briefed on any such efforts. We also request to be briefed on whether the Secretaries of the Interior or Agriculture liaised with the Secretary of Commerce about salmon bycatch and management following the joint letter from the four Councils within the Yukon drainage sent to the Board last year that was then forwarded by the Board to the Secretaries.

Response:

The Board shares your concern with the interception of Yukon and Kuskokwim rivers salmon stocks in other fisheries and commends the Council for submitting two proposals during the 2022–2023 Alaska Board of Fisheries regulatory cycle. The Alaska Board of Fisheries took up Proposals 148 and 149 on February 26, 2023, during the Alaska Peninsula/Aleutian Island/Chignik Finfish meeting. Links to audio recordings of the Alaska Board of Fisheries’ actions on Proposal 148¹ and Proposal 149² are provided below. Proposal 148 failed with a vote of 1-6. Proposal 149 failed with a vote of 0-7. A number of other entities also submitted proposals seeking to amend the South Alaska Peninsula Salmon Management Plan by reducing commercial

¹ Proposal 148 meeting audio for the introduction and roll call vote on Proposal 148 occurs at 11:28:21 AM, and 11:30:37 AM, respectively <https://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/swf/2022-2023/peninsula/index.html?mediaBasePath=/Meeting%2002-26-23%20%28Feb-26-23%206-16-48%20PM%29#>.

² Proposal 149 meeting audio for the introduction and roll call vote on Proposal 149 occurs at 11:31:04 AM, and 11:33:54 AM, respectively <https://www.adfg.alaska.gov/static/regulations/regprocess/fisheriesboard/swf/2022-2023/peninsula/index.html?mediaBasePath=/Meeting%2002-24-23%20%28Feb-24-23%205-32-11%20PM%29#>.

fishing time for Chum Salmon. Your Council provided a written comment and oral testimony in support of Proposal 140. At the Alaska Board of Fisheries meeting, there was a record amount of testimony regarding this proposal. Proposal 140 failed with a vote of 3-4 after lengthy deliberation. Ultimately, the Alaska Board of Fisheries passed Proposal 136 with amendments found in Record Copy 190 (see Topic 3 enclosures 1 and 2). This action provided some reduction in commercial fishing time and established Chum Salmon harvest triggers for the purse seine fishery during June in the South Unimak and Shumagin Islands June Salmon Management Plan. When the harvest of Chum Salmon reaches the trigger point, then fishing will be shut down.

The Alaska Department of Fish and Game is conducting a four-year study (2022–2026) to estimate stock, age, and length compositions, and stock-specific harvests in South Alaska Peninsula fisheries. Results from year one of the study are in press and included in our response below. Based on the reported results of stock-specific Chum Salmon harvest in the South Alaska Peninsula, the Asia group was the largest contributor (345,896; 42.5%) to the total South Alaska Peninsula commercial Chum Salmon fishery, followed by East of Kodiak (137,503; 16.9%), South Peninsula (107,559; 13.2%); however, Coastal Western Alaska (103,798; 12.8%), and Chignik/Kodiak (72,050; 8.9%) were still substantial contributors to the overall harvest (see <https://www.adfg.alaska.gov/FedAidPDFs/SP23-07.pdf>)³. The results of the Western Alaska Salmon Stock Identification Program research from 2007 to 2009 are included as Table 2 in the Dann et al. 2003 report for comparison with the current data. The Council may request their Council Coordinator to reach out to the Alaska Department of Fish and Game genetics lab and request a representative attend the next Council meeting to present on preliminary findings of the study.

The Board recognizes the Council’s concern about the need for a multi-agency management planning effort for Pacific Salmon. The Board remains committed to providing Regional Advisory Councils with recent developments for inter-agency, multi-regional management planning efforts. However, the Board is not aware of any efforts at this time to do so. The Board invited the North Pacific Fishery Management Council to their January 2023 meeting to present on the Bering Sea fishery and ongoing efforts to decrease salmon bycatch. The Board also forwarded both letters from the four Councils to the Secretaries of Interior and Agriculture and asked them to liaise with the Secretary of Commerce (see enclosure 4 to Topic 3). The Board will keep the Council informed as new information becomes available.

4. Declines in Tom Cod and halibut, especially near Hooper Bay

The Council is concerned about a decline in the number of Tom Cod in the coastal areas of our region, especially near Hooper Bay and Chevak. Tom Cod are an important subsistence fish and user observations indicate that populations levels are in decline. We request any

³ Dann, T.H., H.A. Hoyt, E.M. Lee, E.K.C. Fox, and M.B. Foster. 2023. Genetic stock composition of Chum Salmon harvested in commercial salmon fisheries of the South Alaska Peninsula, 2022. Alaska Department of Fish and Game, Special Publication No. 23-07, Anchorage.

information about Tom Cod monitoring efforts in Coastal Western Alaska. If there is no on-going monitoring, we request that agencies represented on the Board make it a priority.

In addition to Tom Cod, the Council is also concerned about the declining number and size of Halibut in Western Alaska. Halibut are an important subsistence resource, even more so in times of salmon decline. Commercial Halibut fishing has also provided a source of income for coastal residents in our region in the past. The Council requests to be briefed about trends in Halibut population and size in Western Alaska and encourages on-going monitoring of Halibut.

Response:

The Board is concerned to hear about the low harvest of Tomcod (Saffron Cod) in the Hooper Bay and Chevak area. The Alaska Department of Fish and Game has management authority of groundfish species within three miles of the coastline. This includes coastal waters in the Yukon-Kuskokwim region. To the Board's knowledge there is no targeted monitoring of Tomcod by the Alaska Department of Fish and Game at present.

The National Marine Fisheries Service conducts annual surveys to monitor the marine ecosystems of the eastern and northern Bering Sea, produce fishery independent biomass and abundance estimates for commercially important fish, and collect other biological and environmental data for use in ecosystem-based fishery management. Annual trawl surveys monitor Pacific Halibut and other groundfish. The National Marine Fisheries Service publishes a summary of these trawl surveys, which are then made available for download on their website⁴. As neither National Marine Fisheries Service nor the Alaska Department of Fish and Game hold a seat on the Federal Subsistence Board, the Council may request their Council Coordinator to reach out to both agencies and request a representative attend a Council meeting to present on species population trends and findings. This would also provide Council members with an opportunity to open a dialog with the management agencies to relate these concerns.

5. Competition between hatchery and wild salmon in the Bering Sea

The Council is concerned about competition between hatchery salmon released by other countries and wild AYK salmon in the Bering Sea. We would like to be briefed on any research and monitoring efforts regarding the competition between wild and hatchery salmon in the Bering Sea, including the numbers of hatchery salmon released by Russia and other Asian countries. The Council would also like to be presented information about any treaties or collaborative management agreements among the U.S., Russia, and other Asian countries regarding salmon in the Bering Sea.

Response:

⁴ <https://www.fisheries.noaa.gov/alaska/science-data/groundfish-assessment-program-bottom-trawl-surveys>

The Board is unaware of any current research or monitoring efforts directly investigating competition between wild- and hatchery-origin salmon in the Bering Sea. There are relatively few investigations of at-sea competition interactions between hatchery released salmon and wild salmon stocks (Peterman 1991)⁵. Some studies have documented the effects of hatchery on wild-origin salmon growth, age, and survival (Hilborn and Eggers 2001; Kaeriyama et al. 2012; Amoroso et al. 2017)⁶, while other studies have investigated at-sea interactions including the influence of mostly hatchery origin Asian Chum Salmon on Norton Sound Chum Salmon (Ruggerone et al. 2012)⁷. Similar studies have investigated the effects of Russian Pink Salmon on Bristol Bay Sockeye Salmon (Ruggerone et al. 2003; Ruggerone and Connors 2015)⁸. Ruggerone and Irvine (2018)⁹ present the most recent compilation of abundance and biomass values for hatchery- and natural-origin Pink, Chum, and Sockeye salmon in the North Pacific Ocean. The Board has provided this publication to the Council as supplemental literature (see Topic 5 enclosure).

⁵ Peterman, R. M. 1991. Density-dependent marine processes in North Pacific salmonids: lessons for experimental design of large-scale manipulations of fish stocks. ICES Marine Science Symposia 192:69–77.

⁶ Hilborn, R., and D. Eggers. 2001. A review of the hatchery programs for Pink Salmon in Prince William Sound and Kodiak Island, Alaska: response to comment. Transactions of the American Fisheries Society 130:720–724.

Kaeriyama, M., H. Seo, H. Kudo, and M. Nagata. 2012. Perspectives on wild and hatchery salmon interactions at sea, potential climate effects on Japanese Chum Salmon, and the need for sustainable salmon fishery management reform in Japan. Environmental Biology of Fishes 94:165–177. Amoroso R.O, M.D. Tillotson, and R. Hilborn. 2017. Measuring the net biological impacts of fisheries enhancement: Pink Salmon hatcheries can increase yield, but with apparent cost to wild populations. Canadian Journal of Fisheries and Aquatic Sciences 74:1233–1242.

⁷ Ruggerone, G.T., B.A. Agler, and J. L. Nielsen. 2012. Evidence for competition at sea between Norton Sound Chum Salmon and Asian hatchery Chum Salmon. Environmental Biology of Fishes 94:149–163.

⁸ Ruggerone, G.T., M. Zimmermann, K.W. Myers, J.L. Nielsen, and D.E. Rogers. 2003. Competition between Asian Pink Salmon (*Oncorhynchus gorbuscha*) and Alaskan Sockeye Salmon (*O. nerka*) in the North Pacific Ocean. Fisheries Oceanography 12:209–219. Ruggerone, G.T., and B.M. Connors. 2015. Productivity and life history of Sockeye Salmon in relation to competition with Pink and Sockeye salmon in the North Pacific Ocean. Canadian Journal of Fisheries and Aquatic Sciences 72:818–833.

⁹ Ruggerone G.T., and J.R. Irvine. 2018. Numbers and biomass of natural- and hatchery-origin Pink Salmon, Chum Salmon, and Sockeye Salmon in the North Pacific Ocean, 1925–2015. <https://afspubs.onlinelibrary.wiley.com/doi/10.1002/mcf2.10023>



Figure 1. The Convention Area as identified in the Convention for the Conservation of Anadromous Stocks in the North Pacific (source <https://npafc.org/convention/>.)

Regarding the Council’s request for information on treaties or collaborative management in the Bering Sea, the Board would like to share the following. The North Pacific Anadromous Fish Commission is an inter-governmental organization established by the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean. Member countries involved in the North Pacific Anadromous Fish Commission include Canada, Japan, the Republic of Korea, the Russian Federation, and the United States of America. The Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean pertains to the area of the North Pacific Ocean and its adjacent seas, including parts of the Bering Sea, north of 33 degrees North Latitude in international waters beyond the 200 nautical mile zones of the coastal states (Figure 1). The North Pacific Anadromous Fish Commission Convention Area includes waters outside of the Exclusive Economic Zone established by the Magnuson-Stevens Fishery Conservation and Management Act.

The Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. §§ 1801 *et seq*) is the primary law that governs marine fisheries management in U.S. Federal waters. The Magnuson Stevens Act established the U.S. Exclusive Economic Zone, an area that extends no more than 200 nautical miles from the territorial sea baseline and is adjacent to the 12 nautical mile territorial sea of the United States of America. The North Pacific Fishery Management Council is one of eight regional councils established by the Magnuson-Stevens Fishery Conservation and Management Act to manage fisheries in the 200-mile Exclusive Economic Zone, three miles off the coast of Alaska.

Another international treaty on salmon management not directly related to the Bering Sea is the Pacific Salmon Treaty, a mutual international agreement and cooperative fishery management process formed between the governments of the United States and Canada. The Treaty regulates the fisheries that occur in the ocean and inland waters of Oregon, Washington, British Columbia, the Yukon, and southeast Alaska and all rivers that flow into these waters. The Pacific Salmon Commission is the international organization, governed by the Pacific Salmon Treaty, and the decision-making body for cooperative management of Pacific Salmon between the United States and Canada.

The North Pacific Anadromous Fish Commission provides hard-copy and on-line versions of statistical information on salmonid catch and hatchery release available at their website: <https://npafc.org/statistics/>.¹⁰ For the Council's convenience we have included summary figures of hatchery releases including annual hatchery release of salmon and Steelhead Trout by country (Figure 2) and by species (Figure 3).

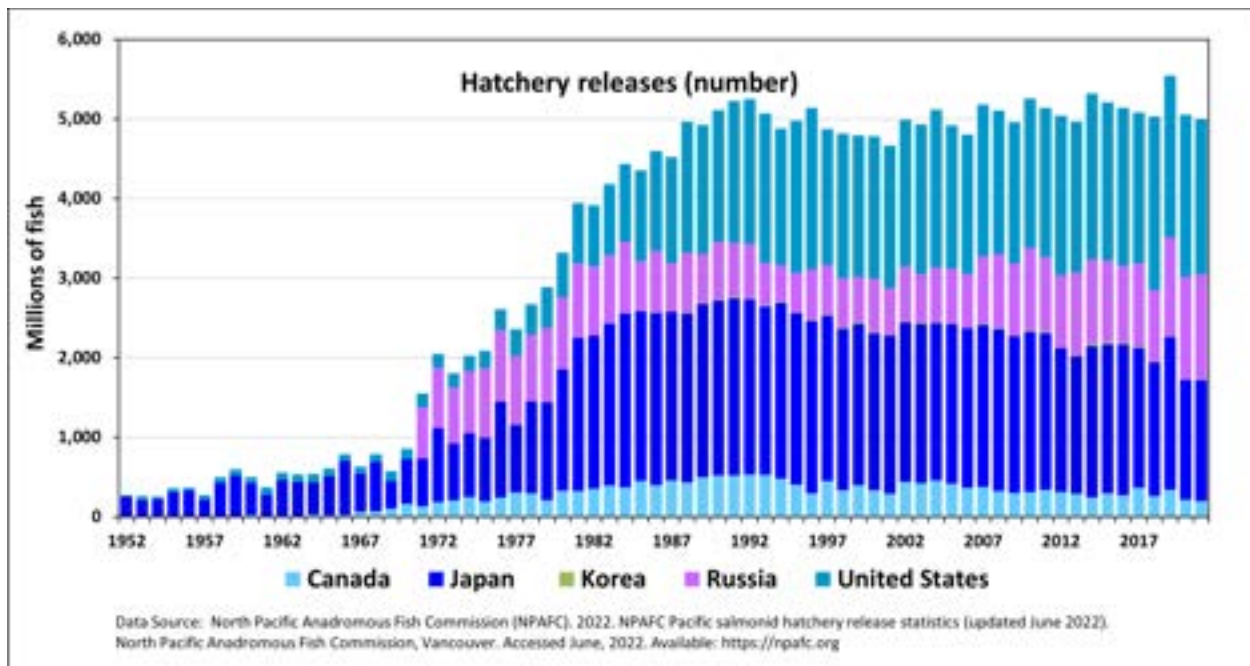


Figure 2. Annual hatchery release of salmon and Steelhead Trout by country in millions of fish (source: NPAFC 2022).

¹⁰ North Pacific Anadromous Fish Commission. [NPAFC] 2022. NPAFC statistics: description of Pacific salmonid catch and hatchery release data files (updated 15 July 2022). North Pacific Anadromous Fish Commission, Vancouver. Accessed April 1, 2023. Available: <https://npafc.org>.

Peterman, R. M. 1991. Density-dependent marine processes in North Pacific salmonids: lessons for experimental design of large-scale manipulations of fish stocks. ICES Marine Science Symposia 192:69-77.

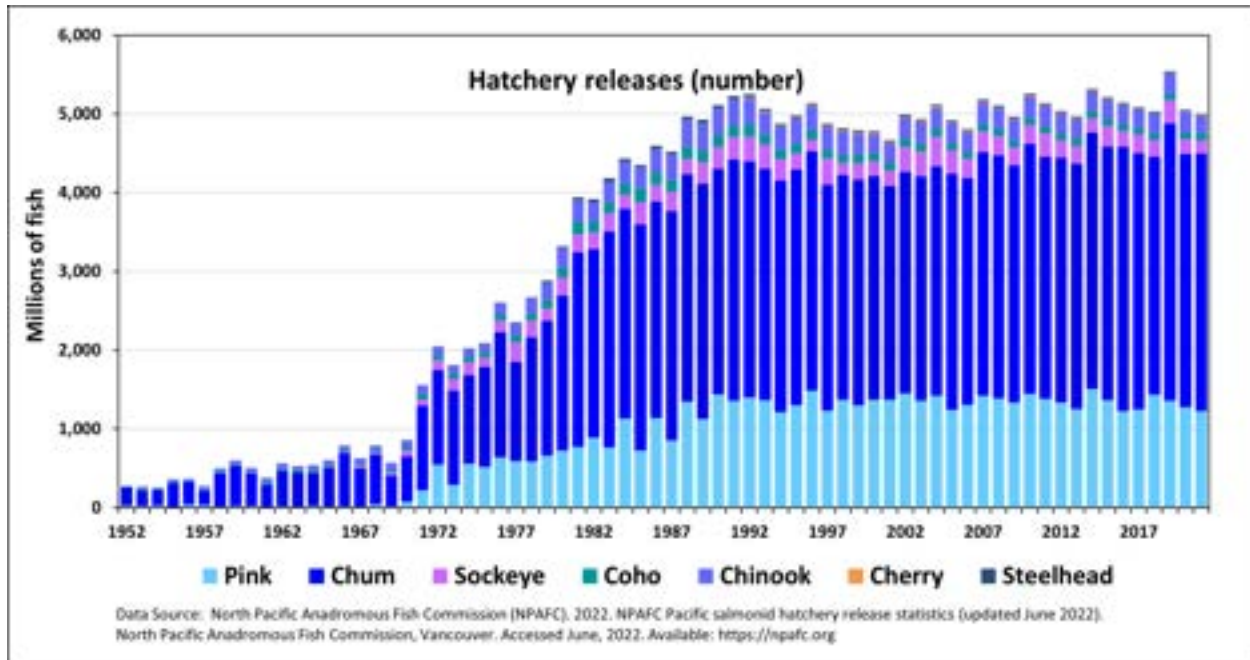


Figure 3. Annual hatchery release of salmon and Steelhead Trout by species in millions of fish (source: NPAFC 2022).

6. Fukushima radiation effects on salmon and other marine life

The Council is continually concerned about the lingering effects of the Fukushima nuclear disaster. We would like to have on-going updates about radiation monitoring and testing of marine animals and fish included in the fisheries updates provided to us at every Council meeting. We ask the Board to direct the appropriate agency staff to include this information in their reports moving forward.

Response:

The Board appreciates the Council’s concern about food safety. Extensive testing occurred in the years following the 2011 event and radionuclide testing of Alaska seafood is ongoing. No harmful levels of radiation have been detected in any of the samples. Extensive outreach efforts would be made by the public health agencies if results ever indicate that the food supply has been compromised.

For information on Alaska seafood testing visit: <https://dec.alaska.gov/eh/vet/fish-monitoring-program/radioisotopes-in-fish-caught-in-alaskan-waters>

For information on Fukushima radiation monitoring visit: <https://www.epa.gov/radiation/where-can-i-find-most-current-information-about-fukushima-and-radiation-levels>

7. Arctic Lamprey declines and needed monitoring on the Yukon River

Residents of the lower Yukon River have observed declines in the number of Arctic Lamprey, locally referred to as eels, returning over the past few years. Eels are an important subsistence resource in the region. The Council is concerned that commercial harvest of eels has been allowed without adequate population assessments or understanding of the impacts of commercial harvest on the resource. We request to be briefed on any Arctic Lamprey monitoring efforts completed or underway and encourage the agencies represented on the Board to fund on-going monitoring and research of this species.

Response:

Thank you for sharing your knowledge of and concern for Yukon River eels. The Board understands eels are an important subsistence resource in the Yukon Region, especially when salmon populations are depressed, and harvest opportunities for fish are restricted. It is critical to understand eels to avoid overharvest and prevent conservation concerns. The Fisheries Research Monitoring Program is the primary tool that can be used by the Federal Subsistence Management Program to collect the information needed to effectively manage eel populations.

The mission of the Fisheries Research Monitoring Program is to identify and provide the information needed to sustain subsistence fisheries on Federal public lands. The Councils play an instrumental role in the Fisheries Research Monitoring Program by developing priority information needs, which determine the types of projects submitted for funding. While baseline information about lamprey populations, migration patterns, and harvest quantities were identified in 2020 as a Yukon River PIN, they were not in 2022. The Council will identify and approve priority information needs for the 2026 Fisheries Research Monitoring Program cycle during the fall 2024 meeting. This is the opportune time for your Council to highlight research gaps related to Yukon River eel populations. If the Council would like to add Yukon River eel/Arctic lamprey to the PINs, you can do that at you fall 2024 meeting.

Fisheries Research Monitoring Program project 20-202, entitled “Evaluating dart and telemetry tags in an effort to track run timing and migration patterns of Yukon River Arctic lamprey,” examined the effects of tagging on the physiology and survival of eels. Study results indicated t-bar anchor tags and internal radio transmitters can be used to monitor spawner abundance and migratory patterns in the Yukon River. Office of Subsistence Management will provide the Council with a copy of the final report.

The Board encourages the Council to work with your Council Coordinator to invite managers and researchers to present about eels at upcoming Council meetings. This will provide the Council an opportunity to share your knowledge, concerns, and research ideas with the presenters. The resulting informational exchange will benefit all involved parties and ultimately Yukon River eel populations.

8. Salmon fishing should be allowed in non-spawning streams of Yukon Region like it is in the Kuskokwim Region

The Council is concerned about a discrepancy in subsistence fishing regulations between the Kuskokwim River and the Yukon River. In the Kuskokwim River region, salmon fishing is allowed in non-spawning tributaries when subsistence salmon fishing is otherwise closed. Fishing in non-spawning tributaries provides a limited subsistence harvest opportunity that has become increasingly important in recent years of continued low returns and restricted fishing. The Council asks that the Board request USFWS to identify non-spawning streams in the coastal and lower Yukon River region and to evaluate opportunities for subsistence harvest in those systems. USFWS should utilize the expertise of Council members and other area residents to identify these streams. The Council would like to be briefed on this topic at an upcoming Council meeting.

Response:

The Board thanks you for raising this topic, and we recognize the incredible value of traditional knowledge and the importance of targeting nonsalmon species during salmon closures. The Board reached out to the U.S. Fish and Wildlife Service delegated Federal Fisheries Manager Holly Carroll to ask her to reply to this issue and she shared the following points for your consideration.

In the Yukon River drainage, particularly in the coastal area but throughout the lower river, as well, there are streams that have never been surveyed for the presence of salmon and therefore, have no data listed in the Anadromous Waters Catalog, or there only some salmon species have been documented. There is a huge lack of data, and the U.S. Fish and Wildlife Service and the Alaska Department of Fish and Game (Division of Subsistence) are seeking funding and setting aside funds to prioritize research in certain streams.

Alaska Department of Fish and Game Subsistence and Anadromous Waters Catalog team have requested Fisheries Resource Monitoring Program funding (which would begin 2024) to assess the Kun and Kashunuk rivers on the coast. This will draw on traditional knowledge as well as surveys. A similar project has already been funded through the Fisheries Resource Monitoring Program, which seeks to catalog salmon in the Pastolik and Pastoliak coastal rivers near Kotlik. These projects seek to help fill data gaps.

Federal and State fisheries managers receive multiple requests to increase large mesh access in many streams. Residents often inform the team which species they typically harvest in the streams and if salmon are present there. In some of the streams where these requests occur, spawning may not be documented by biologists, but local knowledge of salmon presence exists. Sometimes salmon are present in these streams because they enter and exit them with the changing tides. Runs have been critically low on the Yukon River and there hasn't been a harvestable surplus for Chinook, summer Chum, and fall Chum salmon. Therefore, no salmon can be harvested, even those that are pooling into streams and heading back out to the Yukon River. Once there is a harvestable surplus available for these species, these restrictions may no longer be necessary.

While traditional knowledge may show that one stream in an area does not typically have salmon, if the next one over does, managers do not have a fair way to apply blanket restrictions or fishing regulations throughout the drainage that will not inadvertently allow harvest of salmon in areas where they are spawning or congregating but are not well understood.

Federal and State managers are trying to strike a balance between being able to allow the four-inch gear liberally throughout the drainage, knowing that, while it may not be ideal for the largest Broad Whitefish or Sheefish, it should be effective at harvesting most non-salmon but not harvesting salmon at the same time.

While the gillnet restrictions to four-inch are in place during the salmon fishing season, in the coast and lower river, these gillnet restrictions are not in place after the fall Chum Salmon run passes through in October, so fishing with large mesh is still possible in fall and under the ice. It is also still possible to catch many of these species with hook and line, and other non-salmon gear.

9. Increase in bears raiding fish camps in the Kuskokwim Region

The Council wants to inform the Board of the recent increase in the number of problem bears in the Kuskokwim region. An increased number of bears have been raiding fish camps and cabins and causing destruction to personal property and subsistence infrastructure. Residents speculate the cause for the increase in problem bears may be two-fold. First, there are less bear hunters than there were in the past. Second, declines in salmon have led to less available food for the bears in the headwaters, causing them to move around more and seek food elsewhere.

Response:

Thank you for bringing this issue to the Board's attention. We recognize that you are uniquely positioned to offer first alerts to changing conditions and important trends that impact subsistence in your region. The Board appreciates and values the traditional knowledge, observations, and expertise you share and will direct staff to track this issue. With this information, the Board is better prepared to make informed decisions.

As a reminder, bear hunting opportunities are available in Unit 18 and the hunts are administered by the Alaska Department of Fish and Game. Current regulations allow for up to three Black Bear annually with no closed season and one Brown/Grizzly Bear between September 1-June 30. Bears may also be taken in defense of life and property, but these kills require filing a written report (see https://www.adfg.alaska.gov/static/license/otherlicense/pdfs/defense_life_property_game_animal_kill_report.pdf) and salvage of the skull and hide with the claws still attached, which are turned into the Alaska Department of Fish and Game.

10. Increased harvest pressure on whitefish during times of salmon conservation and concerns about four-inch mesh size impacts

The Council is concerned about the increased harvest pressure on whitefish and other non-salmon species during salmon fishing restrictions and closures. Subsistence users are seeing lower numbers of many non-salmon fish. Additionally, we are concerned about the impacts that 4-inch mesh gillnets are having on whitefish and Sheefish. The Council does not want the populations of these other species to decline like salmon populations and requests the Board to urge USFWS to develop on-going assessment projects for non-salmon populations like they have for salmon.

Response:

The Board appreciates the Council raising the issue of harvest pressure on Whitefish and other non-salmon species during salmon fishing restrictions and closures. The local and traditional knowledge that the subsistence users bring to the Board through their annual reports helps to document long-term subsistence resource trends in the Yukon Delta Region. The Board encourages the Council to continue to share this local knowledge with the resource managers and others working in the region. The Fisheries Resources Monitoring Program funds assessment projects for non-salmon populations. One of these projects in the Kuskokwim River is described below and in an enclosure to this reply (see Topic 10 enclosure). In the annual review of the priority information needs, the Board recommends the Council utilize the issues raised in the annual reports, such as this one, to continue to refine their priorities in the effort to interest researchers to submit proposals.

The U.S. Fish and Wildlife Service is currently in year two of a four-year Fisheries Resources Monitoring Program project titled Kuskokwim River Broad Whitefish Subsistence Harvest and Spawning Abundance (Project Number 22-301). The project is a partnership between the U.S. Fish and Wildlife Service, Kenai Fish and Wildlife Conservation Office, Yukon Delta National Wildlife Refuge, Native Village of Napaimute, and Orutsararmiut Native Council. Occurring out of McGrath, the project tags whitefish to understand distribution and would greatly appreciate the Council members report marked Broad Whitefish as part of that project. Fish have Floy tags, and recapture is based on fishermen reporting the tagged fish they harvest. Results will provide insight into the questions the Council is asking.

Any additional assessment projects, such as the Whitefish Lake weir that operated 20 years ago, should undergo further discussion to determine value and overall need. The U.S. Fish and Wildlife Service is open to discussions with the Council and other entities in the region about monitoring other species of whitefish, in addition to Broad Whitefish.

11. Increasing Northern Pike and declining trout near Quinhagak

The Council wants to inform the Board of increasing numbers of Northern Pike near Quinhagak in lakes and in the Kanektok River. These predatory fish are decimating the local trout

population. The Council would like to receive information on what is being done to control Pike in other areas of the State where this is also an issue and learn more about what actions might be taken in our region to control Pike numbers.

Response:

Thank you for sharing your concerns regarding increasing numbers of Northern Pike occurring near Quinhagak in lakes and in the Kanektok River. Northern Pike (*Esox lucius*) is native in all areas of Alaska north and west of the Alaska Range and there is one isolated genetically remnant population near Yakutat, Alaska (Morrow 1980, Mecklenburg et al. 2002, Jalbert 2018)¹¹. Within this broad geographic native range there are no control measures in place for limiting or reducing Northern Pike populations other than by Federal subsistence, State subsistence, and State sport fishing harvest activities. No targeted eradication effort exists for reducing Northern Pike within their natural range in Alaska, which includes the waters near Quinhagak. In areas outside of their natural range in Alaska, Northern Pike are considered an invasive species and the target of management strategies that include prevention, early detection, rapid response, eradication, containment, population suppression, and population monitoring and research efforts (Dunker et al 2022)¹².

The Board supports harvest of Northern Pike through Federal subsistence, State subsistence, and State sport fisheries to control local populations of Northern Pike. There is no annual harvest limit or closed season for Northern Pike in Federal public waters of Alaska, including waters within or adjacent to the Togiak and Yukon Delta National Wildlife Refuges in the Kuskokwim Area. Additionally, the Alaska Department of Fish and Game sport fish regulations for the Kuskokwim-Goodnews Area permit the harvest of up to 10 Northern Pike per day, per person, with 10 in possession and no size limits.

12. Regional Advisory Council member compensation

The Council requests the compensation policy for Subsistence Regional Advisory Council members be reviewed and revised. Currently, Council members receive no compensation for the time they spend attending Council meetings or the expertise they provide to the Federal Subsistence Management Program. The Federal Advisory Committee Act (FACA) states that agency heads may establish rates of compensation for council members and that pay may be on an hourly or daily rate basis (see Enclosed). The Council is writing a separate letter to the Board on this issue asking the Board to forward this request to the Secretary of the Interior.

¹¹ Morrow, J., E. 1980. The Freshwater Fishes of Alaska. Northwest Publishing Company, Anchorage, AK, USA. Mecklenburg, C. W., T. A. Mecklenburg, and L. K. Thorsteinson. 2002. Fishes of Alaska. American Fisheries Society, Bethesda, MD, USA. Jalbert, C. 2018. Impacts of a top predator (*Esox lucius*) on salmonids in Southcentral Alaska: genetics, connectivity, and vulnerability. University of Alaska Fairbanks, Fairbanks, AK, USA. ¹² Dunker, K. J., P. Bradley, C. Brandt, T. Cabbage, T. Davis, J. Erickson, J. Jablonski, C. Jacobson, D. Kornblut, A. Martin, M. Massengill, T. McKinley, S. Oslund, O. Russ, D. Rutz, A. Sepulveda, N. Swenson, P. Westley, B. Wishnek, A. Wizik, M. Wooller. 2022. Technical Guidance and Management Plan for Invasive Northern Pike in Southcentral Alaska: 2022-2030. Alaska Invasive Species Partnership, Anchorage, AK, USA. 233p.

The local and indigenous knowledge provided by Council members is fundamental to the Program. The Federal Subsistence Board relies on this knowledge to make informed decisions about resource management issues across Alaska. Federal staff are paid for attending Council meetings, but Council members are not compensated in the same manner despite their unique qualifications.

Council members must sacrifice time away from their families and jobs to participate in meetings, whether in-person or virtually. This often results in loss of income. Many Subsistence Regional Advisory Councils are struggling to recruit applicants to serve on Councils. This is not because rural Alaskans do not care about subsistence issues or lack the desire to share their expertise; it is because many rural Alaskans cannot afford to take a loss by donating their time to attend meetings.

Compensation of local and indigenous knowledge holders through stipends or honoraria is a common best practice carried out in academic, non-governmental, and Tribal organization arenas. The Council respectfully asks that the Federal Government similarly value the expertise provided by Council members to the Federal Subsistence Management Program by paying a fair, daily rate of compensation to Council members when attending Council meetings or other meetings as Council representatives.

Response:

The Service as well as the Board recognize and value the dedication and expertise of the Regional Advisory Council members throughout the State of Alaska and have made requests to the Secretary of the Interior to compensate Council members. In the past, the Secretary's response to this request has consistently referred to the Department of the Interior's long-standing policy on compensation of its committee members, which is that members of the Department's more than 100 advisory committees nationwide are volunteers, not Federal employees, and therefore do not receive any compensation for their service. The Board has received the letter from the Council and per your request will forward it to the to the current Secretary of the Interior.

13. Unit 18 Mainland Muskoxen

The Council wants to make the Board aware that muskoxen have migrated from the Nelson Island and Nunivak Island herds to various parts of the Unit 18 mainland over the past twenty years. Local residents have observed muskoxen in various parts of the region and report that they are increasing in numbers and expanding their range. The Council has submitted two Federal wildlife proposals seeking to recognize the customary and traditional use of Unit 18 mainland muskox and to open a Federal subsistence hunt for muskox in the mainland portion of the Unit. Muskox were re-introduced to Alaska with the intention that one day the population would grow enough that they could be hunted and provide food for subsistence. Residents of Unit 18 desire the opportunity to harvest muskox for subsistence whenever a harvestable surplus is identified and believe the additional opportunity could help alleviate food security concerns.

The Council requests that the Board encourage the U.S. Fish and Wildlife Service to work with the Alaska Department of Fish and Game to determine the harvestable surplus of muskoxen for the various mainland herds in Unit 18.

Response:

The Board acknowledges the migration of muskoxen from Nelson Island and Nunivak Island to the Unit 18 mainland. Two proposals are currently going through the analysis process regarding these muskoxen. The U.S. Fish and Wildlife Service and the Alaska Department of Fish and Game reviewed the analyses and provided comments. The Office of Subsistence Management has contacted both agencies to determine if there is harvestable surplus of muskox in Unit 18 as part of the analysis process. The Council will consider these proposals at their fall 2023 meeting, and the Board will make a final decision at its regulatory meeting in April 2024. We understand the importance of additional subsistence opportunities for federally qualified subsistence users and food security concerns.

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 federally qualified subsistence users of the Yukon-Kuskokwim Delta Region are well represented through your work.

Sincerely,



Anthony Christianson
Chair

cc: Yukon-Kuskokwim Delta Subsistence Regional Advisory Council
Federal Subsistence Board
Office of Subsistence Management
Interagency Staff Committee
Benjamin Mulligan, Deputy Commissioner, Alaska Department of Fish and Game
Mark Burch, Special Project Coordinator, Alaska Department of Fish and Game
Administrative Record

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PROPOSAL 136

5 AAC 09.365. South Unimak and Shumagin Islands June Salmon Management Plan.

Amend the *South Unimak and Shumagin Islands June Salmon Management Plan* to implement a chum salmon harvest cap to reduce commercial fishing time, as follows:

ONC proposes that the Board of Fisheries amend the South Unimak and Shumagin Islands June Salmon Management Plan, 5 AAC 09.365, to incorporate a harvest cap during the June fisheries using all gear types. More specifically, set a cap of 280,000 chum salmon and close the commercial fishery for the remainder of June once that cap is met. This request is consistent with historical records, where concerns over large commercial harvests of chum together with weak Yukon River fall chum runs, resulted in a cap limit that, if met, closed the fishery for the remainder of June.

Alaska Peninsula is one of six Fisheries on the migratory path of Coastal Western Alaska (CWA) chum salmon - Alaska Peninsula, Bristol Bay, AK Peninsula, Bristol Bay, Kuskokwim, Yukon, Norton Sound and Arctic. Therefore, based on preliminary estimates for CWA chum from 2021, the South Unimak and Shumagin Islands June should account for approximately one 6th of the chum salmon for the season. Currently, the management plan does not identify any harvest limits for chum salmon. Establishing a cap would ensure that migrating chum reach their spawning grounds to the Arctic-Yukon-Kuskokwim region, as well as Bristol Bay, Alaska Peninsula, Southcentral Alaska, Japan, and Russia. ONC understands that while the request may present difficulties to commercial fishermen in the South Alaska Peninsula Management Area, we all, across user groups and Management Regions, have the shared interest and responsibility to protect the CWA chum salmon stock. When chum salmon are abundant, we all thrive; in times of hardships, we all must work together and share the burden of conservation to ensure abundant populations in the future.

ONC suggests incorporating the chum salmon harvest cap into a new section between (d) and (e). The South Unimak and Shumagin Islands commercial fisheries are limited to harvesting 280,000 chum salmon during the month of June using all gear types. If reached, it would result in a closure of the fishery for the remainder of June.

Regulation of 5 AAC 09.365 South Unimak and Shumagin Islands June Salmon Management Plan:

“(a) The South Unimak and Shumagin Islands June fisheries harvest both sockeye salmon and chum salmon in a mixed stock fishery during the month of June. The sockeye salmon are predominantly Bristol Bay and Alaska Peninsula origin. The chum salmon are bound for a number of areas, including Japan, Russia, the Arctic-Yukon-Kuskokwim, Bristol Bay, the Alaska Peninsula, and southcentral Alaska. These salmon stocks have historically been harvested along the south Alaska Peninsula during the month of June. This management plan is intended to be consistent with the Policy for the Management of Sustainable Salmon Fisheries (5 AAC 39.222) and the Policy for the Management of Mixed Stock Salmon Fisheries (5 AAC 39.220).

(b) The South Unimak fishery takes place in the Unimak District, the Southwestern District, the East Pavlof Bay and the West Pavlof Bay Sections of the South Central District,

and the Bechevin Bay Section of the Northwestern District.

(c) The Shumagin Islands fishery takes place in the Shumagin Islands Section.

(d) In the South Unimak and Shumagin Islands fisheries, the commissioner may establish, by emergency order, commercial fishing periods as follows:

(1) for set gillnet gear,

(A) beginning June 6, commercial fishing periods will begin at 6:00 a.m.

and run 64 hours until 10:00 p.m. two days later; beginning June 10, commercial fishing periods will begin at 6:00 a.m. and run 88 hours until 10:00 p.m. three days later; commercial fishing will then close for 32 hours and reopen at 6:00 a.m. two days later;

(B) notwithstanding (A) of this paragraph, the final commercial fishing period will end at 10:00 p.m. on June 28;

(2) for seine and drift gillnet gear,

(A) beginning June 10, commercial fishing periods will begin at 6:00

a.m. and run 88 hours until 10:00 p.m. three days later; commercial fishing will then close for 32 hours and reopen at 6:00 a.m. two days later;

(B) notwithstanding (A) of this paragraph, the final commercial fishing period will end at 10:00 p.m. on June 28.

(e) Commercial harvest of chum salmon will not exceed 280,000 fish to ensure that migrating chum reach their spawning grounds to the Arctic-Yukon-Kuskokwim region, as well as Bristol Bay, Alaska Peninsula, Southcentral Alaska, Japan, and Russia. Therefore, the fishing periods, as specified in (b) of this section, may not be fulfilled once this limit is met.

(f) [(e)]All salmon caught by a CFEC permit holder must be retained, and each CFEC permit holder must report the number of salmon caught, including those taken but not sold, on an ADF&G fish ticket. For the purposes of this subsection, "caught" means brought on board the vessel.

(g) [(f)] Notwithstanding (d) of this section, commercial salmon fishing will close in the waters of the Volcano Bay Section of the Southwestern District south and east of a line from Arch Point Light at 55_ 12.30' N. lat., 161_ 54.30' W. long. to a point on Belkofski Peninsula at 55_ 09.50' N. lat., 161_ 57.80' W. long. and in the portion of the West Pavlof Bay Section south of Black Point (55_ 24.48' N. lat.), if the harvest of sockeye salmon from the South Central District, the Volcano Bay Section of the Southwestern District, and the Belkofski Bay Section, excluding those waters inside of a line between Vodapoini Point and Bold Cape, reaches 191,000 sockeye salmon based on fish ticket information.

(h) [(g)] Notwithstanding (d) of this section, commercial salmon fishing is closed to purse seine gear in the waters of the Volcano Bay Section of the Southwestern District, the Belkofski Bay Section of the Southwestern District, excluding those waters inside of a line between Vodapoini Point at 55_ 01.88' N. lat., 162_ 24.80' W. long., and Bold Cape at 55_ 01.24' N. lat., 162_ 16.40' W. long., and the South Central District."

What is the issue you would like the board to address and why? The Orutsararmiut Native Council (ONC) is the federally recognized Tribe for the Native Village of Bethel, Alaska. Bethel is located along the delta of the Kuskokwim River, approximately 90 miles inland from the Bering Sea and approximately 398 miles northwest of Anchorage. ONC serves approximately 4,500 Alaska Native residents from all villages throughout Yukon-Kuskokwim (YK) Delta, over 3,800 of which are enrolled as Tribal members.

ONC would like to address the South Unimak and Shumagin Islands June Salmon Management Plan, 5 AAC 09.365. More specifically, we would like to establish a chum salmon (*Oncorhynchus keta*) commercial harvest cap of 280,000 for all gear types during the South Unimak and Shumagin Islands June fisheries.

The Alaska Peninsula consists of a mixed stock fishery during the month of June, where chum salmon populations are bound for a number of areas, including the Arctic-Yukon-Kuskokwim (AYK) region. ONC, and many subsistence users across the YK Delta, have concerns on the extreme disparity in harvest between the Alaska Peninsula commercial and Kuskokwim and Yukon River subsistence fisheries. This commercial fishery harvested approximately 1,168,601 chum in 2021¹, while subsistence users on the Kuskokwim and Yukon Rivers harvested approximately 9,621² and 1,253³ chum salmon, respectively. Tribes along the YK Delta are experiencing food security hardships and loss of culture when not allowed to fish, while the South Unimak and Shumagin Islands are harvesting an abundant amount of chum salmon for commercial uses. The stark contrast between the chum salmon commercial harvests on the South Unimak and Shumagin Islands June Salmon Commercial Fishery and subsistence harvests on the Kuskokwim is a direct result of the lack of harvest limits for chum salmon.

References:

- ¹Regional Report No. 4K22-01 - 2021 South Peninsula Salmon Annual Management Report and 2020 Subsistence Fisheries in the Alaska Peninsula, Aleutian Islands, and Atka-Amlia Islands Management Areas
- ²Alaska Department of Fish & Game (ADF&G) Draft Preliminary Kuskokwim River Salmon Harvest Estimates 2021 Postseason Surveys
- ³Yukon River Salmon 2021 Season Summary and 2022 Season Outlook, Regional Information Report 3A22-01 ADF&G

PROPOSED BY: Orutsararmiut Traditional Native Council (HQ-F22-018)

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Submitted by Board Member Jensen, prepared by the Alaska Department of Fish and Game¹.

February 26, 2023

Substitute language for proposal 136.

Explanation:

- 1) For purse seine gear only, establishes a 76-hour closure between the first and second fishing periods in June, reduces duration of the first fishing period in June from 88 hours to 68 hours, and duration of the second fishing period in June from 88 hours to 66 hours. The third and fourth fishing periods in June will be 88 hours in duration.
- 2) Fishing periods and closures for set and drift gillnet gear are unchanged from the current management plan.
- 3) Chum salmon harvest triggers are established for purse seine gear in June. Harvest from purse seine, set gillnet, and drift gillnet gear accrues against the triggers.
- 4) Closes Sanak Island Section of the South Unimak District, during June for all gear types.

5 AAC 09.365. South Unimak and Shumagin Islands June Salmon Management Plan is amended to read:

...

(2) for seine and DRIFT GILLNET] gear,

[(A)] beginning June 10, **the first** commercial fishing period[S] will begin at 6:00 a.m. and run **68** [88] hours, **closing at 2:00 a.m.** [UNTIL 10:00 P.M. THREE DAYS LATER]; **the second** commercial fishing **period** will **begin 76 hours later at 6:00 a.m. and close after 66 hours at 11:59 p.m.; the third commercial fishing period will begin 32 hours later at 8:00 a.m. and close after 88 hours at 11:59 p.m.; the final commercial fishing period in June will begin 32 hours later at 8:00 a.m. and close after 88 hours at 11:59 p.m.;** THEN CLOSE FOR 32 HOURS AND REOPEN AT 6:00 A.M. TWO DAYS LATER;

(B) NOTWITHSTANDING (A) OF THIS PARAGRAPH, THE FINAL COMMERCIAL FISHING PERIOD WILL END AT 10:00 P.M. ON JUNE 28]

...

(h) If chum salmon harvest equals or exceeds 300,000 fish by June 18, based on fish ticket information, the commissioner shall reduce commercial fishing time in the South Unimak and Shumagin Islands by 44 hours during each of the remaining fishing periods in June for purse seine gear.

If chum salmon harvest equals or exceeds 450,000 fish by June 23, based on fish ticket information, the commissioner shall close the South Unimak and Shumagin Islands June commercial salmon fishery for the remainder of June for purse seine gear.

5 AAC 09.330. Gear

(c) In the Unimak District, salmon may be taken with drift gillnets, set gillnets, purse seines, and hand purse seines, **except the Sanak Island Section of the Unimak District will remain closed to commercial salmon fishing for all gear types from June 1 through June 30.** Salmon may be taken by gillnet gear during periods when the seine fishery is closed by emergency order due to the presence of immature salmon.

ⁱ Preparation of draft substitute language at the request of a Board member does not imply ADF&G support. The Department will state its position on the language during deliberation.

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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

SEPT 30 2022

In Reply Refer To
OSM 22110.RL

Honorable Thomas J. Vilsack
Secretary of Agriculture
U.S. Department of Agriculture
Office of the Secretary
1400 Independence Avenue, Southwest
Washington, DC 20250

Honorable Debra Haaland
Secretary of the Interior
U.S. Department of the Interior
Office of the Secretary
1849 C Street, Northwest
Washington, DC 20240

Dear Secretaries Vilsack and Haaland:

The Federal Subsistence Board (Board) is writing to inform you of concerns about the well-being of the residents of a large number of rural communities in western Alaska. These concerns have been raised by four of the ten Federal Subsistence Regional Advisory Councils (Councils). They are the Eastern Interior, Western Interior, Yukon-Kuskokwim Delta, and the Seward Peninsula Subsistence Regional Advisory Councils, and combined they represent an area slightly larger than Texas.

During their winter 2022 meetings, these four Councils elected to write a joint letter to the North Pacific Fishery Management Council (NPFMC) to request significant reductions in Chinook and chum salmon bycatch in the Bering Sea Aleutian Islands (BSAI) commercial fishery and to request subsistence or Tribal representation on the NPFMC. The Councils contacted this Board requesting these issues be elevated to the Secretaries. In addition, they are asking for the National Marine Fisheries Service (NMFS) to use emergency rule authority to reduce or set hard caps on salmon bycatch in the BSAI offshore pollock pelagic trawl fishery. A copy of the Councils' letter to the Board is enclosed for your reference.

The ability to act on this issue is beyond the scope and authority granted to the Board. Our role is one of reporting and facilitating communications, in this case, informing you of the concerns and issues raised by our Councils. The Board has previously addressed the issue of by-catch and the need for subsistence users to have representation on the NPFMC with the Departments.

In summary, the Councils' issues and requested actions to the NPFMC and the Board are:

- Immediately reduce the BSAI Chinook salmon bycatch to no more than 16,000 fish and further reduce to a maximum of 10,000 fish within one year

Western Interior Alaska Regional Advisory Council

2

- Immediately implement a chum salmon bycatch hard cap of 250,000 fish and further reduce to 150,000 fish within one year
- Require 24/7 video monitoring coverage on all trawl fishing vessels
- Add two subsistence or tribal representative seats to the NPFMC. Require that these representatives have no direct economic ties to Alaskan Commercial Development Quota fisheries

The Councils requested the Board to address the following:

- Elevate the concerns expressed in the joint Councils letter to the NPFMC to the Secretaries of the Departments of Agriculture, Interior, and Commerce
- Petition NMFS to use emergency rule authority to reduce or set hard caps on salmon bycatch in the BSAI fisheries

Pursuant to Title VIII of the Alaska National Interest Land Conservation Act, the Board is mandated to accord a priority for rural Alaskans engaging in subsistence uses on public lands. Due to record-low salmon returns and the need to protect the continued viability of wild salmon populations on the Yukon and Kuskokwim rivers, the subsistence harvest of salmon has been severely curtailed over the last several years. This has caused severe hardship on rural subsistence users who have a customary and direct dependence upon the salmon populations as the mainstay of their livelihood. Many Alaskans, including the Councils, have opined that it is inequitable for commercial fishers in marine waters to harvest salmon bound for Arctic Yukon Kuskokwim drainages when subsistence fishing in those river systems by those who need it most is completely or severely restricted. Accordingly, the Board respectfully requests for you to liaise with the Department of Commerce to explore engagement and relationship building between our agencies with the goal of addressing salmon migratory life cycles and bycatch holistically. In addition, the Board plans to invite NPFMC members and staff to its next meeting in January 2023 to discuss this issue.

We thank you for your consideration of this important issue and look forward to hearing from you. This is a matter of utmost importance to the many Alaskans who depend on Chinook and chum salmon for their health, well-being, and cultural existence.

Sincerely,



Anthony Christianson
Chair

Enclosure

Sue Detwiler, Assistant Regional Director, Office of Subsistence Management
Jack Reakoff, Chair, Western Interior Alaska Subsistence Regional Advisory Council
Ray Oney, Chair, Yukon Kuskokwim Delta Subsistence Regional Advisory Council
Sue Entsminger, Chair, Eastern Interior Alaska Subsistence Regional
Louis Green, Chair, Seward Peninsula Subsistence Regional Advisory Council
Interagency Staff Committee
Administrative Record



REWARD FOR WHITEFISH TAGS

Kuskokwim River and Tributaries



To address the concerns of subsistence fishers catching fewer Broad Whitefish, and collect baseline information on the species, the Orutsararmiut Native Council, Native Village of Napaimute, and U. S. Fish and Wildlife Service are starting a four-year mark/recapture project to estimate the population of Broad Whitefish spawning in the Kuskokwim River near McGrath, Alaska. Additionally, we are asking for your help. If you catch a whitefish with a tag, we would be grateful if you could let us know the tag number. Each reported tag will be entered into a monthly drawing for a for gas card and be eligible for an annual Grand Prize.

To report tag number please call USFWS at 1-800-822-6550

Or ONC at (907)543-0522

If possible, please return tags to; FWS, ONC, NVN



U.S. Fish and Wildlife Service
Bureau of Land Management
National Park Service
Bureau of Indian Affairs

Federal Subsistence Board News Release



Forest Service

For Immediate Release:

April 21, 2023

Contact: Robbin La Vine

(907) 786-3353 or (800) 478-1456

robbin_lavine@fws.gov

The Federal Subsistence Board Adopts Temporary Special Action FSA23-01

The Federal Subsistence Board (Board) met by teleconference (open to the public) on April 19, 2023 and adopted Fisheries Temporary Special Action FSA23-01 for conservation purposes. Specifically, the Board closed Federal public waters of the Kanektok River to the harvest of Chum Salmon by non-federally qualified users during June, 2023 and June, 2024.

The Board addressed the low abundance for Chum Salmon stocks across western Alaska that have led to other closures, concerns raised by local users about Kanektok River stocks, and the lack of monitoring in the system as justification for their action. The Board also acknowledged statewide Chinook Salmon conservation concerns and encouraged further monitoring and research to ensure healthy returns of Kanektok River salmon.

Additional information on the Federal Subsistence Management Program may be found on the web at www.doi.gov/subsistence or by visiting www.facebook.com/subsistencealaska.

Missing out on the latest Federal subsistence issues? If you'd like to receive emails and notifications on the Federal Subsistence Management Program, you may subscribe for regular updates by emailing fws-fsb-subsistence-request@lists.fws.gov.

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Federal Subsistence Board News Release



Forest Service

For Immediate Release:
May 25, 2023

Contact: Holly Carroll
(907) 351-3029
holly_carroll@fws.gov

2023 Federal Subsistence fishery management strategy for the Yukon Area

The Office of Subsistence Management (OSM) received special action request FSA23-02 asking the Federal Subsistence Board (Board) to close Federal public waters of the Yukon River drainage to the harvest of Chinook, Chum and Coho salmon except by federally qualified subsistence users from June 1 through September 30, 2023, and to require that Federal subsistence fishing schedules, openings, closures and methods be determined by the Federal Fisheries Manager. This request falls within the scope of authority of the Federal manager, Holly Carroll and has been transferred to her by the Board.

After considering the request; the testimony at a public hearing; discussions at Tribal Consultations; public discussion at the preseason fishermen meeting; and after coordination with staff from OSM and the management team from the Alaska Department of Fish and Game (ADF&G), the Federal management strategy will be as follows:

- The 2023 run assessment, outlook and anticipated management strategies created jointly by U.S. Fish and Wildlife Service (USFWS) and ADF&G project poor returns for Chinook, summer and fall Chum salmon. Therefore, salmon fishing closures for these species are needed throughout the Yukon River Area to meet escapement goals. **Closures will begin next week** in the Coastal District and lower river and will be announced in upriver districts based on salmon migration timing, and/or assessment data.
- The numbers projected for Chinook and summer Chum are so poor that no salmon openings for federally qualified subsistence users are justified at this time.
- Salmon fishing closures will be announced starting with the Coastal District and the lower river by advisory announcements jointly written by the USFWS and ADF&G management team and distributed widely by email, Facebook, and fax as in previous seasons.
- While salmon fishing is closed, only non-salmon fishing opportunity will be allowed, and all gillnets will be limited to 4-inch or smaller mesh and 60 feet or less in length. There is not a conservation concern for non-salmon species, so fishing opportunities for non-salmon are not limited to federally qualified subsistence users.
- USFWS and ADF&G will review assessment data to determine if harvestable surplus becomes available inseason. **If subsistence salmon fishing opportunities are offered, the Federal manager will issue special actions to close Federal public waters to the harvest**

of salmon except by federally qualified subsistence users in order to provide a rural preference for federally qualified subsistence users and to continue subsistence uses of salmon in the Yukon Area. These special actions will be issued by the USFWS, separately from the ADF&G advisory announcements, and will include maps showing Federal public waters by district.

This management strategy is necessary because the 2023 Yukon River Chinook and summer Chum salmon runs are forecasted to be poor with little to no harvestable surplus available for subsistence uses. Actions implemented under this strategy will be based on the provisions of Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA) and delegation of authority letter from the Federal Subsistence Board. ANILCA allows for the closure to nonsubsistence uses “to assure the continued viability of a particular fish or wildlife population.”

For additional information concerning Yukon River Federal Special Actions contact Yukon River Federal Manager, Holly Carroll, at (907) 351-3029.

For information concerning State management actions, contact Yukon River Summer Season Manager, Deena Jallen, in Fairbanks at (907) 459-7274 or in Emmonak at (907) 949-1320.

Information about the Federal Subsistence Management Program may be found on the web at www.doi.gov/subsistence or by visiting www.facebook.com/subsistencealaska. Fishery special actions are posted here: [Fisheries Special Actions | U.S. Department of the Interior \(doi.gov\)](https://www.doi.gov/subsistence/fisheries-special-actions) (<https://www.doi.gov/subsistence/fisheries-special-actions>)

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Federal Subsistence Board News Release



U.S. Fish and Wildlife Service
Bureau of Land Management
National Park Service
Bureau of Indian Affairs

Forest Service

For Immediate Release:
June 12, 2023

Contact: Scott Ayers
(907) 744-3824 or (800) 478-1456
scott_ayers@fws.gov

Federal Subsistence Board Approves Administrative Action to Enact the Customary and Traditional Use Determinations for Coastal Yukon Communities Recognized in FP23-02

The Federal Subsistence Board (Board) approved Emergency Special Action FSA23-03 to temporarily enact the customary and traditional use determinations recognized in proposal FP23-02.

This special action request, which was submitted by the Office of Subsistence Management, asked the Board to temporarily enact the customary and traditional use determinations made by the Board during the Fisheries Regulatory Meeting in February 2023 prior to the publication of the final rule in the Federal Register. The action allows the communities of Scammon Bay, Hooper Bay, and Chevak to harvest salmon in the Yukon River drainage if a harvestable surplus is available and opportunity is provided by the Federal Manager.

This action by the Board is administrative in nature and is in accordance with their recent vote on proposal FP23-02. This action takes effect starting June 20, 2023, which is the approximate mid-point of the summer Chum Salmon run in the lower Yukon River and will expire after 60 days or upon publication of the final rule in the Federal Register, whichever is sooner.

Additional information on the Federal Subsistence Management Program may be found on the web at www.doi.gov/subsistence or by visiting www.facebook.com/subsistencealaska.

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Forest Service

Kuskokwim River Federal Waters Closed to Gill Nets for the Protection of Chinook, Chum, and Coho Salmon

TEMPORARY SPECIAL ACTION (*Revised*)

Under Authority of: 36 CFR 242.10 and .19
50 CFR 100.10 and .19

Temporary Special Action No: FSA-YD-23-01

Issued at: Bethel, Ak **May 18, 2023**

Effective Date: June 1, 2023, 12:01 AM

Expiration Date August 31, 2023, 11:59 PM or until superseded by special action

EXPLANATION:

The Yukon Delta National Wildlife Refuge (YDNWR) Manager determined that Federal management is necessary for the conservation and the continuation of subsistence uses for Chinook, Chum, and Coho Salmon within the Federal public waters of the Kuskokwim River drainage. This action is based on the provisions of Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA) and delegation of authority letter from the Federal Subsistence Board. The Federal Manager intends to use an adaptive management approach to manage the salmon fishery from June 1st to August 31st, 2023. As part of this approach the YDNWR will continue coordinating with the Kuskokwim River Inter-Tribal Fish Commission (KRITFC), the Alaska Department of Fish and Game (ADF&G), and other local partners.

REGULATION: 50 CFR 100.27(e)(4)(ii) is amended to read:

- (A) *Unless re-opened by the YDNWR Manager, the following Federal public waters of the Kuskokwim River within and adjacent to the exterior boundaries of the Yukon Delta National Wildlife Refuge are closed to the harvest of all salmon by using gillnets by all users from June 01, 2023 at 12:01 a.m. to August 31, 2023 at 11:59 p.m.:*
- (1) *The Kuskokwim River main stem within the boundaries of the Yukon Delta National Wildlife Refuge.*
 - (2) *Tributary Details: Additionally, unless re-opened by the YDNWR Manager, the following Federal public waters within and adjacent to the exterior boundaries of the Yukon Delta National Wildlife Refuge are closed to the harvest of Chinook, Chum, and Coho salmon and the use of all gillnets by all users effective June 01, 2023:*



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- *The Eek River.*
- *The Kwethluk River drainage beginning at its confluence with Kuskokuak Slough.*
- *The Kasigluk and Kisarialik river drainages including Old Kuskokuak Slough to ADF&G regulatory markers at the confluence of Old Kuskokuak Slough and Kuskokuak Slough.*
- *The Tuluksak River drainage including its confluence with the Kuskokwim River and downstream approximately 1-mile to ADF&G regulatory markers.*
- *The Aniak River drainage to ADF&G regulatory markers at its confluence with the Kuskokwim River.*
- *The Aniak box defined as: The waters of the Kuskokwim River main stem from the Yukon Delta NWR boundary at Aniak downstream to a line formed from the northwest corner of the runway (latitude 61° 35' 16" N, longitude 159° 33' 28" W), due north to a point on the southeast corner of the sandbar (latitude 61° 35' 37" N, longitude 159° 33' 16" W).*

Fishing from tributaries not listed above is restricted to fishing 100 yards upriver from the mouth of the river (confluence with the main stem Kuskokwim River).

- (3) *For non-Federally Qualified users: dip nets, beach seines, and rod and reel fishing for Sockeye Salmon and the retention of Sockeye Salmon is allowed within the main stem of the Kuskokwim River will remain open throughout the closure. Retention of Chinook, Chum, and Coho salmon is not allowed.*
- (4) *For Federally Qualified Subsistence users: dip nets, beach seines, fish wheels, and rod and reel will remain open throughout the closure and retention of all salmon is allowed within the main stem of the Kuskokwim River.*

JUSTIFICATION:

The closure of federal public waters to the harvest of salmon with gillnets beginning June 1 is based on conservation concerns throughout the Kuskokwim River drainage. The in-season manager may announce openings to subsistence uses when run strength and timing permit and, in a manner designed to balance long-term conservation of fisheries resources with the provision of possible opportunities for the continuation of subsistence uses.

The depressed run of Chinook Salmon in recent years has resulted in the failure to meet long-term historical Chinook Salmon harvest (67,200 – 109,800 for years 1990 – 2009) and restrictions are necessary to meet a 110,000 drainage-wide escapement goal.

The 2022 Chum Salmon run was the lowest ever recorded on the Kuskokwim. The



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preliminary escapement count of 13,471 Chum Salmon at the Kogruklu River weir was below the escapement goal range of 15,000 to 49,000 Chum Salmon for the second straight year. The Kwethluk River weir count of 2,368 Chum Salmon is the lowest count since the beginning of weir operations in 2000. Due to the uncertainty of returning 2023 Chum Salmon, restrictions are necessary to protect Chum Salmon populations within Kuskokwim River drainages.

The 2022 Coho Salmon run at Bethel Test Fishery was one of the lowest on record, second only to 2018 when monitoring operations ceased due to a shortened field season. Of the two tributaries with escapement goals within the Kuskokwim River drainage, the Kogruklu River weir was inoperable due to high water and the Kwethluk River weir had the second lowest Coho Salmon count ever recorded. Based on 2022 Coho Salmon numbers throughout the Kuskokwim River drainage, a conservative approach to Coho Salmon management is warranted.

Restricting the use of gillnets during June through August is intended to conserve Chinook, Chum, and Coho salmon. This will impact the harvest of other salmon species present due to overlapping run timing (e.g., Sockeye Salmon). Therefore, special consideration will be given to providing harvest opportunities that will target Sockeye Salmon while minimizing impacts to other salmon species.

On the main stem of the Kuskokwim River, alternative gear types including dip nets, beach seines, fish wheels, and rod and reel may be used by federally qualified subsistence users throughout gillnet closures (and remains open to Sockeye Salmon for all users). Qualified subsistence users may retain all salmon species using these methods, because harvest levels are not expected to negatively impact the salmon returns and will allow additional fishing opportunities.

A public hearing on the proposal to close the Kuskokwim River drainage to the harvest of Chinook, Chum, and Coho salmon was held on May 15, 2023. The majority of public comment was supportive of the temporary special action to close the Kuskokwim River drainage starting June 1st 2023. Public testimony shared at this meeting was considered when making the final determination to close Federal public waters of the Kuskokwim River to the harvest of salmon with gillnets effective June 1, 2023 through August 31, 2023.

Federal Subsistence Board by delegation to:

Boyd Blihovde
Kuskokwim River In-season Manager
Yukon Delta National Wildlife Refuge



U.S. Fish and Wildlife Service
Bureau of Land Management
National Park Service
Bureau of Indian Affairs

Federal Subsistence Board

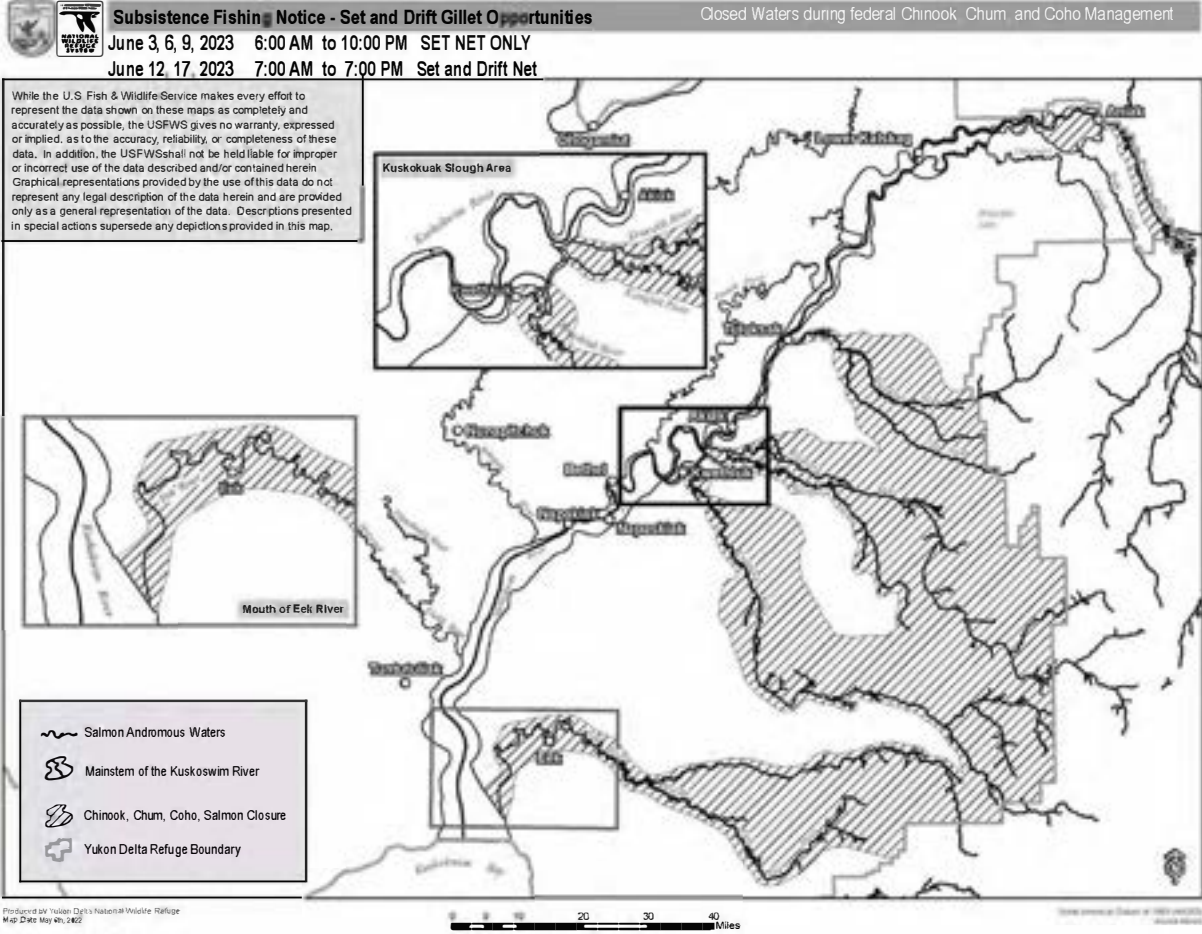
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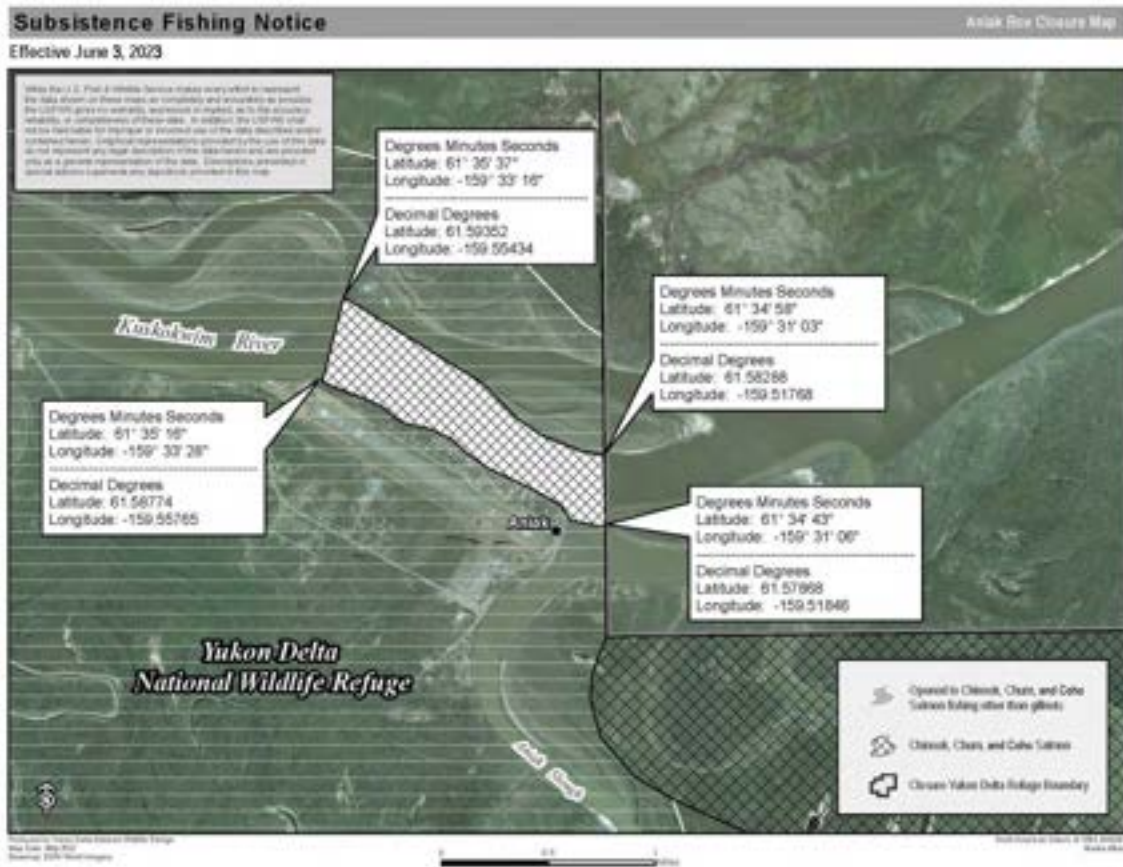


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DISTRIBUTION:

Anthony Christianson, Chair, Federal Subsistence Board
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Sara Boario, Regional Director, Alaska Region, U.S. Fish and Wildlife Service
Jill Klein, Interagency Staff Committee
Sue Detwiler, Office of Subsistence Management
Ben Mulligan, Deputy Commissioner, Alaska Department of Fish and Game
Mark Burch, Special Projects Coordinator, Alaska Department of Fish and Game
Nicholas Smith, Area Management Biologist, Alaska Department of Fish and Game





Presentation Procedure for Proposals and Closure Reviews

1. Introduction and Presentation of Draft Staff Analysis

2. Report on Board Consultations:

- a. Tribes
- b. ANCSA Corporations

3. Agency Comments:

- a. ADF&G
- b. Federal
- c. Tribal

4. Advisory Group Comments:

- a. Other Regional Advisory Council(s)
- b. Fish and Game Advisory Committees
- c. Subsistence Resource Commissions

5. Summary of Written Public Comments

6. Public Testimony

7. Regional Council Recommendation (motion to support)

8. Discussion/Justification

- Is the recommendation consistent with established fish or wildlife management principles?
- Is the recommendation supported by substantial evidence such as biological and traditional ecological knowledge?
- Will the recommendation be beneficial or detrimental to subsistence needs and uses?
- If a closure is involved, is closure necessary for conservation of healthy fish or wildlife populations, or is closure necessary to ensure continued subsistence uses?
- Discuss what other relevant factors are mentioned in OSM Draft Staff Analysis

9. Restate final motion for the record

10. Council's Vote

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WCR24-38 – Unit 18 (Kuskokwim River hunt area) closed to moose hunting except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag and Kalskag

WCR24-38 Executive Summary	
General Description	Wildlife Closure Review WCR24-38 reviews the closure to moose hunting in a portion of Unit 18, except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Kalskag.
Current Regulation	<p style="text-align: center;">Unit 18 – Moose</p> <p><i>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 during the fall season</i></p> <p style="text-align: center;"><i>Or</i></p> <p><i>1 antlered bull by Federal registration permit during a may-be-announced winter season</i></p> <p style="text-align: right;"><i>Sept. 1- Oct. 15.</i></p> <p style="text-align: right;"><i>May be announce d between Dec. 1- Jan. 31.</i></p> <p><i>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.</i></p>

WCR24-38 – Unit 18 (Kuskokwim River hunt area) closed to moose hunting except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag and Kalskag

OSM Preliminary Conclusion	Retain the Status Quo
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

WCR24-38 – Unit 18 (Kuskokwim River hunt area) closed to moose hunting except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag and Kalskag

**FEDERAL WILDLIFE CLOSURE REVIEW
WCR24-38**

Issue: Wildlife Closure Review WCR24-38 reviews the closure to moose hunting in a portion of Unit 18, except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Kalskag.

Closure Location and Species: 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 (Unit 18, Kuskokwim)—Moose (**Figure 1**).

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 (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 drainage¹ - 1 antlered bull by State registration permit during the fall season

Sept. 1-Oct. 15.

Or

1 antlered bull by Federal registration permit during a may-be-announced winter season

May be announced between 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.

¹Referred to as the Kuskokwim hunt area throughout the analysis.

Closure Dates: Year-round

WCR24-38 – Unit 18 (Kuskokwim River hunt area) closed to moose hunting except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag and Kalskag

Current State Regulation

Unit 18 – Moose

Residents: Zone 1¹ – One bull excluding male calves, by permit, RM615 Sept. 1-Sept. 9²
available in person in Bethel and villages within the hunt area Aug
1-25 and online at [http:// hunt.alaska.gov](http://hunt.alaska.gov) Aug 1-Oct 1

Residents: Zone 2³— One bull excluding male calves, by permit, RM615 Sept. 1-Oct. 15
available in person in Bethel and villages within the hunt area Aug
1-25 and online at [http:// hunt.alaska.gov](http://hunt.alaska.gov) Aug 1-Oct 15

Non-residents: Unit 18 no open season

¹Zone 1 descriptor: Unit 18, all Kuskokwim River drainages north and west 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 Kisaralik 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' 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 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 (**Figure 1**).

²full season is Sept. 1-Oct. 15, but ADF&G uses discretionary authority to set dates in Zone 1 each year

³Zone 2 descriptor: 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' W (**Figure 1**).

Regulatory Year Initiated: 1991, closed to non-federally qualified users; 2004-2009, closed to all users (harvest moratorium); 2010, closed except by some federally qualified subsistence users (§804 restriction).

WCR24-38 – Unit 18 (Kuskokwim River hunt area) closed to moose hunting except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautluak, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag and Kalskag

Extent of Federal Public Lands/Waters

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

The Unit 18 Kuskokwim moose hunt area is comprised of 57% Federal public lands and consists of 56% USFWS managed lands and 1% BLM managed lands (**Figure 1**). Zone 2 within the Kuskokwim moose hunt area is comprised of 82% Federal public lands and consists of 79% USFWS managed lands and 3% BLM managed lands (**Figure 1**).

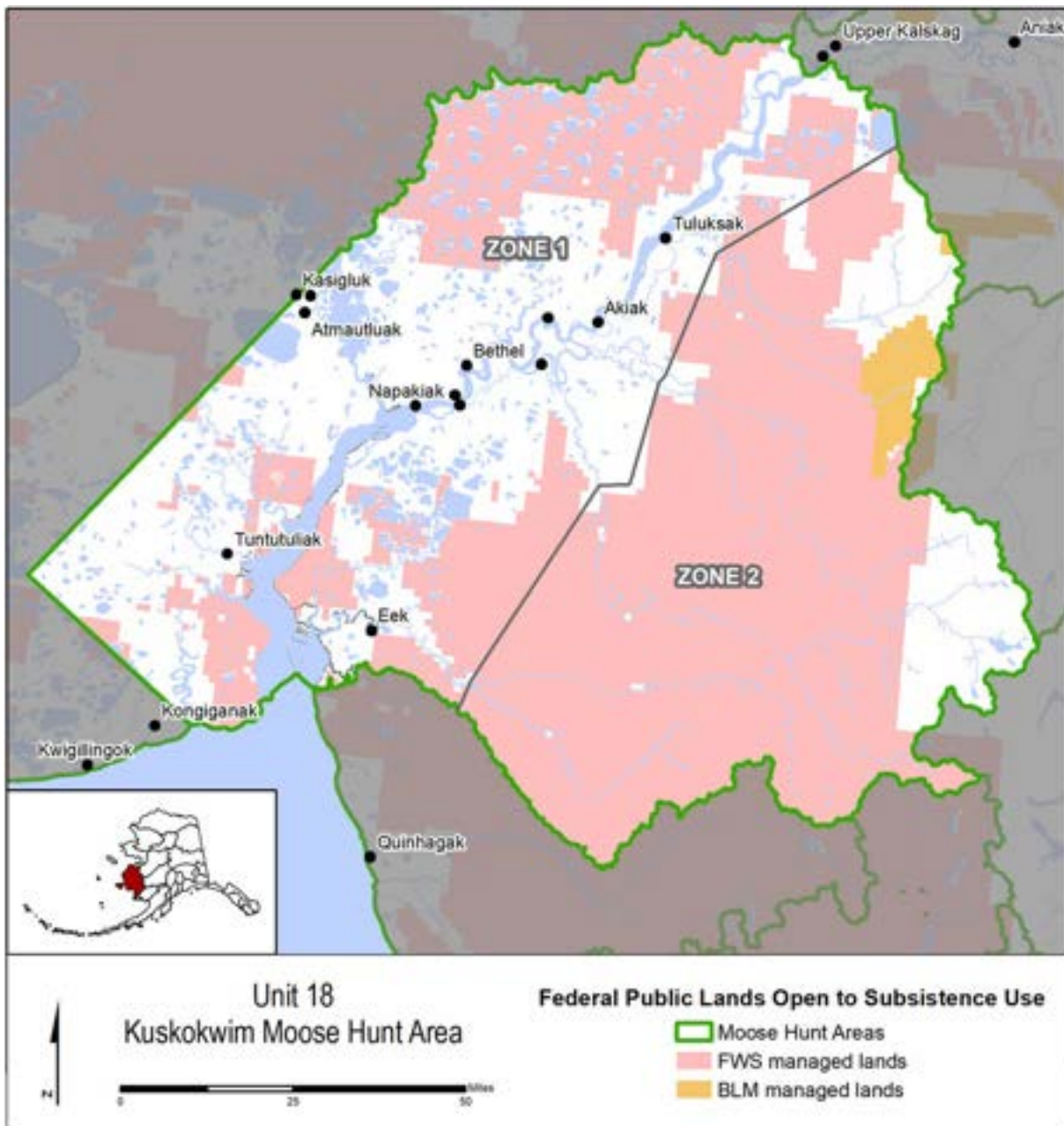


Figure 1 Land status and hunting zones in the Unit 18 Kuskokwim moose hunt area.

WCR24-38 – Unit 18 (Kuskokwim River hunt area) closed to moose hunting except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmaultauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag and Kalskag

Customary and Traditional Use Determination

Residents of Unit 18, Upper Kalskag, Aniak, and Chuathbaluk have a customary and traditional use determination for moose in Unit 18, that portion of the Yukon River drainage upstream of Russian Mission and that portion of 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 for moose 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 Board acted on Proposal P91-124. Submitted by the Togiak NWR, 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 (Sept. 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 (ADF&G), 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 September 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

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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 Sept. 1 – 5 moose season. In 2012, Emergency Wildlife Special Action WSA12-06 was approved to establish a Sept. 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 hunt area. The Sept. 1 – 30 season had a harvest limit of one antlered bull by State registration permit. The Yukon Delta NWR 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 August 18 – 31 emergency season only to residents of Tuluksak, with a quota of seven antlered bulls by Federal registration permit.

In 2020, the BOG adopted Proposal 7 as amended to change the State season dates for the RM615 moose hunt to Sept. 1-Oct.15 with a harvest limit of one bull, excluding the take of male calves. The first amendment to Proposal 7 was to extend the season from Sept. 1 – Sept. 30 to Sept. 1 – Oct. 15. Consideration was made to accommodate the holiday and teacher in-service days by keeping the season open date the same to allow continued opportunity for youth hunts. The second amendment to Proposal 7 changed the harvest limit from one antlered bull to one bull excluding the take of male calves. This was done to allow for proxy hunting but continue to prohibit the potential harvest of calves or incidental harvest of cows (ADF&G 2020).

In April 2020, the Board considered Closure Review WCR20-38 and Proposal WP20-35 concerning moose in the Kuskokwim hunt area. The Board voted to maintain status quo on the Federal lands closure reviewed by WCR20-38 because demand for moose by federally qualified subsistence users exceeded sustainable harvest levels. Proposal WP20-35 requested the addition of a may-be-announced season between Dec. 1 – Jan. 31. The Board rejected this proposal as part of the consensus agenda because of conservation concerns. While the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council (Council) had submitted this Proposal, they recommended to the Board to oppose it to allow more time for the moose population to fully recover following the harvest moratorium. Additionally, the Council noted that snowmachine access during a winter season could dramatically increase harvest pressure in the area, including accidental harvest of cows, further hampering recovery of the population.

In July 2020, the Board approved Wildlife Special Action WSA20-05, which requested extending the fall moose season in Zone 2 of the Unit 18, Kuskokwim hunt area from Sept. 1 – 30 to Sept. 1 – Oct. 7 for the 2020/21 regulatory year. Yukon Delta NWR submitted, and the Board approved Wildlife

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Special Action WSA20-05 to provide more subsistence hunting opportunity since moose harvest quotas were not being met.

In August 2020, the Board approved a revised closure policy, which stipulated all closures will be reviewed every four years. The policy also specified that closures, like regulatory proposals, will be presented to the Councils for a recommendation and then to the Board for a final decision. Previously, closure reviews were presented to Councils who then decided whether to maintain the closure or to submit a regulatory proposal to modify or eliminate the closure.

In 2021, the Board adopted the Council’s recommendation on Temporary Special Action Request WSA21-03, extending the fall moose season in Zone 2 of the Unit 18, Kuskokwim hunt area from Sept. 1–30 to Sept. 1–Oct. 15 for the 2021/22 regulatory year. The Board adopted this special action to provide additional subsistence opportunity as quotas were not being met and to reduce regulatory complexity by aligning with State regulations.

In 2022, the Board considered Proposal WP22-43 and Proposal WP22-44 concerning moose in the Kuskokwim hunt area. The Yukon-Kuskokwim and Western Interior Alaska Subsistence Regional Advisory Councils opposed Proposal WP22-43 and supported Proposal WP22-44. The Board adopted Proposal WP22-44 as modified by OSM to extend the fall moose season in the Kuskokwim Zone 2 hunt area of Unit 18 from Sept. 1–30 to Sept. 1–Oct. 15, and to establish a may-be-announced winter season from Dec. 1–Jan. 31 with a harvest limit of one antlered bull by Federal registration permit. The modification was to clarify the regulatory language and to delegate authority to the Yukon Delta NWR Manager to announce the winter season via delegation of authority letter. Proposal WP22-43 requested delegating authority to the Federal in-season manager to increase the moose harvest quota in Zone 1 of the Kuskokwim hunt area of Unit 18 if the water levels are too low to access Zone 2. The Board rejected this proposal as part of the consensus agenda because of conservation concerns.

In November 2022, the Board approved Special Action WSA22-04 as modified by OSM to amend the existing delegation of authority letter for moose in the Kuskokwim hunt area of Unit 18 to delegate the Yukon Delta NWR Manager the additional authority to determine the number of permits to be issued and any needed permit conditions for the may-be-announced winter moose season. This addition to the delegation of authority letter only applies to the 2022/23 winter may-be-announced season. The Board approved this request as modified by OSM to clarify the effective period ends January 31, 2023, and to specify permit conditions must comply with the Office of Management and Budget (OMB) information collection policy. The Board supported limiting permits and setting any needed permit conditions to ensure the in-season manager can more effectively manage this hunt, safeguarding against overharvest while providing additional subsistence hunting opportunity.

Closure last reviewed: 2020 – WCR20-38

Justification for Original Closure:

§815(3) of ANILCA states:

WCR24-38 – Unit 18 (Kuskokwim River hunt area) closed to moose hunting except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmaultauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag and Kalskag

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 original closure in 1991 noted a conservation concern for the moose population. Given low moose densities throughout Unit 18, the moose population could not sustain harvest by all users as additional harvest would not allow for the maintenance of this wildlife resource in a condition that would assure a stable and continuing natural population. The Board stated that the closure of Federal public lands except to federally qualified subsistence users provided rural users a subsistence priority.

In 2004, a five-year moratorium on moose hunting in the Kuskokwim River drainage was needed to recover a low moose population. The moratorium facilitated the establishment of a moose population capable of supporting annual harvests. Approximately 10,000 residents along the Kuskokwim River in Unit 18 could benefit from a moose population capable of supporting harvests.

In 2010 the closure was modified to specify the pool of federally qualified subsistence users eligible to hunt moose when the Federal season opened in the moratorium area. 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).

Council Recommendation for Original Closure:

The first closure was in 1991. This closure was initiated prior to the formation of the Regional Advisory Councils in 1993.

For the closure initiated in 2004 by Proposal WP04-51, the Western Interior Council deferred to the home region. The Yukon/Kuskokwim Delta Council supported instating the moose moratorium within this area of the Kuskokwim River to allow for an increase in the moose population. The Council expressed concerns of allowing a winter moose season below Mountain Village in the lower Yukon portion of the proposed area because a cow moose can be mistaken for a bull moose during late-winter hunt. The lower Yukon and coastal area moose hunters were experiencing economic hardships due to a decline of salmon for commercial harvests, making it more difficult for hunters to make any extended trips during moose hunting seasons. However, the Council hoped the moratorium would yield more moose that would be available to subsistence users in this area

In 2010 the Yukon/Kuskokwim Delta Council supported Proposal WP10-54 with modification to include the results of the Section 804 analysis and also recommended further modification to establish a one antlered-bull season Sept 1–5 by joint Federal or State registration permits and allow the Refuge Manager in consultation with AD&G to set the harvest quota and extend the season by up to five days if harvest quota has not been met.

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State Recommendation for Original Closure:

The first closure was in 1991. 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.

In 2004 the State supported the 5-year moratorium closure with a modification to the descriptor of the area to align the State and Federal areas and seasons. Furthermore, at its fall 2003 meeting, the BOG closed the moose season in a portion of Unit 18 that differs slightly from the closure area described in Proposal WP04-51. The State regulation allowed moose hunting in the portion of Unit 18, south of the Eek River drainage, which was proposed for closure in Proposal WP04-51.

In 2010 the State supported WP10-54 with a modification to establish a season on Federal public lands that matched the State season. This approach would minimize confusion for hunters and law enforcement. The State also recommended a cooperative harvest quota that would be managed between State and Federal managers. This action would be effective in the seventh year since the moratorium had been initiated in the lower Kuskokwim hunt area and fulfilled the original strategy supported by both State and Federal managers of closing the area for 5 years or reaching 1,000 moose.

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 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 River 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 River main stem and in its tributaries continues to grow.

Prior to 2020, 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/mile² in Zone 1 (**Figure 2**). This represents an annual growth rate of 20% between 2011 and 2015. The population estimate for Zone 2 was 508 moose (YKDRAC 2019a). 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).

Lack of snow cover in recent years precluded additional population surveys between 2015 and 2020. The survey completed in 2020 shows an increase of the moose populations in both zones. The estimated mid-point population in Zone 1 was 3,220 moose, and the minimum count in Zone 2 was 789 moose, which exceeds State population objectives (**Figure 2**) (Jones 2021, pers. comm., YKDRAC 2019). Browse surveys indicate that the population in Zone 1 is potentially reaching a point that will limit or stop growth, and Zone 2 is about one-half of what it could be (Jones 2021, pers. comm.).

Composition estimates for the main stem in 2020 were 25 bulls:100 cows (ADF&G 2020). Bull:cow ratios, which were quite high during the harvest moratorium, declined when harvest resumed in 2009, but remained consistently above the minimum State management objective of 30 bulls:100 cows until 2020 (Table 1). The recent decline in the bull:cow ratio follows an increase in reported harvest and a liberal hunting season in 2019. Unreported harvest, increased winter mortality, and misclassification of young bulls with small antlers during surveys may also have contributed to the lower ratio in 2020. Bull:cow ratios in the Kuskokwim tributaries (Zone 2) are very high, although surveys have occurred infrequently. In 2015 and 2020, ratios were 83 and 42 bulls:100 cows, respectively (Oster 2020, Jones 2021, pers. comm).

Fall calf:cow ratios of < 20 calves:100 cows, 20-30 calves:100 cows, and > 30-40 calves:100 cows may indicate declining, stable, and growing moose populations, respectively (Stout 2010). Between 2007 and 2020, calf:cow ratios in the main stem survey area (Zone 1) ranged from 45-73 calves:100 cows (Table 1; Jones 2018, pers. comm., ADF&G 2020, Oster 2020). In 2015 and 2020, calf:cow ratios in the Kuskokwim tributaries (Zone 2) were 62 and 40 calves:100 cows, respectively (Oster 2020). These high calf:cow ratios indicate a growing moose population. Twinning rates, which provide an index of nutrition, are also high, averaging 43% between 2015 and 2019 (YKDRAC 2019a, ADF&G 2020).

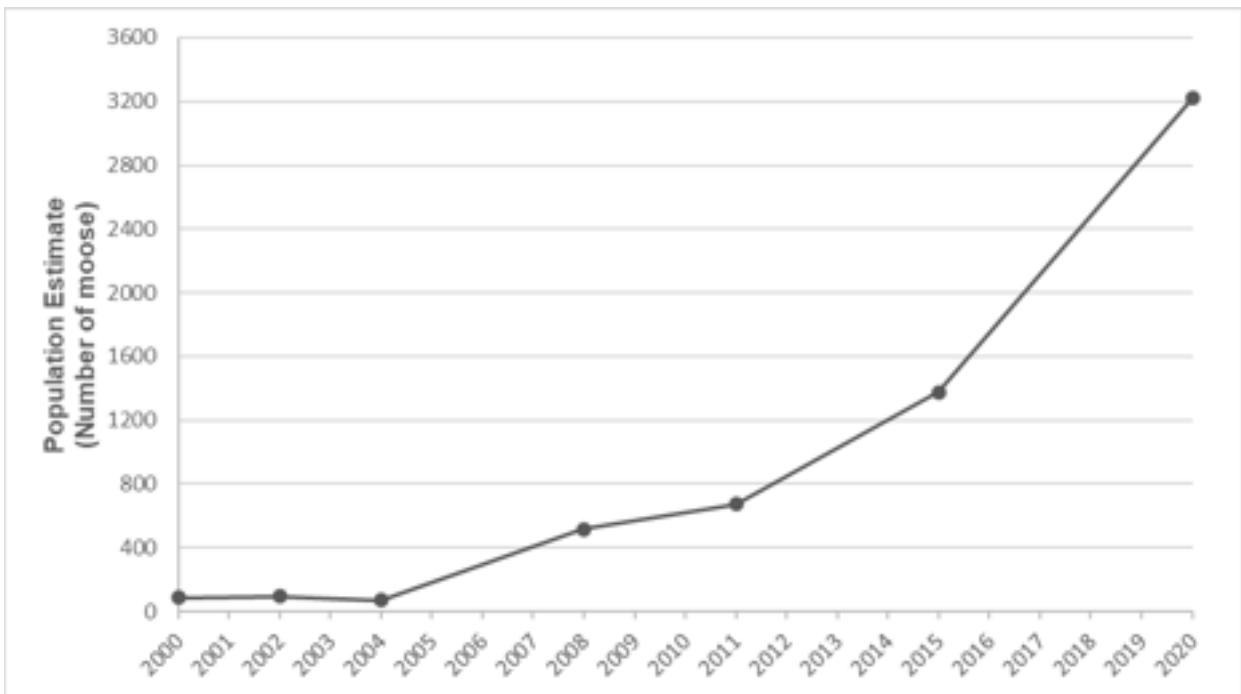


Figure 2. Estimated moose population size along the main stem of the Kuskokwim River, 2000 – 2020 (Perry 2014; Jones 2018, pers. comm.; Jones 2021, pers. comm.)

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Table 1. Composition estimates for moose along the main stem of the Kuskokwim River, 2007 – 2020 (YDNWR 2015; Jones 2018, pers. comm.; ADF&G 2020; Oster 2020).

Year	Bulls:100 cows	Calves:100 cows
2007	98	73
2009	52	49
2010	51	49
2011	50	49
2013	41	72
2015	73	53
2016	70	56
2019	43	49
2020	25	45

Cultural Knowledge and Traditional Practices

Forty-two widely dispersed communities, roughly 27,000 people, have a customary and traditional use determination for moose in the Unit 18 Kuskokwim hunt area (ADLWD 2022). However, in 2010 the Board found that 15 communities (roughly 13,000 people) have the highest customary dependence on moose in the Unit 18 Kuskokwim hunt area, based on the three criteria in ANILCA Section 804: customary and direct dependence upon the populations as the mainstay of livelihood, local residency, and the availability of alternative resources. Only residents of these 15 communities area eligible to harvest moose in the Unit 18 Kuskokwim hunt area, presented from lower to upper river: Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautluak, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Kalskag. All but two of the 15 communities are situated within the hunt area; Kalskag and Lower Kalskag are situated along the Kuskokwim River in Unit 19A, upriver from the hunt area.

These communities share some characteristics. Most are small with populations between 70 people in Oscarville to over 800 in Kwethluk (**Table 2**). The exception is the community of Bethel, population over 6,000 people, which is the hub community in the area, a center of healthcare, trade, and government, providing services to outlying areas. Most of the communities are not connected by roads and are accessed by boats or planes, and snow machines, ATVs, or highway vehicles on trails and the frozen river during winter. Kalskag and Lower Kalskag are connected by a State-maintained 4.2-mile road.

Table 2. The population of communities eligible to harvest moose in the Unit 18 Kuskokwim River drainage hunt area 1960-2010, organized from lower to upper river communities and based on the US Census (blank cell=0 or not available, ADCCED 2022).

Community	1960	1970	1980	1990	2000	2010	2020
Tuntutuliak	144	158	216	300	370	408	485
Eek	200	186	228	254	280	296	404
Napakiak	190		262	318	353	354	358
Napaskiak	154	259	244	328	390	405	509
Oscarville	51	41	56	57	61	70	70

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Community	1960	1970	1980	1990	2000	2010	2020
Kasigluk	244		342	425	543	569	623
Nunapitchuk	327	526	299	378	466	496	594
Atmautluak			219	258	294	277	386
Bethel	1,258	2,416	3,576	4,674	5,471	6,080	6,325
Kwethluk	325	408	454	558	713	721	812
Akiachak	229	312	438	481	585	627	677
Akiak	187	171	198	285	309	346	462
Tuluksak	37	195	236	358	428	373	444
Lower Kalskag	122	183	246	291	267	282	278
Kalskag	147	122	129	172	230	210	212
Total	3,715	4,977	7,143	9,173	10,760	11,514	12,639

Harvest and Use of Moose

The estimated harvest (from all areas) and use of moose based on periodic household surveys is displayed in **Table 3**. The estimated moose harvest ranged from a high of 357 moose by Bethel residents in 2012, to a low of 2 moose in Oscarville in 2010 and Lower Kalskag in 2005. The difference between these harvest levels is in part because Bethel’s population is so much higher than other communities’. These harvest estimates track well with the reported harvest to ADF&G (ADF&G 2022a). Some of these harvest surveys were comprehensive surveys that included questions regarding the harvest of all wild resources during the study year. Based on these surveys, moose made up between 2% and 25% of the harvest of all wild resources, in pounds of edible weight (ADF&G 2022b). **Table 3** demonstrates that while local users hunting for moose are not always successful, a majority of households use moose either by harvesting it themselves or receiving it from another hunter. Of the total reported annual harvest of moose by these communities from 2011 to 2021, between 37% and 62% were taken from other areas, outside the Unit 18 Kuskokwim hunt area, based on the ADF&G reporting system and online database (ADF&G 2022a).

A primary source of information regarding the harvest and use of moose on the Kuskokwim is focused on Chuathbaluk, a central Kuskokwim Yup’ik village that has much in common with lower Kuskokwim communities in terms of culture, weather, environment, and hunting patterns (Charnley 1983).

Seasonal harvest patterns are influenced by several factors. Moose are hunted year-round; however, the intensity of harvest effort is influenced by weather conditions and regulations. Moose are available to hunters July, August, and September in habitats such as willows bordering rivers, creeks, and lakes. Bulls and cows are especially fat during these times. Bulls enter the rut in late September. In October the better-tasting meat of cows is preferred. In fall, access to moose habitat is possible if and when rivers and creeks are swollen from heavy rain. However, moose are more sedentary in rainy weather and harder to find, and gravel bars, where moose can sometimes be found feeding, become submerged. Freeze-up along the Kuskokwim River usually occurs in November, and it is often unsafe for travel. Warm spells in winter can return rivers and creeks to dangerous conditions for travel by hunters. Deep

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snow aids hunting by allowing travel by snow machine and by hampering moose mobility (Charnley 1983).

Community involvement in harvesting depends on the season. Moose hunting is almost always engaged in by the adult and adolescent men. During September an extended family group that often includes the wife, sisters, mother, and daughters of hunters camp together for up to a week. At this time, generally, women and children gather berries while men hunt moose and black bear. Sometimes two or three households camp together in one area. The November and February hunts usually involve the male members of a household only, and hunting occurs while checking trap lines and during day or overnight trips from the village. In February, camping is limited by cold weather (Charnley 1983).

Several means are used to access harvest areas. Moose are typically hunted from boats in the fall. Motors are shut off and boats are allowed to drift downstream, guided by oars. Most moose hunting takes place within one mile of either side of the waterway that is being hunted. Snow machines also are used to travel to areas where moose are likely to be found. Fresh tracks are followed on snow machine or foot. Moose are sometimes tracked with snowshoes to beds where they are resting for the day. Aircraft is seldom used in moose hunting (Charnley 1983).

The season of harvest dictates proper processing and preservation methods of the harvest. Generally, moose are butchered at the kill site by members of hunting parties, taken back to the village, and further processed. In the past, meat was dried and smoked at fall hunting camps. When enough animals had been taken, skin boats were constructed using the animal hides, and the hunters drifted back downstream (Charnley 1983).

Dry meat is a staple food eaten throughout the summer when families are at fish camp. Most villagers depend on the weather to prevent their meat from spoiling. For this reason, hunting seasons that occur during months when temperatures have already fallen below freezing are preferred. The hind and front quarters and rump are commonly hung in a salmon smokehouse, or suspended from a rack, wrapped with material such as burlap to protect them from animals (Charnley 1983).

During warm months, meat is placed in garbage bags and submerged in creeks to be kept cool. If meat is hung, it is also brushed with a brine solution to discourage flies from laying eggs. The large, butchered parts of the animal such as legs, rump, and ribs are smoked to create a hardened outer layer over the meat. This protective layer keeps flies off of the meat (Charnley 1983).

Preparing moose meat for meals commonly means boiling it, and less often frying, roasting, and barbecuing. Marrow from the leg bone is considered a delicacy. Moose head soup is a favorite dish, the nose, tongue, cheek meat, and brains being the most desirable parts. The liver, heart, kidneys, part of the stomach muscle, and one of the four stomachs are all eaten. Moose fat is highly valued and is cooked and eaten or rendered into oil (Charnley 1983).

Table 3. The estimated harvest and use of moose by communities eligible to harvest moose in the Unit 18 Kuskokwim hunt area, organized by study year and based on household surveys (blank=question not asked) (ADF&G 2022b).

Community	Year	Households using moose	Households attempting to harvest moose	Households harvesting moose	Estimated harvest of moose	Lower est.	Upper est.	Per person harvest (lbs edible weight)
Nunapitchuk	1983			24%	12	3	22	19
Kwethluk	1986		63%	29%	33	33	33	45
Akiachak	1998	95%	84%	68%	106	93	119	145
Lower Kalskag	2003	74%	62%	24%	30	14	52	53
Kalskag	2003	74%	59%	29%	21	12	32	46
Lower Kalskag	2004	36%	41%	17%	12	10	15	25
Kalskag	2004	72%	76%	16%	9	9	10	26
Lower Kalskag	2005	40%	30%	3%	2	1	10	5
Kalskag	2005	59%	50%	18%	12	6	21	24
Lower Kalskag	2009	81%	81%	24%	18	15	21	32
Kalskag	2009	92%	92%	25%	15	12	18	40
Akiak	2010	94%	62%	27%	27	20	33	38
Kwethluk	2010	84%	51%	22%	33	25	42	25
Oscarville	2010	75%	33%	17%	2	2	4	20
Tuluksak	2010	71%	65%	24%	20	16	24	24
Bethel	2011	61%	28%	13%	279	220	338	25
Napakiak	2011	71%	46%	14%	13	13	13	29
Napaskiak	2011	89%	64%	29%	29	29	29	43
Bethel	2012	75%	34%	19%	357	294	419	34
Eek	2013	77%	59%	16%	14	14	14	22
Tuntutuliak	2013	87%	64%	15%	17	17	17	22

Harvest History

Following the harvest moratorium, moose harvest on non-Federal lands was allowed under State regulations, 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 2011, reported harvest has averaged 183 moose annually (ADF&G 2022a). Notably, reported harvest has increased, doubling between 2014 and 2017 (**Figure 2**). 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 two harvest reports in 2013 to 18 in 2021 (ADF&G 2022a). 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). About 30 moose, including around 20 cows are harvested each year for funerals and potlatches in Zone 1 (YKDRAC 2019; Moses 2020, pers. comm.).

WCR24-38 – Unit 18 (Kuskokwim River hunt area) closed to moose hunting except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag and Kalskag

Despite increases in quotas and harvest, demand still outweighs moose availability. From 2009 to 2019, 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 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. This has resulted in some frustration among locals, who note that short unpredictable seasons make planning difficult. In response to this, ADF&G no longer uses quotas or closes Zone 1 with emergency closures. Fixed dates determined by estimated time needed to reach the set harvest objective is released prior to the start of each season (Jones 2021, pers. comm.). 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).

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 objective. Zone 1, which is comprised primarily of State managed lands, is located along the main stem of the Kuskokwim River. The season and harvest objective 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 Yukon Delta NWR (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 from 2011 through 2018, and the quota has been met or exceeded most years. Since ADF&G has changed to the fixed season using the harvest objective method, Zone 1 hunt was open for 11 days in 2020 and for 9 days in 2021 and 2022 (Jones 2021, pers. comm.). For the hunt in the tributaries, the quota has only been met once, in 2014, despite increasing season lengths (**Tables 4**). 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, 2017b, Rearden 2018, pers. comm.).

ADF&G is currently managing the Kuskokwim moose population for continued growth and advises maintaining harvests within quotas and for bulls-only. However, ADF&G expects regulations in the Kuskokwim hunt area will be liberalized over the next five years if the moose population approaches carrying capacity as indicated by browse removal surveys (YKDRAC 2019a).

Local users took 51% of their reported moose harvest outside the Unit 18 Kuskokwim hunt area from 2011 to 2021, primarily in the remainder area of Unit 18, from a low of 42% in 2011 to a high of 63% in 2020 (ADF&G 2022a).

WCR24-38 – Unit 18 (Kuskokwim River hunt area) closed to moose hunting except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag and Kalskag

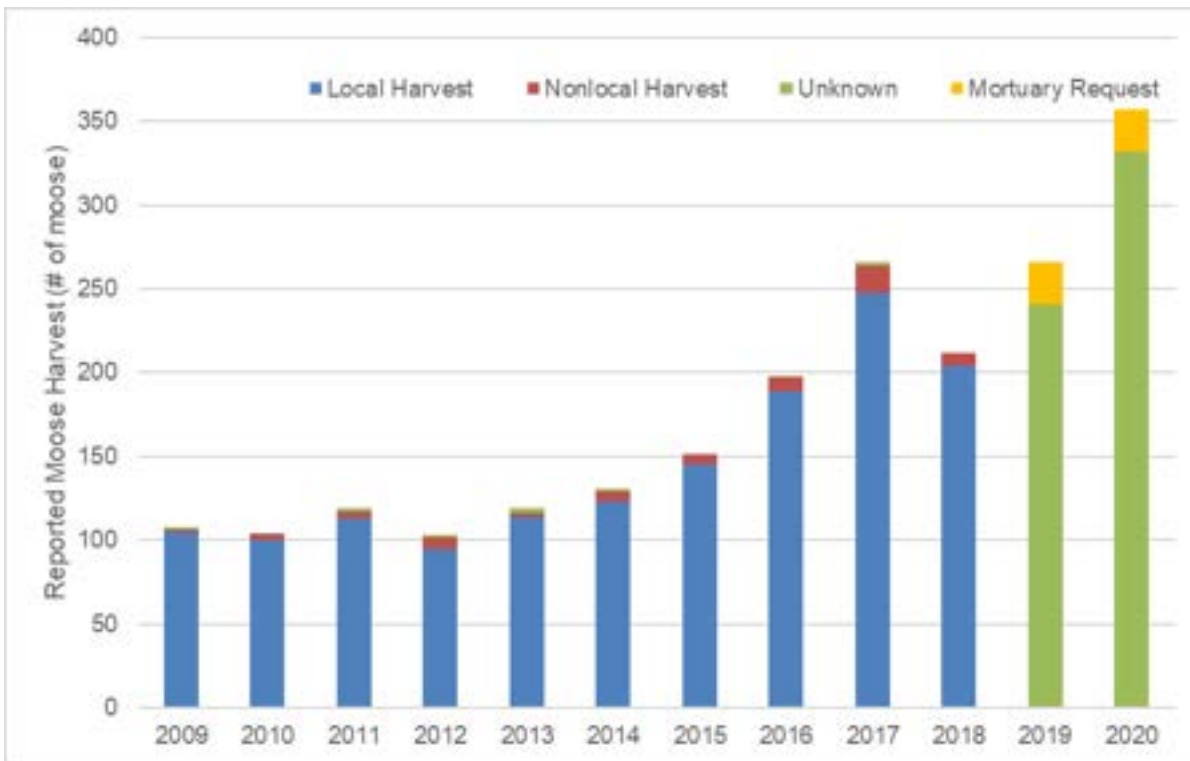


Figure 3. Reported moose harvest by RM615 in the Kuskokwim hunt area, 2009 – 2020 (ADF&G 2019a, Oster 2020, Jones 2021, pers. comm.). Note: 2019 and 2020 data does not distinguish between local and nonlocal harvest.

Table 4. State and Federal moose quotas and harvest, 2011 – 2020 (Rearden 2018, pers. comm.; ADF&G 2019b; Jones 2019, pers. comm.; Moses 2020, pers. comm.; ADF&G 2020; Oster 2020).

Year	Quota (number of moose)			Harvest (number of moose)				Total
	State	Federal	Total	State	Federal	Cultural	Unknown	
2011	81	19	100	93	11	5	15	124
2012	81	19	100	82	17	12	4	115
2013	81	19	100	89	21	18	9	137
2014	81	19	100	93	15	18	23	149
2015	110	45	155	105	31	24	15	175
2016	150	90	240	136	44	23	14	217
2017 ^a	170	110	280	186	80	36	0	302
2018 ^a	170	110	280	141	72	30	0	243
2019 ^a	N/A ^c	120	300	160	70	48	0	278

WCR24-38 – Unit 18 (Kuskokwim River hunt area) closed to moose hunting except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag and Kalskag

2020 ^a	N/A ^c	110	N/A ^c	239	90	33	5	367
2021 ^a	N/A ^c	110	N/A ^c	151	76	29	1	257
2022 ^a	N/A ^c	110	N/A ^c	188 ^b	60 ^b			

^a The State quota corresponds to Zone 1 and the Federal quota corresponds to Zone 2.

^b Reported harvest as of Oct. 24, 2022.

^c State uses fixed season dates instead of quota.

Other Alternatives Considered

One alternative considered was to change the winter may-be-announced season to a draw permit system instead of a registration permit system. This would reduce conservation concerns associated with overharvest as the number of permits issued could be determined annually by the in-season manager based on the quota remaining after the fall season. A draw permit would also provide more equitable permit distribution amongst federally qualified subsistence users who could apply for a permit during a certain time period and then be randomly selected for the limited number of permits. Registration permits must be given out on a first-come, first-serve basis, which could put some federally qualified subsistence users at a disadvantage if only a limited number of permits are available. However, this modification is beyond the scope of a closure review. The Council may want to consider submitting a proposal to request this modification at their winter 2023 meeting

Effects

Retaining the status quo would continue to limit moose hunting on Federal public lands within the Unit 18 Kuskokwim hunt area to only the federally qualified subsistence user of the 15 communities identified in the §804 restriction. Retaining the closure ensures that these 15 communities who have demonstrated the most dependence on this resource continue to have a subsistence priority on Federal public lands.

Modifying the closure to open to all federally qualified subsistence users but remain closed to non-federally qualified users would provide additional opportunity to some federally qualified subsistence users, but would likely decrease opportunity for residents of the 15 communities identified in the §804 analysis as being the most dependent on this resource.

Completely rescinding the closure would increase hunting opportunities for all users and would simplify regulations but would likely result in increased competition for moose on Federal public lands. While the moose population is growing in this area, demand still far exceeds supply, although the moose population may remain protected through very short seasons in Zone 1 and harvest quotas in Zone 2.

Extending the closure to all users is unnecessary at the moose population can sustain some harvest and that would completely preclude subsistence harvest opportunity on Federal public lands.

OSM PRELIMINARY CONCLUSION:

X Retain the Status Quo

WCR24-38 – Unit 18 (Kuskokwim River hunt area) closed to moose hunting except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag and Kalskag

- _ **Rescind the Closure**
- _ **Modify the closure to . . .**
- _ **Defer Decision on the Closure or Take No Action**

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 years. Seasons have been extended and a may-be-announced winter season has been added to provide additional harvest opportunity and achieve unmet quotas. However, retaining the Federal public lands closure ensures that the 15 communities who have demonstrated the most dependence on this moose population continue to have a subsistence priority on Federal public lands.

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WP24–21 Executive Summary	
General Description	<p>Proposal WP24-21 is a request to add the communities of Kongiganak, Kwigillingok, and Quinhagak to the group of communities who are eligible to harvest moose in the Kuskokwim River drainage hunt area in Unit 18. <i>Submitted by: Yukon-Kuskokwim Delta Regional Advisory Council</i></p>
Proposed Regulation	<p>Unit 18—Moose</p> <p><i>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 during the fall season.</i></p> <p style="text-align: center;">OR</p> <p><i>1 antlered bull by Federal registration permit during a may be announced winter season.</i></p> <p style="text-align: right;"><i>Sept. 1–Oct. 15</i></p> <p style="text-align: right;"><i>May be announced between Dec. 1–Jan. 31</i></p> <p><i>Federal public lands are closed to the taking of moose except by residents of Akiachak, Akiak, Atmautluak, Bethel, Eek, Kalskag, Kasigluk, Kongiganak, Kwethluk, Kwigillingok, Lower Kalskag, Napakiak, Napaskiak, Nunapitchuk, Oscarville, Quinhagak, Tuluksak, and Tuntutuliak.</i></p>
OSM Preliminary Conclusion	<p>Support</p>

WP24–21 Executive Summary	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

**DRAFT STAFF ANALYSIS
WP24-21**

ISSUES

Proposal WP24-21, submitted by the Yukon-Kuskokwim Delta Regional Advisory Council, is a request to add the communities of Kongiganak, Kwigillingok, and Quinhagak to the group of communities who are eligible to harvest moose in the Kuskokwim River drainage hunt area in Unit 18 (hereafter referred to as the Kuskokwim hunt area).

DISCUSSION

The Yukon-Kuskokwim Delta Council states that residents of Kwigillingok, Kongiganak, and Quinhagak hunt moose for subsistence, and although these communities are located outside of the Kuskokwim hunt area, residents of these communities travel to hunt moose on State-managed lands within the boundaries of the hunt area, especially in years when it is more difficult to harvest a moose nearby their communities.

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 during the fall season.

Sept. 1–Oct. 15

OR

1 antlered bull by Federal registration permit during a may be announced winter season.

May be announced between Dec. 1–Jan. 31

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

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 during the fall season.

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OR

1 antlered bull by Federal registration permit during a may be announced winter season.

*May be announced
between Dec. 1–
Jan. 31*

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

Existing State Regulation

Unit 18—Moose

Kuskokwim Hunt Area

RESIDENTS

Zone 1—One bull excluding male calves, by permit *Sept. 1–Sept. 9*

Zone 2—One bull excluding male calves, by permit *Sept. 1–Oct. 15*

NONRESIDENTS *No open season*

Extent of Federal Public Lands/Waters

The Kuskokwim River drainage moose hunt area in Unit 18 is comprised of 57% Federal public lands and consists of 56% U.S. Fish and Wildlife Service lands and 1% Bureau of Land Management lands (**Figure 1**).

Customary and Traditional Use Determinations

Residents of Unit 18 and the communities of Kalskag Lower Kalskag have a customary and traditional use determination for moose in the Kuskokwim hunt area.

Additionally, residents of Aniak and Chuathbaluk have a customary and traditional use determination for moose in the Kuskokwim hunt area upstream of (but excluding) the Tuluksak River drainage (see **Figure 1**).

Currently, Federal public lands are closed to the taking of moose except by residents of Akiachak, Akiak, Atmaultluak, Bethel, Eek, Kalskag, Kasigluk, Kwethluk, Lower Kalskag, Napakiak, Napaskiak, Nunapitchuk, Oscarville, Tuluksak, and Tuntutuliak, based on the three criteria in ANILCA section 804 adopted by the Federal Subsistence Board in 2010.

Regulatory History

In 2003 the Alaska Board of Game adopted Proposal 2, submitted by the Alaska Department of Fish and Game (ADF&G) Lower Kuskokwim Fish and Game Advisory Committee, the Yukon Delta National Wildlife Refuge, and ADF&G, and established a five-year moratorium on moose hunting in the Kuskokwim hunt area. The intent of the moratorium was to promote colonization of underutilized moose habitat (see **Figure 1**; ADF&G 2003a, 2003b, Perry 2008).

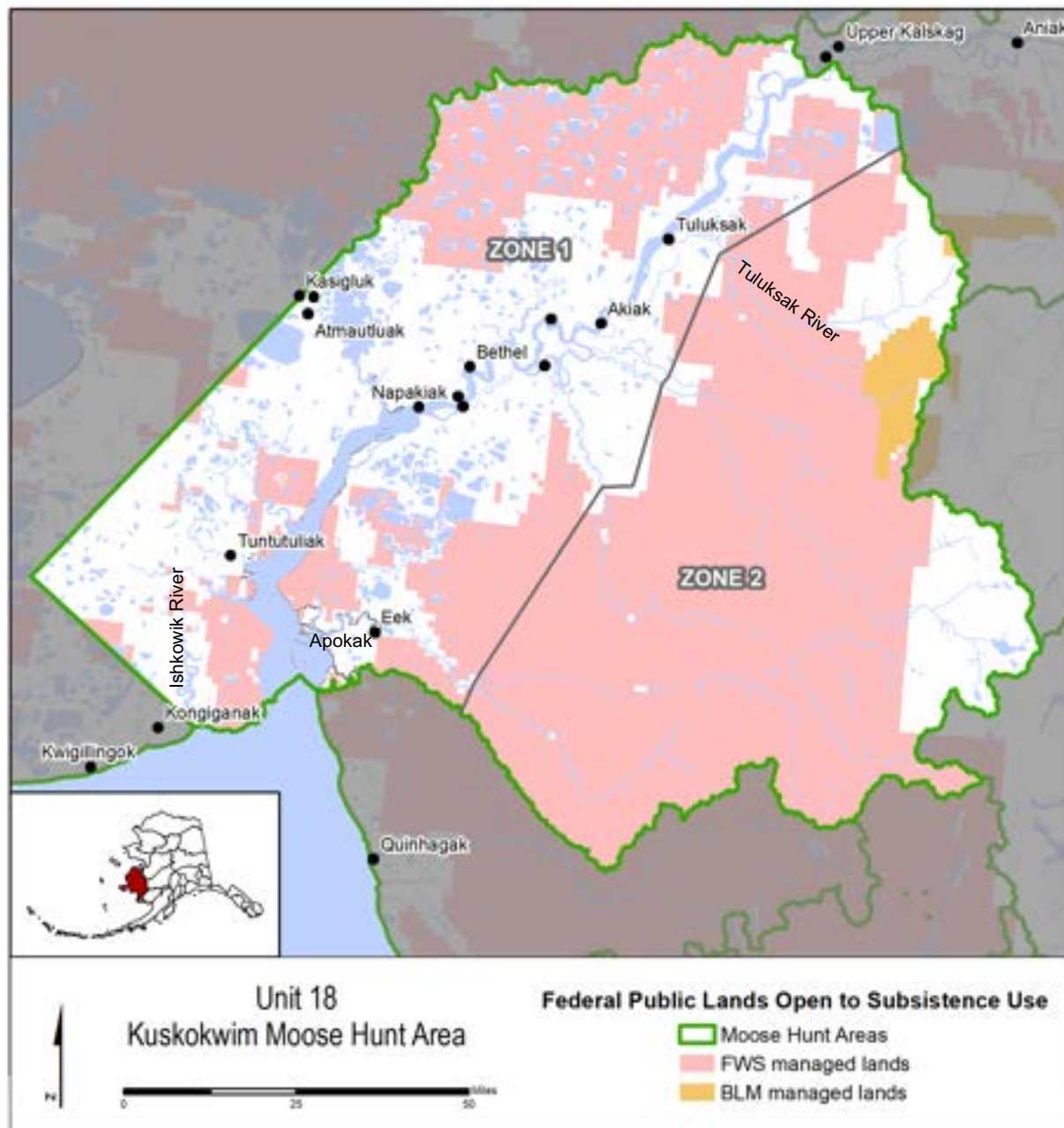


Figure 1. Map showing State managed lands (shown in white). Federal subsistence regulations apply on only Federal public lands (shown in pink and gold) (OSM 2023).

In 2004 the Federal Subsistence Board adopted the recommendations of affected Regional Advisory Councils on Proposal WP04-51, submitted by the Yukon-Kuskokwim Delta Council, and closed Federal public lands in the Kuskokwim hunt area to the harvest of moose by all users. The intent of the moratorium was to promote colonization of underutilized moose habitat (OSM 2004; 69 Fed. Reg. 126, 40207 [July 1, 2004]).

In 2009 the Alaska Board of Game established a registration hunt September 1–10 in preparation for the ending of the five-year moratorium. Hunting by nonresidents of Alaska has remained closed (ADF&G 2009).

In 2010 the Federal Subsistence Board adopted the recommendation of the Yukon-Kuskokwim Delta Council on Proposal WP10-54 and reduced eligibility to hunt for moose in the Kuskokwim hunt area to residents of the area and the community of Kalskag,¹ based on the three criteria in ANILCA section 804. The Council said it intended to submit a special action request to establish a moose harvest season and harvest limit if the Board did not adopt them through this proposal. The Board did not adopt a season or harvest limit (OSM 2010a; 75 Fed. Reg. 125, 37953 [June 30, 2010]).

In 2010 the Board approved Special Action Request WSA10-02, submitted by the Yukon-Kuskokwim Delta Council, to establish a Federal moose season in the Kuskokwim hunt area September 1–5 for the 2010 and 2011 regulatory years. The harvest limit was one antlered bull by State registration permit. The Board authorized the Yukon Delta National Wildlife Refuge manager, in consultation with ADF&G, to set the harvest quota and extend the season for up to five days if the harvest quota had not been met. The season would be closed by the Refuge Manager when the quota had been met or was anticipated to be met (OSM 2010b).

In 2012, the Board approved Special Action Request WSA12-06, submitted by the Yukon-Kuskokwim Delta Council, to establish a Federal moose season in the Kuskokwim hunt area September 1–30 for the 2012 and 2013 regulatory years. The harvest limit was one antlered bull by State registration permit. A harvest quota would be set prior to the start of the season (OSM 2012).

In 2014 the Board adopted the recommendation of affected Regional Advisory Councils on Proposal WP14-27, submitted by the Yukon Delta Refuge, and established a September 1–30 moose season in the Kuskokwim hunt area with a harvest limit of one antlered bull by State registration permit and delegated authority to the Refuge Manager to close the season and determine annual quotas (OSM 2014; 79 Fed. Reg. 118, 35263 [June 19, 2014]).

In 2017 State and Federal managers introduced a zone-based hunt in an effort to better serve users in an area of checkerboard land status (see **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 (such as river confluences). Each of the two zones is managed with its own harvest objective. Zone 1 is comprised primarily of State managed lands along the main stem of the Kuskokwim River. The season and harvest objective 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. The season and harvest quota in this tributary hunt are managed by the Yukon Delta Refuge (YKDRAC 2017a; Rearden 2018, pers. comm.).

There is more demand for moose in Zone 1, along the main stem, compared to Zone 2, in the tributaries. Local managers report that hunting in the tributaries is difficult requiring specialized boats,

¹ Formerly, Lower Kalskag was situated within the hunt area boundary. A boundary change since 2010 resulted in both communities, Kalskag and Lower Kalskag being situated in Unit 19A beyond the Kuskokwim hunt area boundary, and both remain eligible to hunt for moose in the hunt area.

longer travel times, and more fuel. Heavy vegetation along the banks contributes to the difficulty. It is believed that the unmet quotas in Zone 2 is a function of these difficulties, rather than lack of need for moose meat (YKDRAC 2017a, YKDRAC 2017b, Rearden 2018, pers. comm.).

In 2020 the Federal Subsistence Board adopted the recommendation of the Yukon-Kuskokwim Delta Council on Closure Review WCR20-38 and maintained the closure to non-federally qualified users in the Kuskokwim hunt area. The Council maintained the closure because demand for moose by federally qualified subsistence users exceeded sustainable harvest levels (FSB 2020a:364–370, OSM 2020).

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 to the harvest of moose by non-federally qualified users 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 immigrants from other areas, rather than part of a local breeding population, and hunting pressure was effective in limiting growth of the moose population along the Kuskokwim River corridor. The 2004–2008 hunting moratorium was effective in establishing a harvestable population, and the most recent indicators suggest that the population along the Kuskokwim River main stem and in its tributaries continues to grow (FSB 1991, Perry 2014).

Prior to 2020, 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/mile² in Zone 1. This represents an annual growth rate of 20% between 2011 and 2015. The population estimate for Zone 2 was 508 moose (Perry 2014, YKDRAC 2019).

Lack of snow cover in recent years precluded additional population surveys between 2015 and 2020. The survey completed in 2020 shows an increase of the moose populations in both zones. The estimated mid-point population in Zone 1 was 3,220 moose, and the minimum count in Zone 2 was 789 moose. Browse surveys indicate that the population in Zone 1 is potentially reaching a point that will limit or stop growth, and Zone 2 is about one-half of what it could be (YKDRAC 2019; Jones 2021, pers. comm.).

Composition estimates for the main stem were obtained in 2020, when there were 25 bulls:100 cows (). Bull:cow ratios, which were quite high during the harvest moratorium, declined when harvest resumed in 2009, but remained consistently above the minimum objective of 30 bulls:100 cows until 2020. The recent decline in the bull:cow ratio follows an increase in reported harvest and a liberal hunting season in 2019. Unreported harvest, increased winter mortality, and misclassification of young bulls with small antlers during surveys may also have contributed to the lower ratio in 2020. Bull:cow ratios in the Kuskokwim tributaries (Zone 2) are very high, although surveys have occurred infrequently. In 2015 and 2020, ratios were 83 and 42 bulls:100 cows, respectively (ADF&G 2020, Oster 2020; Jones 2021, pers. comm.).

Fall calf:cow ratios of < 20 calves:100 cows, 20-30 calves:100 cows, and > 30-40 calves:100 cows may indicate declining, stable, and growing moose populations, respectively (Stout 2010). Between 2007 and 2020, calf:cow ratios in the main stem survey area (Zone 1) ranged from 45-73 calves:100 cows (Jones 2018, pers. comm.; ADF&G 2020, Oster 2020). In 2015 and 2020, calf:cow ratios in the Kuskokwim tributaries (Zone 2) were 62 and 40 calves:100 cows, respectively (Oster 2020). High calf:cow ratios indicate a growing moose population. Twinning rates, which provide an index of nutrition, are also high, averaging 43% between 2015 and 2019 (YKDRAC 2019, ADF&G 2020).

The Alaska Department of Fish and Game is currently managing the Kuskokwim moose population for continued growth and advises maintaining harvests within quotas and for bulls-only. However, ADF&G expects regulations in the Kuskokwim hunt area will be liberalized over the next five years if the moose population approaches carrying capacity as indicated by browse removal surveys (YKDRAC 2019).

Community Background

Residents of only 15 communities are currently eligible to harvest moose in the Kuskokwim hunt area. Thirteen are situated within the hunt area (Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautluak, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak), and two are situated upriver from the hunt area (Kalskag and Lower Kalskag). These communities share some characteristics. Most are small with populations of less than 1,000 people (ADCCED 2023, **Table 1**). The exception is the community of Bethel, population over 6,000 people, which is the hub community in the area. Most of these communities are not connected by roads and are accessed by boats or planes, and snow machines, all-terrain vehicles, or highway vehicles on trails and the frozen river during winter. Kalskag and Lower Kalskag are connected to each other by a State-maintained 4.2-mile road. The proposal is a request to add three communities, Kongiganak, Kwigillingok, and Quinhagak to the pool of eligible users (**Table 2**).

Table 1. Human population of the communities currently eligible (source: ADCCED 2023).

Community	1960	1970	1980	1990	2000	2010	2020
Tuntutuliak	144	158	216	300	370	408	485
Eek	200	186	228	254	280	296	404
Napakiak	190		262	318	353	354	358
Napaskiak	154	259	244	328	390	405	509
Oscarville	51	41	56	57	61	70	70
Kasigluk	244		342	425	543	569	623
Nunapitchuk	327	526	299	378	466	496	594
Atmautluak			219	258	294	277	386
Bethel	1,258	2,416	3,576	4,674	5,471	6,080	6,325
Kwethluk	325	408	454	558	713	721	812
Akiachak	229	312	438	481	585	627	677
Akiak	187	171	198	285	309	346	462
Tuluksak	37	195	236	358	428	373	444

Community	1960	1970	1980	1990	2000	2010	2020
Lower Kalskag	122	183	246	291	267	282	278
Kalskag	147	122	129	172	230	210	212
Total	3,715	4,977	7,143	9,173	10,760	11,514	12,639

Table 2. Human population of the communities in the request (source: ADCCED 2023).

Community	1960	1970	1980	1990	2000	2010	2020
Kongiganak		190	239	294	359	439	486
Kwigillingok	344	148	354*	278	338	321	380
Quinhagak	228	340	412	501	555	669	776
Total	572	678	1,005	1,073	1,252	1,429	1,642

* Stickney (1983) estimated a population substantially less than the 1980 census.

Kongiganak and Kwigillingok

Kwigillingok is situated about a quarter mile inland from the coast and experiences seasonal flooding. Consequently, in the 1960s, some residents of Kwigillingok, in order to escape flooding, moved their houses and re-established the old seasonal settlement of Kongiganek about nine miles away near the Kongiganak River (see **Figure 1**, ADCCED 2023).

People of Kwigillingok and Kongiganek (the *Canineqmiut* confederation of Yup’ik villages) inhabit the flat coastal region between the mouth of the Kuskokwim River and Nelson Island. People in the area had only intermittent contact with Euroamericans historically in part due to the flat coastal environment that large ships could not access and a lack of resources for Euroamericans to exploit (Fienup-Riordan 1984). These villages are about 70 miles southwest of and a 45-minute airplane flight from Bethel (ADCCED 2023).

The villages have almost no water or sewer systems, except at the schools and at a community washeteria in Kwigillingok. Primary water sources are surface water collected in the form of snow and ice and captured rainwater. There are no roads, and people get around the villages on elevated boardwalks. Neither village has incorporated into a city. Both are governed by traditional village councils that oversee village administration. In summer, residents use skiffs and other boats for travel to Bethel and nearby villages. Snowmobiles and all-terrain vehicles provide transportation during winter. Winter trails are marked to Kipnuk, between Kwigillingok and Kongiganak, and to Tuntutuliak. There are no docking facilities in the villages, but there is a state-owned, public-use seaplane base in Kwigillingok located in the Kwigillingok River and a beaching area on the riverbank adjacent to the village. There are state-owned public-use airports with gravel airstrips. The Chaninik Wind Group consists of Kwigillingok, Kongiganak, Tuntutuliak and Kipnuk where wind turbines, diesel generators, and storage systems are combined to provide power in each village. Both Kongiganak and Kwigillingok have dual language schools, common in coastal communities west of the Kuskokwim River, where pre-kindergarten through second grade language arts instruction is given in the Yup’ik language (*Yugtun*), and in higher grades given in *Yugtun* and English (Johnson 2018, Ayagina’ar Elitnaurvik 2023, ADCCED 2023, Kwigillingok School 2023)

Quinhagak

Quinhagak is a Yup'ik community situated near the mouth of the Kanektok River on the east shore of Kuskokwim Bay, less than a mile from the Bering Sea coast. People moved from the historical village of Apokak, situated at the mouth of the Kuskokwim River, when the bank eroded into Apokak Slough in around 1935 (see **Figure 1**). Some people chose to move to Eek while others moved to the Quinhagak area (La Vine et al. 2007). After the purchase of Alaska in 1867, the Alaska Commercial Company sent annual supply ships to the Quinhagak area with goods for Kuskokwim River trading posts. Supplies were lightered to shore from the ship and stored in a building on Warehouse Creek. There were many non-Natives in the village at that time, most of whom were waiting for boats to go upriver. In 1915, the Kuskokwim River was charted, so goods were barged directly upriver to Bethel. Between 1906 and 1909, over 2,000 reindeer were brought in to the Quinhagak area. Reindeer herding declined as a profitable enterprise, and the herd had scattered by the 1950s (La Vine et al. 2007). Over 100 native allotments and seasonal camps used for subsistence activities are present along the Kanektok River and Arolik River drainages. The highest concentration of allotments is at the mouth of the Kanektok River near Quinhagak, although allotments occur along the upstream reaches of the river all the way up to Kagati and Pegati lakes (Buzzell and Russell 2010).

Today, Quinhagak is a 45-minute flight from Bethel and is otherwise accessible by boat or snowmachine. A gravel airstrip owned by Native Village of Kwinhagak is available. Float planes land on the Kanektok River. A harbor and dock serve barge deliveries of heavy goods at least twice a year. Boats, all-terrain vehicles, snow machines, and some highway vehicles are used for local transportation. Winter trails are marked to Eek and Goodnews Bay (ADCCED 2023).

Section 804 Analysis

Section 804 of ANILCA mandates that the taking on Federal public lands of fish and wildlife for nonwasteful subsistence uses shall be accorded priority over the taking on such lands of fish and wildlife for other purposes. Section 804 further requires that whenever it is necessary to restrict the taking of populations of fish and wildlife on such lands for subsistence uses in order to protect the continued viability of such populations, or to continue subsistence uses, such a priority shall be implemented through appropriate limitations based on the application of three criteria. The three criteria are: (1) customary and direct dependence upon the populations as the mainstay of livelihood, (2) local residency, and (3) the availability of alternative resources. In other words, an analysis based on Section 804 of ANILCA identifies which residents of communities or areas have a priority for the take of the resource. The Board does not use such decisions for resource management or for restricting harvest. The Board addresses conservation concerns for a particular population through the imposition of harvest limits or season restrictions.

In this case, the Board has been asked to increase the pool of Federally qualified subsistence users to residents of the communities situated within the Kuskokwim hunt area and the communities of Kalskag, Kongiganak, Kwigillingok, Lower Kalskag, and Quinhagak, situated outside the boundary of the Kuskokwim hunt area. These will be the communities who are eligible to hunt for moose on

Federal public lands under Federal regulations in the Kuskokwim hunt area. Currently, Kongiganak, Kwigillingok, and Quinhagak are excluded and have been since 2010 when the hunting season in the Kuskokwim hunt area opened after a five-year moratorium, and the first ANILCA section 804 was implemented by the Board. Without the ANILCA section 804 currently in place, all residents of Unit 18 and the communities of Lower Kalskag, Kalskag, Aniak, and Chuathbaluk, roughly 27,000 people in 42 widely dispersed communities, would be eligible based on the customary and traditional use determination (ADLWD 2022).

Criterion 1. Customary and Direct Dependence upon the Populations as the Mainstay of Livelihood

Information regarding the subsistence economy in Kongiganak and Kwigillingok is scarce. Stickney in the early 1980s did not mention the harvest and use of moose or caribou in her study of the subsistence economy in Kwigillingok. Both resources were lacking in the area (Stickney 1983). Since the early 1980s two things have happened that may be affecting this. One, low numbers of moose might be more accessible locally. Two, salmon runs into the Kuskokwim River have diminished. Residents of the area once relied upon the salmon runs but now subsistence fishing opportunities are limited. With less capacity to rely on salmon, villages are likely becoming more dependent on other resources, such as moose.

Dependence on moose has increased since the early 1980s when no harvest was reported to Stickney (1983), compared to documented moose harvests in recent years, as shown in **Table 3**. Kongiganak and Kwigillingok are situated within the remainder area of Unit 18, which encompasses the area north and west of the Kuskokwim River. Reported harvests of moose are likely minimum estimates because harvest reporting in the remainder area is by harvest ticket, and ADF&G encourages but has not always required reporting with a harvest ticket, so compliance may be low.

Table 3. The harvest of moose reported by residents of Kongiganak, Kwigillingok, and Quinhagak from 2017 to 2021 cumulative in hunt area RM615 the Kuskokwim hunt area, the General Hunt in the remainder area of Unit 18 (the area around Kongiganak and Kwigillingok north to and including the lower Yukon River), and RM617 around Quinhagak (RM617 was closed until 2019) (ADF&G 2023a).

Hunt Area	Kongiganak Hunting	Kongiganak Successful	Kwigillingok Hunting	Kwigillingok Successful	Quinhagak Hunting	Quinhagak Successful
RM615	164	28	40	8	21	1
General	9	0	12	4	48	15
RM617	0	0	0	0	94	21
Total	173	28	52	12	163	37

Kongiganak reported harvesting 28 moose in the past five years from 2017 to 2021 (between 4 and 5 moose per year), and all were taken from within the Kuskokwim hunt area (hunt number RM615). Kongiganak is about five miles to the west of the Kuskokwim hunt area boundary at the Ishkowitz River mouth (see **Figure 1**, ADF&G 2023a).

Kwigillingok reported harvesting 12 moose in the past five years (between 2 and 3 moose per year). Eight were taken from the Kuskokwim hunt area and 4 were taken from the remainder area. Kwigillingok is about nine miles farther west than is Kongiganak from the boundary of the Kuskokwim hunt area (ADF&G 2023a).

The nearby Ishkowik River drainage runs through State-managed lands of the Kuskokwim hunt area, so Kongiganak and Kwigillingok are eligible to hunt for moose in the Ishkowik River drainage; however, Yukon Delta Refuge lands begin just east of the Ishkowik River drainage and encompass the mouth of the Kuskokwim River, and moose harvesting in this area is closed to these two communities under Federal regulations (**Figure 1**).

Quinhagak reported harvesting 37 moose in the past five years (7 moose per year). One was taken from the Kuskokwim hunt area (RM615), 15 were taken from the remainder area, and 21 were taken from the area around Quinhagak (RM617) that opened in 2019. Quinhagak is approximately 17 miles from the Kuskokwim hunt area boundary that is at the mouth of the Kuskokwim River and currently is not eligible to hunt on the Yukon Delta Refuge lands there.

Unlike Kongiganak and Kwigillingok, Quinhagak has participated in systematic household harvest surveys, the most recent in 2013. This was before the local area opened to the harvest of moose in 2019 (RM617) (ADF&G 2023b).

Results of the survey show a high dependence on moose in Quinhagak. The overall harvest of wild resources in 2013 was estimated at 295 lbs. of edible weight per person. Moose harvest was 31 lbs. per person, about 10% of the overall harvest. For comparison, the harvests of birds and eggs, marine mammals, and plants and berries were at the same rate as moose (about 30 lbs. per person in each of these three resource categories). Fish were harvested at the highest rate at 158 lbs. person, over half of the harvest of wild resources for subsistence. Forty-eight households were asked about moose hunting areas, so this a partial representation of areas used in 2013. Moose hunting occurred between the Eek and Goodnews rivers, near the tundra villages northwest of Bethel, nearby Bethel, and in the lower Yukon River area (Ikuta et al. 2016, ADF&G 2023b).

Criterion 2. Local Residency

Kwigillingok and Kongiganak while not within the Kuskokwim hunt area are situated within a few miles. Kongiganak is about five miles to the west of the Kuskokwim hunt area boundary. Kwigillingok is about another nine miles to the west of Kongiganak. Quinhagak is situated about 17 miles to the south of the Kuskokwim hunt area that begins at the mouth of the Kuskokwim River (**Figure 1**). These communities access the Kuskokwim hunt area by boat, or by snow machine when conditions allow.

Criterion 3. Alternative Resources

Kongiganak, Kwigillingok, and Quinhagak are all highly dependent upon the annual cycle of subsistence harvests of resources (Stickney 1983, ADF&G 2023). The harvest of wild resources is a critical component of the economies in these communities, and the communities rely on the harvest of

a wide diversity of resources, including salmon, nonsalmon fish, land mammals (caribou, moose), marine mammals (seals, sea lions), migratory waterfowl (ducks, geese), other birds (ptarmigan, grouse), furbearers, berries, greens, and wood.

Alternatives to Kuskokwim-hunt-area moose are available to residents of the three villages. Quinhagak has more local access to alternative populations of moose, in the Kanektok River drainage, than do Kongiganak and Kwigillingok. While Kongiganak and Kwigillingok are situated in the remainder area of Unit 18, they are far away from the abundant moose populations present along the lower Yukon River. Quinhagak is more accessible to barges for bringing supplies to the village during open water periods because of the terrain around the village.

Effects of the Proposal

If Proposal WP24-21 is adopted, then the communities of Kongiganak, Kwigillingok, and Quinhagak will be newly *eligible* to hunt for moose on Yukon Delta Refuge lands, under Federal subsistence regulations, in the Kuskokwim hunt area. This will open up scattered Federal public lands in Zone 1 (the mainstem), including at the mouth of the Kuskokwim River nearby these villages, and Zone 2 (the tributaries) for moose hunting by these communities. Additionally, the communities will be eligible to participate in the to-be-announced winter hunt in Zone 2. State managed lands will remain *open* to moose hunting by them (see Federal public lands in **Figure 1**).

Adopting the proposal will have no effect on nonsubsistence uses or moose populations. These concerns are addressed through harvest limits and season length.

If Proposal WP24-21 is not adopted, then the communities of Kongiganak, Kwigillingok, and Quinhagak remain *ineligible* to hunt for moose on Yukon Delta Refuge lands within the Kuskokwim hunt area. State managed lands will remain *open* to moose hunting by them (see State-managed lands in **Figure 1**).

OSM PRELIMINARY CONCLUSION

Support Proposal WP24-21.

Justification

Kongiganak, Kwigillingok, and Quinhagak are demonstrating increased dependence on moose since the original ANILCA section 804 was implemented by the Board in 2010. For Kongiganak and Kwigillingok, salmon runs into the Kuskokwim River that were once relied upon by the villages have diminished since 2014 with few subsistence fishing opportunities making it difficult for residents to participate in the salmon fishery during short, episodic openings. The villages are likely becoming more dependent on other resources other than salmon, including moose. For Quinhagak, the local hunt area was re-opened in 2019, reinvigorating and again demonstrating their dependence on moose. Kongiganak and Kwigillingok have a long history of using the Kuskokwim River drainage to harvest salmon and other subsistence resources, moving to temporary camps as far up the river as Napaskiak

until sometime in the 1980s. Some of these villagers were commercial fishermen in the drainage as well. Quinhagak has a similar relationship to the Kuskokwim River drainage and villagers are closely related to Eek residents, where former residents of Apokak moved in the 1930s in addition to moving to the Quinhagak area. All three communities are the closest in proximity to the Kuskokwim hunt area out of the remaining communities in the customary and traditional use determination that are also not currently eligible to hunt there. These three communities should be eligible to harvest moose in the Kuskokwim hunt area, based on the three criteria in ANILCA section 804, dependency on and proximity to the resource and available alternative resources.

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WP24-20 Executive Summary	
General Description	<p>Proposal WP24-20 requests modifying the harvest limit, permit requirements, and delegation of authority letter (DAL) for moose in the Kuskokwim River hunt area of Unit 18 during the winter Federal subsistence hunting season. The modification to the DAL includes delegating authority to the Yukon Delta NWR manager to announce sex and antler restrictions, determine the permit allocation system, and set any needed permit conditions for the may-be-announced winter Federal subsistence moose hunting season.</p> <p><i>Submitted by: the Yukon Delta National Wildlife Refuge.</i></p>
Proposed Regulation	<p>See Scope of Delegation section in the attached Delegation of Authority letter.</p> <p>Unit 18 – Moose</p> <p><i>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 drainage¹ - 1 antlered bull by State registration permit during the fall season</i></p> <p style="text-align: right;"><i>Sep. 1-Oct. 15.</i></p> <p><i>Or</i></p> <p>1-antlered bull Up to one moose by Federal registration permit during a may-be-announced winter season</p> <p style="text-align: right;"><i>May be announced between Dec. 1-Jan. 31.</i></p>
OSM Preliminary Conclusion	Support Proposal WP24-20

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	

DRAFT STAFF ANALYSIS
WP24-20

ISSUES

Wildlife Proposal WP24-20, submitted by the Yukon Delta National Wildlife Refuge (NWR), requests modifying the harvest limit, permit requirements, and delegation of authority letter (DAL) for moose in the Kuskokwim River hunt area of Unit 18 during the winter Federal subsistence hunting season. The modification to the DAL includes delegating authority to the Yukon Delta NWR manager to announce sex and antler restrictions, determine the permit allocation system, and set any needed permit conditions for the may-be-announced winter Federal subsistence moose hunting season. (**Appendix 1**).

DISCUSSION

The proponent notes that the moose population in Zone 2 has increased over the years and so has the harvest quota. In recent years, the quota has not been met for the fall hunt, likely due to the difficulty and expense to travel to the hunt area by boat. The may-be-announced winter hunt was implemented to help allow for harvest of the remaining moose quota.

The proponent is asking for the ability to set the number of permits and permit conditions to encourage timely reporting. The proponent also requests flexibility in using either a first-come-first-serve registration permit system or a random draw permit system to fairly allocate a limited number of permits to subsistence users in multiple villages with limited staff to manage the winter hunt. Additionally, the proponent requests flexibility in setting the harvest limit so that they can protect cows when needed but can allow cow harvest in the future as the population continues to grow. The ability to set sex and antler restrictions also addresses hunter behavior and their ability to identify bulls without antlers.

Existing Federal Regulation

Unit 18 – Moose

Unit 18, that portion east of a line running from the mouth of the Ish-kowik 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 drainage¹ - 1 antlered bull by State registration permit during the fall season Sep. 1-Oct. 15.

Or

1 antlered bull by Federal registration permit during a may-be-announced winter season

May be announced between 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.

¹Referred to as the Kuskokwim hunt area throughout the analysis.

Proposed Federal Regulation

*See **Scope of Delegation** section in the attached Delegation of Authority letter.

Unit 18 – Moose

Unit 18, that portion east of a line running from the mouth of the Ishkowiik 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 drainage¹ - 1 antlered bull by State registration permit during the fall season

Sep. 1-Oct. 15.

Or

~~1 antlered bull~~ **Up to one moose** by Federal ~~registration~~ permit during a may-be-announced winter season

May be announced between 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.

¹Referred to as the Kuskokwim hunt area throughout the analysis.

Existing State Regulation

Unit 18 – Moose

Residents: Zone 1¹ – One bull excluding male calves, by permit, RM615 Sep. 1-Sep. 9² available in person in Bethel and villages within the hunt area Aug 1-25 and online at [http:// hunt.alaska.gov](http://hunt.alaska.gov) Aug 1-Oct 1

Residents: Zone 2³ – One bull excluding male calves, by permit, RM615 Sep. 1-Oct. 15 available in person in Bethel and villages within the hunt area Aug 1-25 and online at [http:// hunt.alaska.gov](http://hunt.alaska.gov) Aug 1-Oct 15

Non-residents: Unit 18 no open season

¹ Zone 1 descriptor: *Unit 18, all Kuskokwim River drainages north and west 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 Kisaralik 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' W; and all drainages easterly of a line from the mouth of the Ishkowiik 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 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 (Figure 1).*

² full season is Sep. 1-Oct. 15, but ADF&G uses discretionary authority to set dates in Zone 1 each year

³ Zone 2 descriptor: *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' W (Figure 1).*

Extent of Federal Public Lands/Waters

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

The Unit 18 Kuskokwim moose hunt area is comprised of 57% Federal public lands and consists of 56% USFWS managed lands and 1% BLM managed lands (**Figure 1**). Zone 2 within the Kuskokwim moose hunt area is comprised of 82% Federal public lands and consists of 79% USFWS managed lands and 3% BLM managed lands (**Figure 1**).

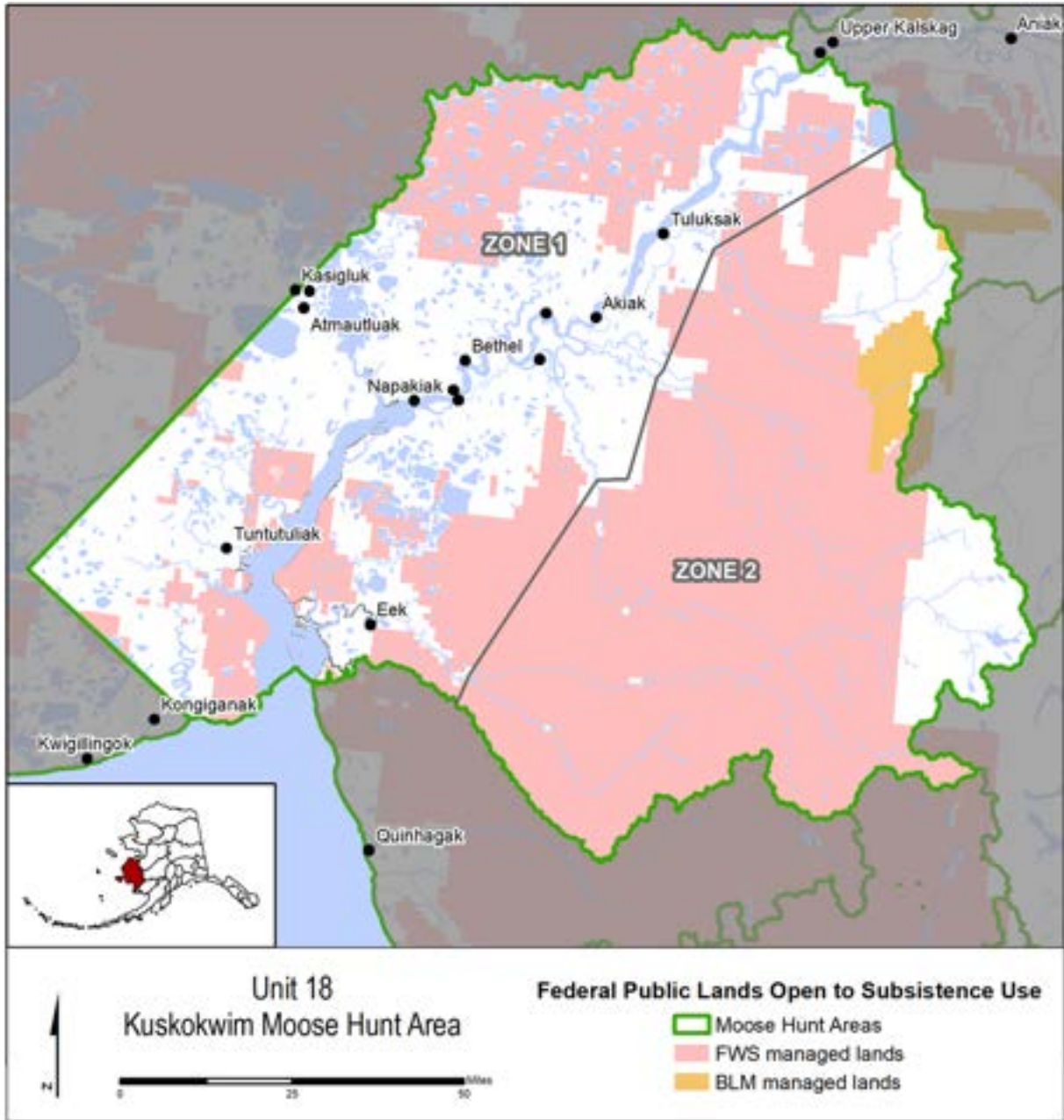


Figure 1. Land status and hunting zones in the Unit 18 Kuskokwim moose hunt area.

Customary and Traditional Use Determinations

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

Residents of Unit 18, Lower Kalskag, and Kalskag have a customary and traditional use determination for moose 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 NWR, 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 (ADF&G), 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 September 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 hunt area. The Sep. 1 – 30 season had a harvest limit of one antlered bull by State registration permit. The Yukon Delta NWR 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 August 18 – 31 emergency season only to residents of Tuluksak, with a quota of seven antlered bulls by Federal registration permit.

In 2020, the BOG adopted Proposal 7 as amended to change the State season dates for the RM615 moose hunt to Sep. 1-Oct.15 with a harvest limit of one bull, excluding the take of male calves. The first amendment to Proposal 7 was to extend the season from Sep. 1 – Sep. 30 to Sep. 1 – Oct. 15. Consideration was made to accommodate the holiday and teacher in-service days by keeping the season open date the same to allow continued opportunity for youth hunts. The second amendment to Proposal 7 changed the harvest limit from one antlered bull to one bull excluding the take of male calves. This was done to allow for proxy hunting but continue to prohibit the potential harvest of calves or incidental harvest of cows (ADF&G 2020).

In April 2020, the Board considered Wildlife Closure Review WCR20-38 and Wildlife Proposal WP20-35 concerning moose in the Kuskokwim hunt area. The Board voted to maintain status quo on the Federal lands closure reviewed by WCR20-38 because demand for moose by federally qualified subsistence users exceeded sustainable harvest levels. Proposal WP20-35 requested the addition of a may-be-announced season between Dec. 1 – Jan. 31. The Board rejected this proposal as part of the consensus agenda because of conservation concerns. While the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council (Yukon-Kuskokwim Council) had submitted this Proposal, they recommended to the Board to oppose it to allow more time for the moose population to fully recover following the harvest moratorium. Additionally, the Council noted that snowmachine access during a winter season could dramatically increase harvest pressure in the area, including accidental harvest of cows, further hampering recovery of the population.

In July 2020, the Board approved Wildlife Special Action WSA20-05, which requested extending the fall moose season in Zone 2 of the Unit 18, Kuskokwim hunt area from Sep. 1 – 30 to Sep. 1 – Oct. 7 for the 2020/21 regulatory year. Yukon Delta NWR submitted, and the Board approved the Wildlife Special Action WSA20-05 to provide more subsistence hunting opportunity since moose harvest quotas were not being met.

In 2021, the Board adopted the Council’s recommendation on Wildlife Special Action WSA21-03, extending the fall moose season in Zone 2 of the Unit 18, Kuskokwim hunt area from Sep. 1–30 to Sep. 1–Oct. 15 for the 2021/22 regulatory year. The Board adopted this special action to provide additional subsistence opportunity and to reduce regulatory complexity by aligning with State regulations.

In 2022, the Board considered Proposal WP22-43 and Proposal WP22-44 concerning moose in the Kuskokwim hunt area. The Yukon-Kuskokwim Delta and Western Interior Alaska Subsistence Regional Advisory Councils opposed Proposal WP22-43 and supported Proposal WP22-44. The Board adopted Proposal WP22-44 as modified by OSM to extend the fall moose season in the Kuskokwim Zone 2 hunt area of Unit 18 from Sep. 1–30 to Sep. 1–Oct. 15, and to establish a may-be-announced winter season from Dec. 1–Jan. 31 with a harvest limit of one antlered bull by Federal registration permit. The modification was to clarify the regulatory language and to delegate authority to the Yukon Delta NWR Manager to announce the winter season via delegation of authority letter. This proposal provided additional opportunity for federally qualified subsistence users and mitigated conservation concerns through harvest quotas and in-season management. Proposal WP22-43 requested delegating authority to the Federal in-season manager to increase the moose harvest quota in Zone 1 of the Kuskokwim hunt area of Unit 18 if the water levels are too low to access Zone 2. The Board rejected this proposal as part of the consensus agenda because of conservation concerns.

In December 2022, the Board adopted Wildlife Special Action WSA22-04 as modified by OSM to delegate additional authority to the Yukon Delta NWR to limit the number of permits issued and set permit conditions for the winter moose hunt in Zone 2 for the 2022/23 regulatory year. The OSM modifications were to clarify the effective period of the additional authority and to specify that permit conditions must comply with the Office of Management and Budget (OMB) information collection. The Board stated that limiting permit numbers and setting any needed permit conditions ensures the in-season manager can effectively manage the winter may-be-announced moose hunt in Zone 2 of the Kuskokwim hunt area of Unit 18. The Board also noted that these tools could help provide federally qualified subsistence users with more harvest opportunity while preventing overharvest.

Current Events Involving the Species

The Yukon-Kuskokwim Delta Subsistence Council submitted Wildlife Proposal WP24-21, requesting to add the communities of Kongiganak, Kwigillingok, and Quinhagak to the group of communities who are eligible to harvest moose in the Kuskokwim River drainage hunt area in Unit 18.

Wildlife Closure Review WCR24-38 will review the closure to moose hunting in a portion of Unit 18, except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Kalskag.

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 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 River 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 River main stem and in its tributaries continues to grow.

Prior to 2020, 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 in Zone 1 was estimated to be 1,378 moose, or 1.6 moose/mile² (**Figure 2**). This represents an annual growth rate of 20% between 2011 and 2015. The population estimate for Zone 2 was 508 moose (YKDRAC 2019a). At that time, the Kuskokwim hunt area moose population remained below the State’s population objective of at least 2,000 moose in this area (Perry 2014).

Lack of snow cover in recent years precluded additional population surveys between 2015 and 2020. The survey completed in 2020 shows an increase of the moose populations in both zones. The estimated mid-point population in Zone 1 was 3,220 moose, and the minimum count in Zone 2 was 789 moose, which exceeds State population objectives (Figure 2) (Jones 2021, pers. comm., YKDRAC 2019b). Browse surveys indicate that the population in Zone 1 is potentially reaching a point that will limit or stop growth, and Zone 2 is about one-half of what it could be (Jones 2021, pers. comm.).

Composition estimates for the main stem in 2020 were 25 bulls:100 cows (ADF&G 2020). Bull:cow ratios, which were quite high during the harvest moratorium, declined when harvest resumed in 2009, but remained consistently above the minimum State management objective of 30 bulls:100 cows until 2020 (**Table 1**). The recent decline in the bull:cow ratio followed an increase in reported harvest and a liberal hunting season in 2019. Unreported harvest, increased winter mortality, and misclassification of young bulls with small antlers during surveys may also have contributed to the lower ratio in 2020. Bull:cow ratios in the Kuskokwim tributaries (Zone 2) are very high, although surveys have occurred infrequently. In 2015 and 2020, ratios were 83 and 42 bulls:100 cows, respectively (Oster 2020, Jones 2021, pers. comm.).

Fall calf:cow ratios of < 20 calves:100 cows, 20-30 calves:100 cows, and > 30-40 calves:100 cows may indicate declining, stable, and growing moose populations, respectively (Stout 2010). Between 2007 and 2020, calf:cow ratios in the main stem survey area (Zone 1) ranged from 45-73 calves:100 cows (**Table 1**; Jones 2018, pers. comm., ADF&G 2020, Oster 2020). In 2015 and 2020, calf:cow ratios in the Kuskokwim tributaries (Zone 2) were 62 and 40 calves:100 cows, respectively (Oster 2020). These high calf:cow ratios indicate a growing moose population. Twinning rates, which provide an index of nutrition, are also high, averaging 43% between 2015 and 2019 (YKDRAC 2019a, ADF&G 2020).

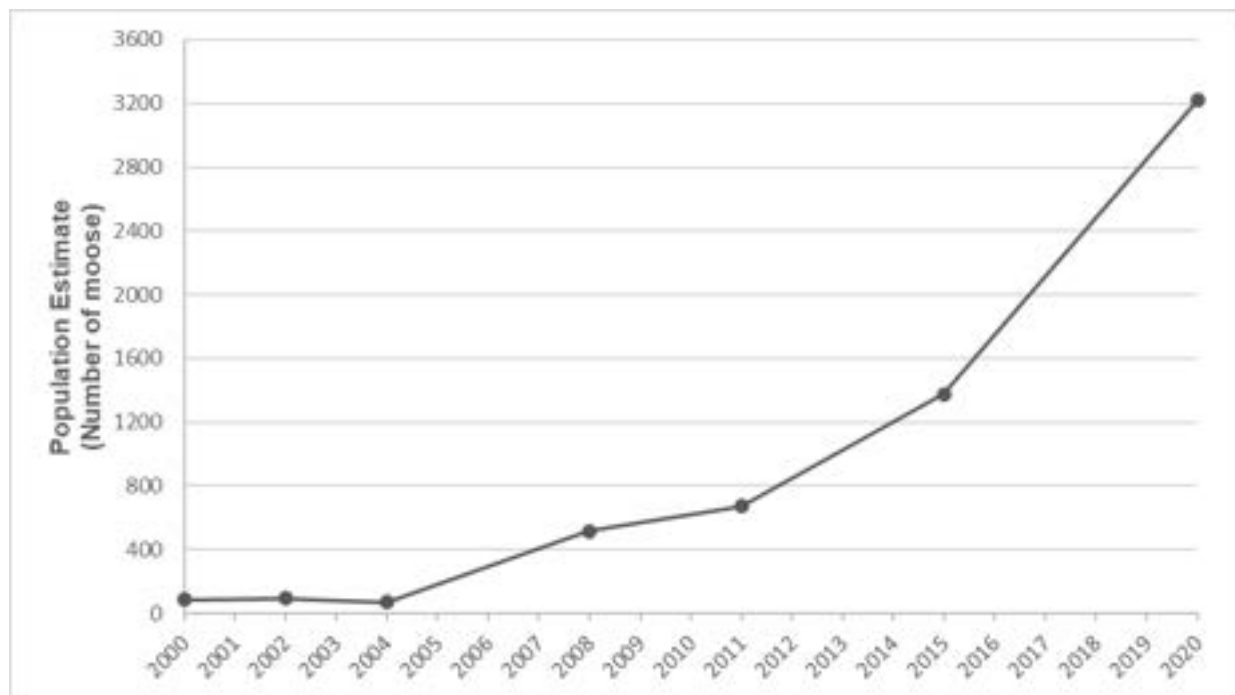


Figure 2. Estimated moose population size along the main stem of the Kuskokwim River, 2000 – 2020 (Perry 2014; Jones 2018, pers. comm.; Jones 2021, pers. comm.).

Table 1. Composition estimates for moose along the main stem of the Kuskokwim River, 2007 – 2020 (YDNWR 2015; Jones 2018, pers. comm.; ADF&G 2020; Oster 2020).

Year	Bulls:100 cows	Calves:100 cows
2007	98	73
2009	52	49
2010	51	49
2011	50	49
2013	41	72
2015	73	53
2016	70	56
2019	43	49
2020	25	45

Community Background

Forty-two widely dispersed communities, roughly 27,000 people, have a customary and traditional use determination for moose in the Unit 18 Kuskokwim hunt area (ADLWD 2022). However, in 2010 the Board found that 15 communities (roughly 13,000 people) have the highest customary dependence on moose in the Unit 18 Kuskokwim hunt area, based on the three criteria in ANILCA Section 804: customary and direct dependence upon the populations as the mainstay of livelihood, local residency, and the availability of alternative resources. Only residents of these 15 communities are eligible to harvest moose in the Unit 18 Kuskokwim hunt area, presented from lower to upper river communities:

Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautluak, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Kalskag.

All but two of the 15 communities are situated within the hunt area; Kalskag and Lower Kalskag are situated along the Kuskokwim River in Unit 19A, upriver from the hunt area.

These communities share some characteristics. Most are small with populations between 70 people in Oscarville to over 800 in Kwethluk (**Table 2**). The exception is the community of Bethel, population over 6,000 people, which is the hub community in the area, a center of healthcare, trade, and government, providing services to outlying areas. Most of the communities are not connected by roads and are accessed by boats or planes, snow machines, off-road vehicles, or highway vehicles on trails and the frozen river during winter. Kalskag and Lower Kalskag are connected by a State-maintained 4.2-mile road.

Table 2. The population of communities eligible to harvest moose in the Unit 18 Kuskokwim River drainage hunt area 1960–2010, organized from lower to upper river communities and based on the US Census (blank cell=0 or not available, ADCCED 2022).

Community	1960	1970	1980	1990	2000	2010	2020
Tuntutuliak	144	158	216	300	370	408	485
Eek	200	186	228	254	280	296	404
Napakiak	190		262	318	353	354	358
Napaskiak	154	259	244	328	390	405	509
Oscarville	51	41	56	57	61	70	70
Kasigluk	244		342	425	543	569	623
Nunapitchuk	327	526	299	378	466	496	594
Atmautluak			219	258	294	277	386
Bethel	1,258	2,416	3,576	4,674	5,471	6,080	6,325
Kwethluk	325	408	454	558	713	721	812
Akiachak	229	312	438	481	585	627	677
Akiak	187	171	198	285	309	346	462
Tuluksak	37	195	236	358	428	373	444
Lower Kalskag	122	183	246	291	267	282	278
Kalskag	147	122	129	172	230	210	212
Total	3,715	4,977	7,143	9,173	10,760	11,514	12,639

Cultural Knowledge and Traditional Practices

A primary source of information regarding the harvest and use of moose on the Kuskokwim is focused on Chuathbaluk, a central Kuskokwim Yup'ik village that has much in common with lower Kuskokwim communities in terms of culture, weather, environment, and hunting patterns (Charnley 1983).

Seasonal harvest patterns are influenced by several factors. Moose are hunted year-round; however, the intensity of harvest effort is influenced by weather conditions and regulations. Moose are available to hunters July, August, and September in habitats such as willows bordering rivers, creeks, and lakes. Bulls and cows are especially fat during these times. Bulls enter the rut in late September. In October the better-tasting meat of cows is preferred. In fall, access to moose habitat is possible if and when rivers and creeks are swollen from heavy rain. However, moose are more sedentary in rainy weather and harder to find, and gravel bars, where moose can sometimes be found feeding, become submerged. Freeze-up along the Kuskokwim River usually occurs in November, and it is often unsafe for travel. Warm spells in winter can return rivers and creeks to dangerous conditions for travel by hunters. Deep snow aids hunting by allowing travel by snow machine and by hampering moose mobility.

Community involvement in harvesting depends on the season. Moose hunting is almost always engaged in by the adult and adolescent men. During September an extended family group that often includes the wife, sisters, mother, and daughters of the hunters camp together for up to a week. At this time, generally, women and children gather berries while men hunt moose and black bear. Sometimes two or three households camp together in one area. The November and February hunts usually involve the male members of a household only, and hunting occurs while checking trap lines and during day or overnight trips from the village. In February, camping is limited by cold weather.

Several means are used to access harvest areas. Moose are typically hunted from boats in the fall. Motors are shut off and boats are allowed to drift downstream, guided by oars. Most moose hunting takes place within one mile of either side of the waterway that is being hunted. Snow machines also are used to travel to areas where moose are likely to be found. Fresh tracks are followed on snow machine or foot. Moose are sometimes tracked with snowshoes to beds where they are resting for the day. Aircraft is seldom used in moose hunting.

The season of harvest dictates proper processing and preservation methods of the harvest. Generally, moose are butchered at the kill site by members of hunting parties, taken back to the village, and further processed. In the past, meat was dried and smoked at fall hunting camps. When enough animals had been taken, skin boats were constructed using the animal hides, and the hunters drifted back downstream.

Dry meat is a staple food eaten throughout the summer when families are at fish camp. Most villagers depend on the weather to prevent their meat from spoiling. For this reason, hunting seasons that occur during months when temperatures have already fallen below freezing are preferred. The hind and front quarters and rump are commonly hung in a salmon smokehouse, or suspended from a rack, wrapped with material such as burlap to protect them from animals.

During warm months, meat is placed in garbage bags and submerged in creeks to be kept cool. If meat is hung it is also brushed with a brine solution to discourage flies from laying eggs. The large, butchered parts of the animal such as legs, rump, and ribs are smoked to create a hardened outer layer over the meat. This protective layer keeps flies off the meat.

Preparing moose meat for meals commonly means boiling it, and less often frying, roasting, and barbecuing. Marrow from the leg bone is considered a delicacy. Moose head soup is a favorite dish, the nose, tongue, cheek meat, and brains being the most desirable parts. The liver, heart, kidneys, part of the stomach muscle, and one of the four stomachs are all eaten. Moose fat is highly valued and is cooked and eaten or rendered into oil.

Harvest and Use of Moose

Moose harvest and use data are lacking or incomplete for Unit 18 communities. One cause of this data gap is that while moose hunters have been required to obtain harvest tickets to hunt in some areas of Unit 18, returning harvest reports has not always been mandatory. Information concerning the harvest and use of moose in Unit 18 was obtained primarily through household harvest surveys. A registration permit has been required to hunt for moose in the Kuskokwim hunt area since it re-opened in 2009 after a five-year moratorium on hunting moose, and harvest reporting is now mandatory when hunting in this area.

The estimated harvest (from any area) of moose based on periodic household surveys is displayed in **Table 3**. The estimated moose harvest ranged from a low of 2 moose in Oscarville in 2010 and Lower Kalskag in 2005 to a high of 357 moose by Bethel residents in 2012. The difference between these harvest levels is in part because the population in Bethel is so much higher than in other communities. **Table 4** demonstrates that while local users hunting for moose are not always successful, the majority of households in every community use moose either by harvesting it themselves or by receiving it from another household. Of the total reported annual harvest of moose in these communities from 2011 to 2021, between 37% and 62% were taken from other areas, outside the Unit 18 Kuskokwim hunt area, based on the ADF&G reporting system and online database (ADF&G 2022a).

Table 3. The estimated harvest of moose in communities eligible to harvest moose in the Unit 18 Kuskokwim hunt area, organized by community and based on household surveys (blank=question not asked, ADF&G 2022b).

Community	Study year	Estimated harvest of moose	Lower estimate	Upper estimate	Per person harvest (in pounds of edible weight)
Akiachak	1998	106	93	119	145
Akiak	2010	27	20	33	38
Bethel	2011	279	220	338	25
Bethel	2012	357	294	419	34
Eek	2013	14	14	14	22
Kalskag	2003	21	12	32	46
Kalskag	2004	9	9	10	26
Kalskag	2005	12	6	21	24
Kalskag	2009	15	12	18	40
Kwethluk	1986	33	33	33	45
Kwethluk	2010	33	25	42	25

Lower Kalskag	2003	30	14	52	53
Lower Kalskag	2004	12	10	15	25
Lower Kalskag	2005	2	1	10	5
Lower Kalskag	2009	18	15	21	32
Napakiak	2011	13	13	13	29
Napaskiak	2011	29	29	29	43
Nunapitchuk	1983	12	3	22	19
Oscarville	2010	2	2	4	20
Tuluksak	2010	20	16	24	24
Tuntutuliak	2013	17	17	17	22

Table 4. The percentage of households reporting using, attempting to harvest, or harvesting moose in communities eligible to harvest moose in the Unit 18 Kuskokwim hunt area, organized by community and based on household surveys (blank=question not asked; ADF&G 2022b).

Community	Study year	Number of households interviewed	Percentage of households using moose	Percentage of households attempting to harvest moose	Percentage of households harvesting moose
Akiachak	1998	81	95%	84%	68%
Akiak	2010	63	94%	62%	27%
Bethel	2011	473	61%	28%	13%
Bethel	2012	466	75%	34%	19%
Eek	2013	64	77%	59%	16%
Kalskag	2003	34	74%	59%	29%
Kalskag	2004	50	72%	76%	16%
Kalskag	2005	34	59%	50%	18%
Kalskag	2009	48	92%	92%	25%
Kwethluk	1986	36		63%	29%
Kwethluk	2010	93	84%	51%	22%
Lower Kalskag	2003	34	74%	62%	24%
Lower Kalskag	2004	53	36%	41%	17%
Lower Kalskag	2005	30	40%	30%	3%
Lower Kalskag	2009	63	81%	81%	24%
Napakiak	2011	56	71%	46%	14%
Napaskiak	2011	56	89%	64%	29%
Nunapitchuk	1983	17			24%
Oscarville	2010	12	75%	33%	17%
Tuluksak	2010	68	71%	65%	24%
Tuntutuliak	2013	67	87%	64%	15%

Harvest History

Following the harvest moratorium, moose harvest on non-Federal lands was allowed under State regulations, 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 2011, reported harvest has averaged 183 moose annually (ADF&G 2022a). Notably, reported harvest has increased, doubling between 2014 and 2017 (**Figure 2**). 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 two harvest reports in 2013 to 18 in 2021 (ADF&G 2022a). 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). About 30 moose, including around 20 cows are harvested each year for funerals and potlatches in Zone 1 (YKDRAC 2019b; Moses 2020, pers. comm.).

Despite increases in quotas and harvest, demand still outweighs moose availability. From 2009 to 2019, 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 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 4**). This has resulted in some frustration among locals, who note that short unpredictable seasons make planning difficult. In response to this, ADF&G no longer uses quotas or closes Zone 1 with emergency closures. Fixed dates determined by estimated time needed to reach the set harvest objective are released prior to the start of each season (Jones 2021, pers. comm.). 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 (YKDRAC 2017b).

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 objective. Zone 1, which is comprised primarily of State managed lands, is located along the main stem of the Kuskokwim River. The season and harvest objective 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 are managed by the Yukon Delta NWR (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 evident 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 from 2011 through 2018, and the quota has been met or exceeded most years. Since ADF&G has changed to the fixed season using the harvest objective method, Zone 1 hunt was open for 11 days in 2020 and for 9 days in 2021 and 2022 (Jones 2021, pers. comm.). For the hunt in the tributaries, the quota has only been met once, in 2014, despite increasing season lengths (**Table 4**). 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. The unmet quota is likely function of these difficulties, rather than lack of need for moose meat (YKDRAC 2017a, 2017b; Rearden 2018, pers. comm.).

In 2022, the Board established a may-be-announced winter moose season under Federal regulations to provide additional opportunity for subsistence users to harvest moose and achieve the Zone 2 quota. Under delegated authority, the Yukon Delta NWR announced a month-long season from Jan. 1-31, 2023, for antlered bulls only.

ADF&G is currently managing the Kuskokwim moose population for continued growth and advises maintaining harvests within quotas and for bulls-only. However, ADF&G expects regulations in the Kuskokwim hunt area will be liberalized over the next five years if the moose population approaches carrying capacity as indicated by browse removal surveys (YKDRAC 2019a).

Local users took 51% of their reported moose harvest outside the Unit 18 Kuskokwim hunt area from 2011 to 2021, primarily in the remainder area of Unit 18, from a low of 42% in 2011 to a high of 63% in 2020 (ADF&G 2022a).

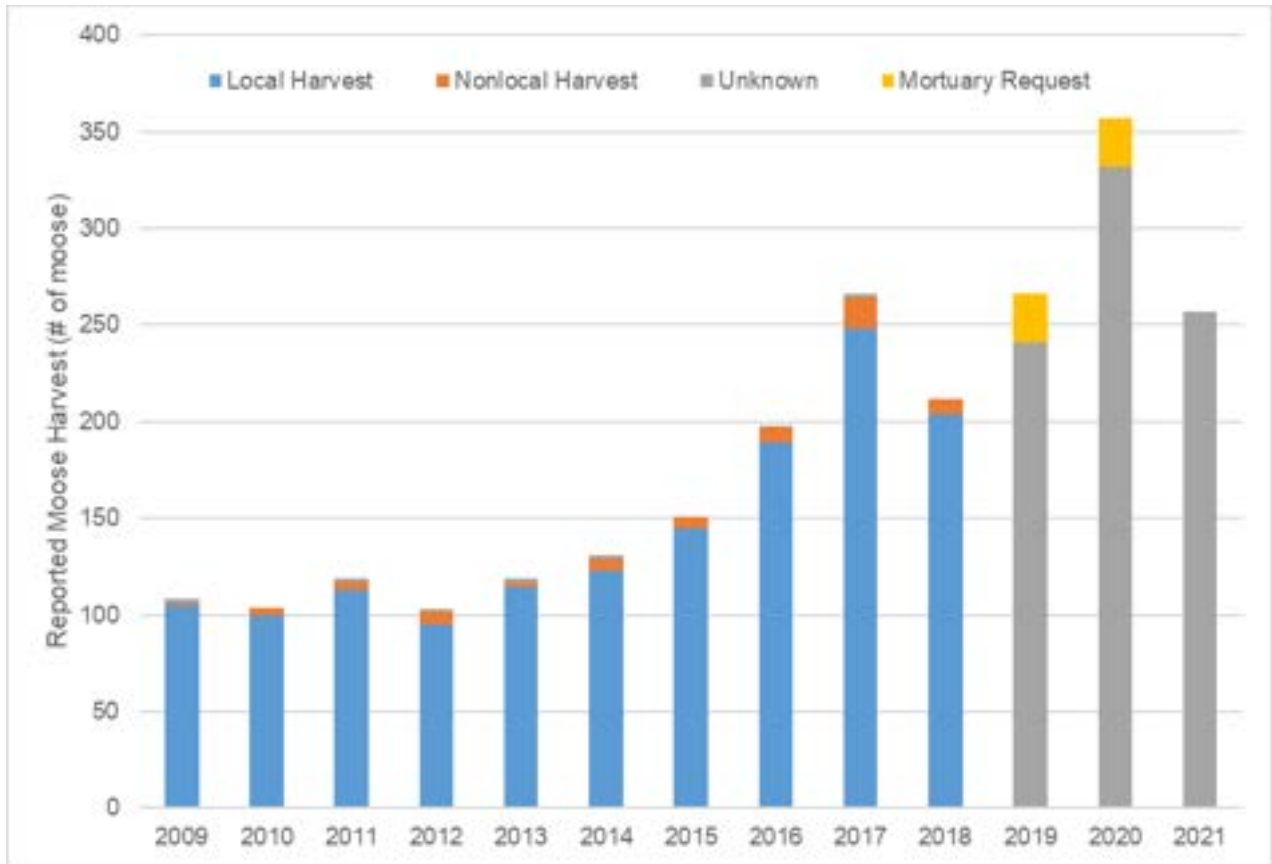


Figure 3. Reported moose harvest by RM615 in the Kuskokwim hunt area, 2009 – 2021 (ADF&G 2019a; Oster 2020, Jones 2021, pers. comm.; Moses 2020, pers. comm.). Note: 2019-2021 data does not distinguish between local and nonlocal harvest.

Table 5. State and Federal moose quotas and harvest, 2011 – 2022 (Jones 2022, pers. comm.; Moses 2020, pers. comm.).

Year	Quota (number of moose)			Harvest (number of moose)				
	State	Federal	Total	State	Federal	Cultural	Unknown	Total
2011	81	19	100	93	11	5	15	124
2012	81	19	100	82	17	12	4	115
2013	81	19	100	89	21	18	9	137
2014	81	19	100	93	15	18	23	149
2015	110	45	155	105	31	24	15	175
2016	150	90	240	136	44	23	14	217
2017 ^a	170	110	280	186	80	36	0	302
2018 ^a	170	110	280	141	72	30	0	243
2019 ^a	N/A ^c	120	N/A ^c	160	70	48	0	278

Year	Quota (number of moose)			Harvest (number of moose)				
	State	Federal	Total	State	Federal	Cultural	Unknown	Total
2020 ^a	N/A ^c	110	N/A ^c	239	90	33	5	367
2021 ^a	N/A ^c	110	N/A ^c	151	76	29	1	257
2022 ^a	N/A ^c	110	N/A ^c	188 ^b	60 ^b			

^a The State quota corresponds to Zone 1 and the Federal quota corresponds to Zone 2.

^b Reported harvest as of October 24, 2022.

^c State uses fixed season dates instead of quota.

Effects of the Proposal

If the Board adopts this proposal, the harvest limit would be liberalized to ‘up to one moose’ and the in-season manager could determine the permit allocation system (i.e. limited registration or random drawing permit hunt), set any needed permit conditions, and determine antler and sex restrictions for the may-be-announced winter moose season in Zone 2 of the Kuskokwim hunt area in Unit 18.

Although boat access to Zone 2 is difficult in the fall due to fluctuating water levels, snowmachine access during the winter can be very efficient, creating concerns that the remaining harvest quota may be met and exceeded very quickly. Allowing the flexibility of using either a first-come-first-serve registration permit system or a random draw permit system to allocate permits would allow the in-season manager to utilize the system that is best to fairly allocate a limited number of permits to subsistence users in multiple villages with limited staff. This would also reduce the chance of over-harvest, while providing increased, equitable harvest opportunity for federally qualified subsistence users. Limiting the number of permits issued mitigates conservation concerns, and could allow for a longer season, which is beneficial as travel and snow conditions vary.

Setting permit conditions allows the in-season manager to set harvest reporting requirement to track in-season harvest, ensuring the harvest quota is not exceeded and closing the season if or when the quota is met. Additionally, if the Board adopts this proposal, the harvest limit during the winter season would be liberalized, and the in-season manager would have the flexibility to set sex and antler restrictions. This further provides for flexible hunt management and the ability to adapt to changing moose population trends, hunter behavior and their ability to identify bulls without antlers.

If the Board rejects this proposal, and a winter season is announced, the number of permits issued will be unlimited. This could create a conservation concern as the Zone 2 harvest quota could be quickly exceeded leading to overharvest. Alternatively, if a winter season is not announced due to conservation concerns, potential harvest opportunity for federally qualified subsistence users is lost.

OSM PRELIMINARY CONCLUSION

Support Proposal WP24-20.

Justification

The delegated authority given to the Yukon Delta NWR Manager in 2022 was intended to give federally qualified subsistence users additional opportunity to harvest moose in Zone 2 when the quota is not met during the fall season. The harvestable surplus of moose targeted for the may-be-announced winter season is only for the remaining quota not met during the fall season. Liberalizing the harvest limit during the winter season and delegating additional authority to manage the winter hunt allows for flexible, adaptable hunt management that optimizes subsistence harvest opportunity and conservation. This proposal mitigates the chances of overharvest and allows for additional harvest opportunity by federally qualified subsistence users during the may-be-announced winter moose season in Zone 2.

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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 Ishkowiik 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° 59.412 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. Delegation: 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. 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 close the fall season
- Open and close a season between December 1 and January 31
- Determine annual harvest quotas
- **Announce sex and antler restrictions for the winter hunt**
- **Determine the permit allocation system on an annual basis (i.e. set the number of permits to be issued through a limited registration or random drawing hunt)**
- **Set any needed permit conditions for moose on Federal public lands. Permit conditions must be approved by OSM and in accordance with the current OMB information collection.**

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 Ishkowiik 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° 59.412 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.

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

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

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

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

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

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

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

You may defer a special action request, otherwise covered by this delegation of authority, to the Board in instances when the proposed management action will have a significant impact on a large number of

Federal subsistence users or is particularly controversial. This option should be exercised judiciously and may be initiated only when sufficient time allows for it. Such deferrals should not be considered when immediate management actions are necessary for conservation purposes. The Board may determine that a special action request may best be handled by the Board, subsequently rescinding the delegated regulatory authority for the specific action only.

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

Sincerely,

Anthony Christianson
Chair

Enclosures

cc: Federal Subsistence Board

Assistant Regional Director, Office of Subsistence Management
Deputy Assistant Regional Director, Office of Subsistence Management
Subsistence Policy Coordinator, Office of Subsistence Management
Wildlife Division Supervisor, Office of Subsistence Management
Subsistence Council 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

WP24-19 Executive Summary	
General Description	<p>Proposal WP24-19 requests that the fall moose season within the Kanektok and Arolik River drainages in Unit 18 be extended from September 1 – 30 to September 1 – October 15.</p> <p><i>Submitted by: the Native Village of Kwinhagak</i></p>
Proposed Regulation	<p>Unit 18—Moose</p> <p><i>Unit 18 – south of the Eek River drainage and north of the Goodnews River drainage—1 antlered bull by State registration permit</i></p> <p><i>Sep. 1 – Sep. 30 Oct. 15</i></p>
OSM Preliminary Conclusion	Support Proposal WP24-19
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

DRAFT STAFF ANALYSIS WP24-19

ISSUES

Proposal WP24-19, submitted by the Native Village of Kwinhagak, requests that the fall moose season within the Kanektok and Arolik River drainages in Unit 18 be extended from September 1 – 30 to September 1 – October 15.

DISCUSSION

The proponent states that moose are an important subsistence resource for members of the Native Village of Kwinhagak¹. Because of increases in food costs, the village’s remote location, and changing environmental factors, food security is a significant and growing concern. Importantly, since 2020, subsistence hunters have not hunted caribou from the Mulchatna herd due to low population numbers. The Mulchatna herd has historically been one of the village’s primary food sources. Thus, there is an increased reliance on moose hunting to meet subsistence needs, and coincidentally the moose population in the area near Quinhagak (the Arolik River and Kanektok River drainages) is increasing.

The proponent further states that the current season dates of September 1- 30 do not provide an adequate opportunity for Quinhagak’s subsistence needs. Poor weather during the month of September for the past two years has resulted in the failure to reach subsistence needs before the hunting season closed. Other areas in Unit 18 have moose hunts that are open for longer seasons. The Native Village of Kwinhagak proposes that the Kanektok and Arolik river drainages moose season be extended by 15 days to match those seasons and provide a more meaningful opportunity for Quinhagak residents to meet subsistence needs.

Note: While the proposal as submitted requests extending the moose season in the Kanektok and Arolik river drainages, the proponent clarified that the proposed season extension is for the entire hunt area that encompasses the community of Kwinhagak. This area corresponds to the existing hunt area of “Unit 18, south of the Eek River drainage and north of the Goodnews River drainage” as reflected below in the regulations section (**Figure 1**, Cleveland 2023, pers. comm.).

¹ Kwinhagak is the Tribe, while Quinhagak is the USGS spelling on maps.

Existing Federal Regulation

Unit 18—Moose

Unit 18 – south of the Eek River drainage and north of the Goodnews River drainage—1 antlered bull by State registration permit *Sep. 1 – Sep. 30*

Proposed Federal Regulation

Unit 18—Moose

Unit 18 – south of the Eek River drainage and north of the Goodnews River drainage—1 antlered bull by State registration permit *Sep. 1 – ~~Sep. 30~~ Oct. 15*

Existing State Regulation

Unit 18—Moose

Residents: Unit 18 – south of the Eek River drainage and north of and including Carter Bay drainage—1 antlered bull by permit available in person in Eek and Quinhaqak Aug 1- Sep. 30. *RM617 Sep. 1 – Sep. 30*

Nonresidents: Unit 18 – south of the Eek River drainage and north of and including Carter Bay drainage *No open season*

Extent of Federal Public Lands/Waters

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

Federal public lands comprise approximately 79% of the Kanektok/Arolik moose hunt area and consist of 69% USFWS managed lands and 10% BLM managed lands. Federal public lands comprise approximately 87% of the area including the Kuskokwak and Tungak Creek drainages, all of which are managed by USFWS (**Figure 1**).

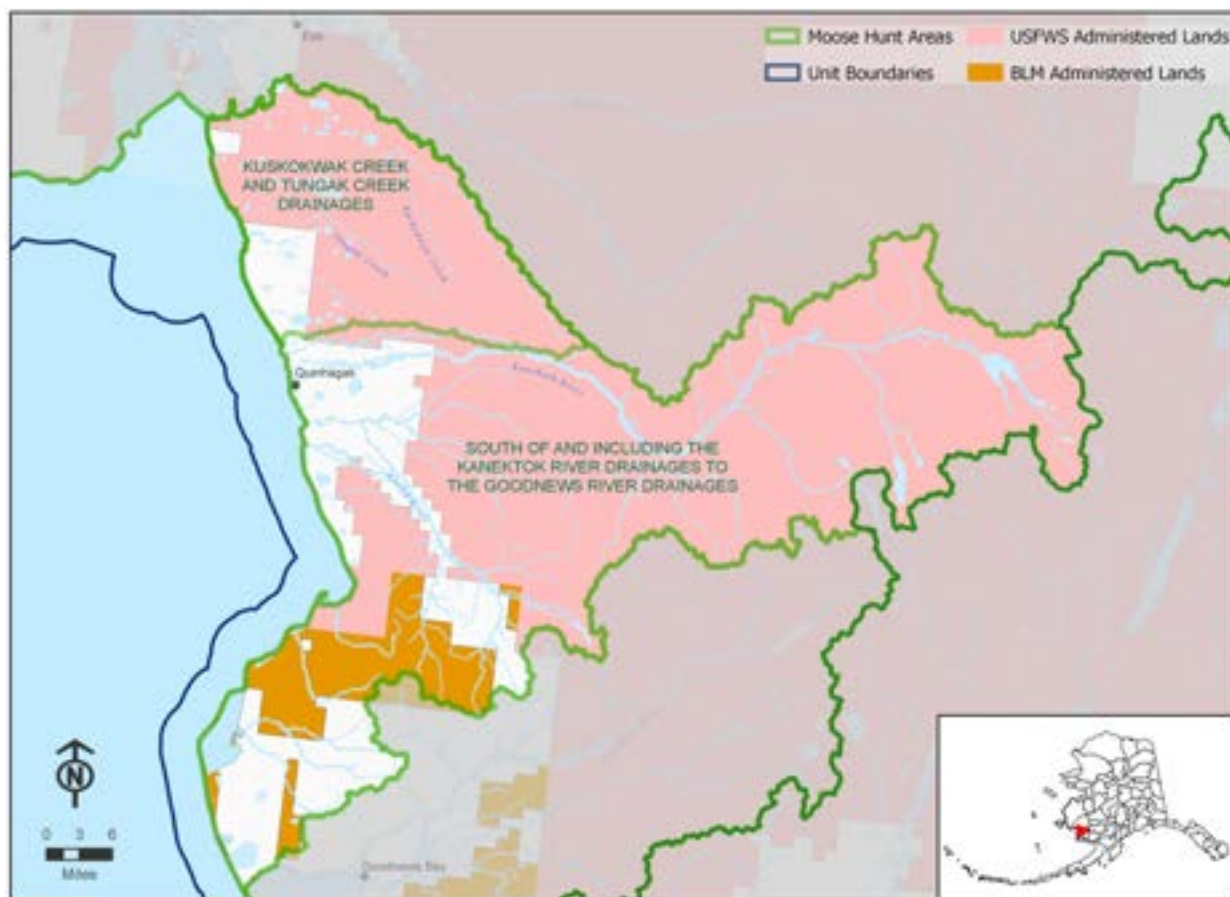


Figure 1. The previous combined Federal hunt areas that make up the south of the Eek River drainage and north of the Goodnews River drainage hunt area.

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 that portion of Unit 18 that is south of the Eek River drainage and north of the Goodnews River drainage.

Regulatory History

Federal public lands in this hunt area were closed to the harvest of moose from 1991-2020. In 1991, the Federal Subsistence Board (Board) considered Proposal P91-124, submitted by Togiak National Wildlife Refuge (NWR). Proposal P91-124 requested that the regulations for portions of Unit 18 in the Kanektok and Goodnews River drainages be consolidated with the regulations for the lower Yukon hunt area, which had no open moose season at that time. Togiak NWR 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.

In 1998, the Board adopted Proposal P98-63, which modified the hunt area descriptor for the Kanektok/Goodnews area 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 adopted Proposal WP08-34 with modification, opening a hunt in the southern portion of the Kanektok/Arolik/Goodnews hunt area. 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.

In 2010 and 2014, there were two unsuccessful attempts to establish a Federal subsistence moose season in the Kanektok/Arolik hunt area. Proposal WP10-61 and Wildlife Special Action WSA14-01 were both submitted by the Native Village of Quinhagak IRA Council. Each requested the establishment of a September 1 – 30 moose season with a harvest limit of one antlered bull by State registration permit. However, the Board rejected Wp10-61 and WSA14-01 due to ongoing conservation concerns.

In 2019 and 2020, a series of coordinated regulatory requests were submitted to the Board and the BOG related to the Kanektok/Arolik hunt area. At their March 2019 meeting, the BOG adopted Proposal 150, submitted by the Alaska Department of Fish and Game (ADF&G), to require a registration permit for the State moose hunt in the Kanektok/Arolik hunt area, rather than a harvest ticket. In addition to Proposal 150 under State regulations, the Togiak NWR submitted temporary special action request WSA19-01 and wildlife Proposal WP20-32/33, requesting 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.

Additionally, Wildlife Special Action WSA19-09 was submitted by the Native Village of Kwinhagak IRA Council, the City of Quinhagak Council, and the Qanirtuuq Corporation Board of Directors, requesting that moose harvest be allowed in the Unit 18 Kanektok hunt area during winter/spring 2020. The Board approved WSA19-09 with the modification to delegate authority to the in-season manager to open a may-be-announced moose season for winter/spring 2020. Adoption of Proposals WP20-32/33 enlarged the Kanektok/Arolik hunt areas to match the State hunt boundary, rescinded the Federal closure, and established the current Federal regulations for this hunt area. The Board stated that the

moose population in this area had significantly increased, allowing for harvest opportunity by federally qualified subsistence users.

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 Togiak NWR 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. Since then, the population has significantly increased to 173 in 2018, and in 2020 the minimum count was 236 moose (Aderman 2023, pers. comm.). This represents a 36% growth rate between 2018 to 2020.

Composition surveys in 2017 yielded an estimate of 43 bulls:100 cows in 2017 and 29 calves:100 cows. Refuge biologists believe that these estimates are likely biased high for bulls and biased low for calves (Aderman 2019, pers. comm.).

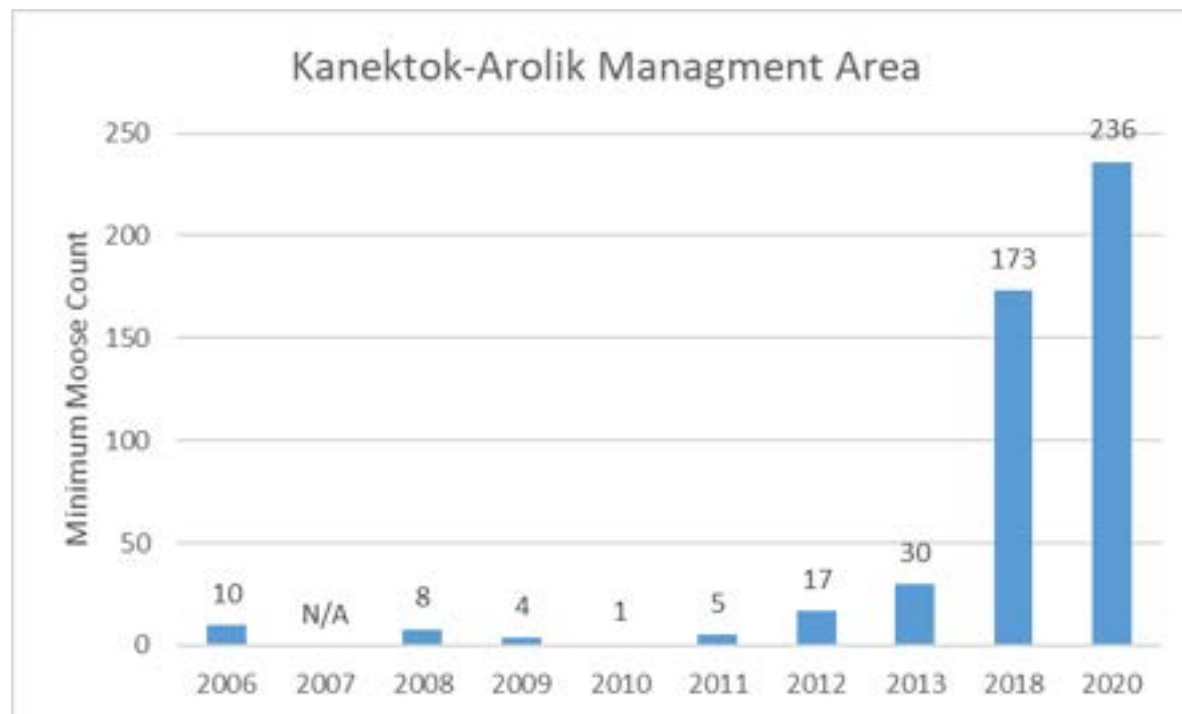


Figure 2. Minimum counts of adult and calf moose in the Kanektok-Arolik management area, 2006-2020 (Aderman 2023, pers. comm.).

Community Background

Subsistence activities in the Kanektok River (*Qanirtuuq*) and Arolik River (*Agalik*) drainages are conducted primarily by the community of Quinhagak (*Kuinerraq, Kuingnerraq*). Quinhagak is a long-standing Yup'ik community situated near the mouth of the Kanektok River on the east shore of Kuskokwim Bay, less than a mile from the Bering Sea coast. Quinhagak is a 45-minute flight from Bethel and is otherwise accessible by boat or snowmachine (Godduhn et al. 2020). The population of Quinhagak, estimated at 776 people in 2020, has more than doubled since 1960, and most residents, over 90%, are originally from the community (Ikuta et al. 2016, ADCCED 2023). Yup'ik people have lived and traveled along the Kanektok and Arolik Rivers for millennia (Dumond 1987, Rearden and Fienup-Riordan 2013). Residents of other villages, including Eek and Tuntutuliak, also are known to use the Kanektok River and Arolik River drainages to harvest moose for subsistence, though on an occasional basis (Ikuta et al. 2016, ADF&G 2023a). Over 100 native allotments and seasonal camps used for subsistence activities are present along the Kanektok River and Arolik River drainages. The highest concentration of allotments is at the mouth of the Kanektok River near Quinhagak, although allotments occur along the upstream reaches of the river all the way up to Kagati and Pegati lakes (Buzzell and Russell 2010).

Quinhagak residents no longer relocate their entire households between seasonal camps as they did in prehistoric times, or even to the degree that they did in the 1990s. Advances in equipment, particularly boats with large motors and snowmachines have greatly increased the ability of residents to meet their needs on day trips, while modern obligations often preclude extended periods of absence from Quinhagak (La Vine et al. 2007, Godduhn et al. 2020). Commercial fishing has been variously focused on salmon, herring, and halibut over the decades, but because of a lack of processing facilities, those opportunities have been absent in recent years (Fall et al. 2018).

Cultural Knowledge and Traditional Practices

In 1983, Quinhagak people described their moose hunting activities, “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” (Wolfe et al. 1984: 322–323). Residents of Quinhagak occasionally harvested 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).

More recently, in 2013, Ikuta and others described a Quinhagak hunting party of three people travelling inland by boat, setting up camp, and continuing on foot. Hunters recounted 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).

Quinhagak has participated in systematic household harvest surveys, the most recent in 2013. This was before Federal public lands in the local area opened to the harvest of moose in 2019 (ADF&G hunt RM617, ADF&G 2023a).

Results of the survey show a high dependence on moose in Quinhagak. Moose harvest was 31 lbs per person, about 10% of the overall harvest. For comparison, the harvests of birds and eggs, marine mammals, and plants and berries were at the same rate as moose (about 30 lbs. per person in each of these three resource categories). Fish were harvested at the highest rate at 158 lbs. person, over half of the harvest of wild resources for subsistence. Forty-eight households were asked about moose hunting areas, so this a partial representation of areas used in 2013, and hunting was concentrated between the Eek and Goodnews Rivers. Quinhagak residents hunt for moose primarily in this area because of its close proximity and accessibility by boat and myriad historical hunting, trapping, and fishing camps (Ikuta et al. 2016, ADF&G 2023a).

It should be noted that caribou are 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 of edible weight in 2013 (Ikuta et al. 2016). This is a contrast to 1982 reports, when their harvest was 33% moose and 67% caribou (ADF&G 2023a).

Harvest History

Between 1991 and 2019, Federal public lands in this hunt area were closed to hunting moose by all users. Therefore, all legal moose harvest from the Kanektok and Arolik River drainages occurred under State regulations on State-managed lands. Between 2003 and 2018, reported harvest was 61 moose (**Figure 3**). Of those, 90% (55 moose) were taken by local users. Residents of Quinhagak harvested 70% (43 moose) of the total reported harvest during this time period. Only 2 moose were reported harvested by residents of Eek (ADF&G 2019b). While reported harvest was low, averaging just four moose per year, observations by local biologists during this time period indicate that at least some illegal harvest occurred (Aderman 2014), although the magnitude of unreported harvest is unknown.

Since 2019, when State registration permit RM617 was implemented and the Federal lands closure was rescinded, an average of 12 moose have been reported harvested each year (2019 - 2021), all by hunters from Quinhagak. That is an average success rate of 21% for the average of 61 reported hunters during these 3 years (**Figure 3**, ADF&G 2023b).

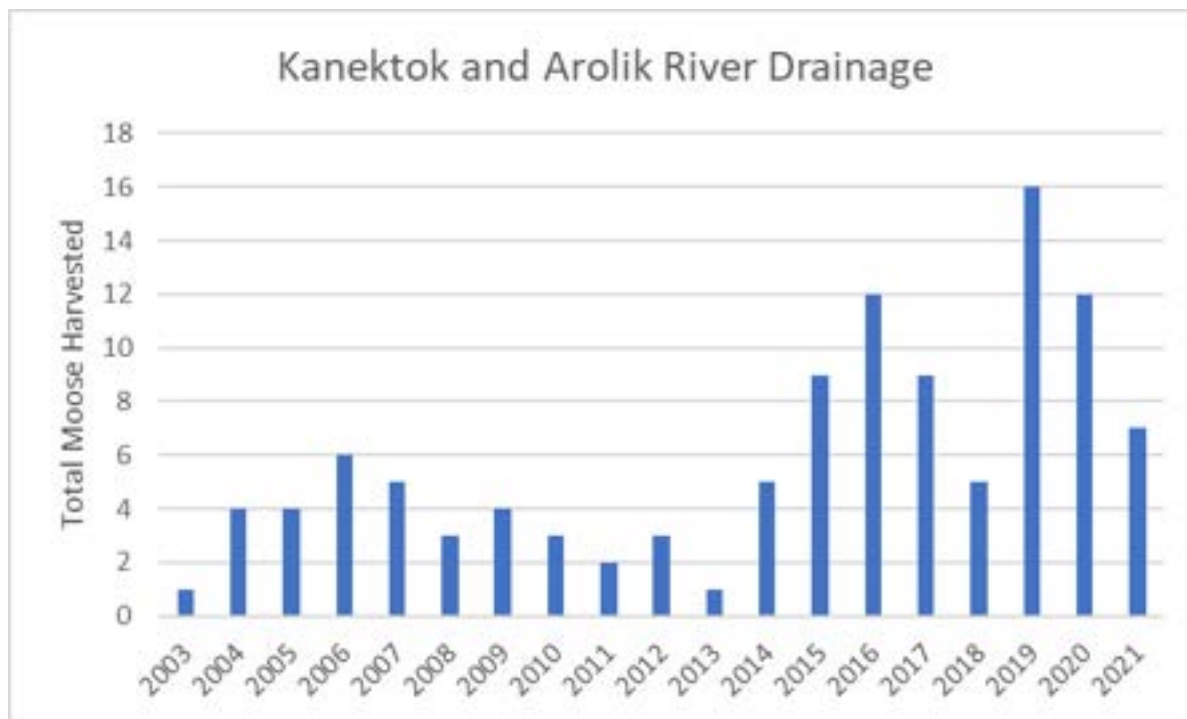


Figure 3. Reported harvest in the Kanektok and Arolik river drainages, 2003 – 2021 (ADF&G 2023b; BOG 2019).

Effects of the Proposal

If Wildlife Proposal WP24-19 is adopted, the moose season in the Kanektok/Arolik hunt area of Unit 18 would be extended, providing federally qualified subsistence users with an additional 15 days to harvest moose. This would give federally qualified subsistence users more opportunity to fulfill subsistence needs, which may be especially important given the reduction in other subsistence resources.

Effects of adopting this proposal on the moose population are unknown. On average, 12 moose a year are harvested from 61 hunters with a 21% success rate. At these current levels, the moose population continues to increase. The additional 15 days of opportunity to harvest moose may result in a substantial increase in overall harvest and harvest success rates due to better hunting conditions. This may curtail the growth rate of this growing moose population.

Adoption of this proposal would misalign State and Federal regulations. This would increase regulatory complexity and may cause some confusion since Federal regulations require the use of a State registration permit for this hunt. Additionally, if adopted, this would also provide a Federal subsistence priority.

OSM PRELIMINARY CONCLUSION

Support Proposal WP24-19.

Justification

Proposal WP24-19 provides additional opportunity for federally qualified subsistence users. There are minimal conservation concerns as the moose population continued to increase after 2019 when regulations were greatly liberalized.

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WP24 22 Executive Summary					
General Description	The Proposal WP24-22 is a request for the Federal Subsistence Board to recognize customary and traditional uses of muskoxen in the mainland area of Unit 18 by residents of Unit 18. <i>Submitted by: Yukon-Kuskokwim Delta Subsistence Regional Advisory Council</i>				
Proposed Regulation	<p style="text-align: center;">Customary and Traditional Use Determination—Muskoxen</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 60%;"><i>Unit 18, Nelson Island and Nunivak Island</i></td> <td style="width: 40%;"><i>No Federal subsistence priority</i></td> </tr> <tr> <td><i>Unit 18, remainder</i></td> <td><i>Rural residents of Unit 18</i></td> </tr> </table>	<i>Unit 18, Nelson Island and Nunivak Island</i>	<i>No Federal subsistence priority</i>	<i>Unit 18, remainder</i>	<i>Rural residents of Unit 18</i>
<i>Unit 18, Nelson Island and Nunivak Island</i>	<i>No Federal subsistence priority</i>				
<i>Unit 18, remainder</i>	<i>Rural residents of Unit 18</i>				
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
WP24-22

ISSUES

The Proposal WP24-22, submitted by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council, is a request for the Federal Subsistence Board (Board) to recognize customary and traditional uses of muskoxen in the mainland area of Unit 18 by residents of Unit 18.

The “mainland” area of Unit 18 refers to areas not on Nunivak or Nelson islands. In regulation, the mainland area of Unit 18 is called the “remainder” area of Unit 18.

A companion proposal will follow, WP24-23, requesting the Board establish a Federal hunt for muskoxen in the mainland area of Unit 18, if this proposal, WP24-22, is adopted by the Board.

DISCUSSION

The proponent states that muskoxen were re-introduced to Alaska with the intention that one day the population would grow enough that they could be hunted and provide food for subsistence. Muskoxen have migrated from the Nelson Island herd over the past 50 years to various parts of Unit 18 mainland area and have been observed by local residents across various parts of the region to be increasing in numbers and expanding their range. Much of their current habitat is on Federal public lands of the Yukon Delta National Wildlife Refuge. The proponent continues, recognizing the customary and traditional uses of muskoxen by residents of Unit 18 is the first step to allow these animals to be potentially hunted by Federally qualified subsistence users in the region. The proponent ends by saying that residents of Unit 18 desire the opportunity to harvest muskoxen for subsistence whenever a harvestable surplus is identified and believe the additional opportunity could help alleviate food security concerns.

Only Unit 18 residents’ customary and traditional uses of muskoxen are described below. When a proposal requests to add communities, or to add residents of an area, to an existing customary and traditional use determination, then the analysis focuses on rural residents identified in the proposal, in this case rural residents of Unit 18.

Currently, there is a customary and traditional use determination for muskoxen in Unit 18 that indicates there is no Federal subsistence priority, which was adopted by the Board in 1992 (72 Fed. Reg. 22961, [May 29, 1992]).

Existing Federal Regulation

Customary and Traditional Use Determination—Muskoxen

Unit 18

No Federal subsistence priority

Proposed Federal Regulation

Customary and Traditional Use Determination—Muskoxen

Unit 18, Nelson Island and Nunivak Island *No Federal subsistence priority*

Unit 18, remainder *Rural residents of Unit 18*

Extent of Federal Public Lands/Waters

The mainland area of Unit 18 is 67% Federal public lands. Of this land, the U.S. Fish and Wildlife Service manages 64%, and the Bureau of Land Management manages 3%.

Background

Muskoxen were indigenous to Alaska until the 1860s (Lent 1995). In an effort to re-establish muskoxen in Alaska, the U.S. Biological Survey brought 31 muskoxen to Nunivak Island in 1935 and 1936 (Perry 2017, pers. comm.). Nunivak Islanders found muskoxen to be frightening and as such mainly avoided the animals until 1964 when Nunivak men were employed to catch young muskoxen for an experimental farm program at the University of Alaska Fairbanks. Women began knitting *qiviut*, fine soft wool from the undercoat of muskoxen, by 1973 (Lantis 1984). Hunting was not permitted until fall 1975 when ADF&G established fall and winter hunting seasons (Jones 2015). In 1975 a few Nunivak Islanders started to commercially guide muskox hunts. Before 1972, they also guided people on walrus hunts. Guiding sport hunters has been a source of income and jobs to local residents (Perry 2017, pers. comm.). On Nunivak Island in winter, muskoxen are distributed throughout the island but are concentrated along the south and west sides of the island. In summer, muskoxen disperse throughout the interior of the island (Jones 2015).

In 1967 and 1968, 31 muskoxen were moved from Nunivak Island to Nelson Island. The first hunting season opened in 1981 (Jones 2015). The most recent survey in 2019 resulted in 174 muskoxen observed on the Unit 18 mainland (Jones 2023, pers. comm.). “These muskoxen are scattered in small groups from the Kilbuck Mountains south of the Kuskokwok River to the Andrafsky Mountains north of the Yukon River. They are most consistently observed in the area around the mud volcanoes, Askinak and Kusivak mountains, in the area south and east of Baird Inlet, and more recently near Bethel” (Jones 2015: I-3).

Regulatory History

At the beginning of the Federal Subsistence Management Program in Alaska in 1992, the Federal Subsistence Board adopted most existing State customary and traditional use determinations into Federal subsistence regulations. The State did not recognize customary and traditional uses of muskoxen in Unit 18 and as a consequence the Federal Subsistence Board adopted a determination of “no subsistence priority” (72 Fed. Reg. 22961. [May 29, 1992]).

In January 2014, the Alaska Board of Game considered but did not adopt a customary and traditional use determination for muskoxen in Units 18 and 19 (Proposal 5). The proposal, submitted by the Association of Village Council Presidents, requested muskoxen “subsistence” hunts in Units 18 and 19. The Board of Game took no action. It determined that it would consider separate customary and traditional use determination proposals for each of three areas of Unit 18: Nunivak Island, Nelson Island, and the remainder, or mainland, area (ADF&G 2014).

In 2018, the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council submitted Proposal WP18-27 requesting the Federal Subsistence Board recognize customary and traditional uses of muskoxen on Nunivak Island by residents of Nunivak Island. The Board followed the Council’s recommendation and rejected the proposal. The Council said,

This proposal was submitted by the Council at the request of [a Council member] on behalf of his community of Mekoryuk. However, upon further consideration residents of Mekoryuk relayed that the current management of muskox was working fine for local subsistence hunters and expressed concern that establishing C&T for musk ox may lead to complications down the road that could have a negative impact on the local economy and Nunivak Island residents that work as hunting guides and transporters during the State sport hunt. Mekoryuk residents further relayed that while this proposal was only requesting customary and traditional use determination for musk ox subsequent proposals or actions in the future requesting federal subsistence seasons and bag limits could possibly interfere with this local economy that benefits residents of Mekoryuk with seasonal income. Due to these concerns and uncertainties expressed by residents of Mekoryuk and their subsequent request to not advance this proposal, the Council voted to oppose the proposal (OSM 2018:312).

There has never been an open hunting season for muskoxen in the mainland area of Unit 18, the area that is the focus of this analysis. The State has established sport and general hunting seasons and harvest limits for muskoxen in the Nunivak Island and Nelson Island areas of Unit 18 (Ikuta and Parks 2013).

Community Characteristics

There are 38 widely dispersed communities, about 25,000 people, residing in Unit 18 according to the 2020 U.S. Census. The population has tripled over the past 60 years (ADLWFD 2023). The majority of people reside in long-established, primarily Yup’ik villages, or Cup’ig/Cup’ik on Nunivak Island and at Hooper Bay and Chevak. People in this region self-identify as belonging to a number of confederations of villages: *Kuigpagmiut* along the lower Yukon River, *Marayarmiut* along the coastal area south of the mouth of the Yukon river, *Qaluyarmiut* on Nelson Island, *Nunivavaarmiut* on Nunivak Island, *Canineqmiut* along the coastal area from the mouth of the Kuskokwim River to Nelson Island, *Kusquqvagmiut* along the lower Kuskokwim River drainage, and *Akulmiut* in the tundra area between the lower Yukon and lower Kuskokwim rivers (Fienup-Riordan 1984).

Unit 18 communities share some characteristics. Most are small with populations in the hundreds. The exception is the community of Bethel, with a population over 6,000 people, that is the center of healthcare, trade, transportation, and government, providing services to outlying areas (Runfola et al. 2017). Most of these communities are not connected by roads and are accessible by boats or planes and snow machines, all-terrain vehicles, or highway vehicles on frozen trails and waterways during winter months.

Eight Factors for Determining Customary and Traditional Use

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

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

Patterns of Use

Although muskoxen are an introduced species in Unit 18, people utilize and incorporate them into the seasonal round of hunting activities and distribution and exchange networks. Ikuta and Park (2013) while working for the State Division of Subsistence conducted ethnographic interviews with residents of Nunivak Island in 2013, which were incorporated into a customary and traditional use determination worksheet for muskoxen. Documentation of Nunivak Islanders' harvests and uses of muskoxen is sparse, and the following is an annotated representation of Ikuta and Park's (2013) worksheet.

Most harvests by Nunivak Island residents occur during the winter hunting season (in February and March). During the fall hunting season (in September) most hunters use a boat, all-terrain vehicle, or

small aircraft to access hunting areas, while most winter season access is by snow machines and all-terrain vehicles. Many hunters prefer winter over fall for muskox hunting due to the quality of the meat and easier access to animals. A hunter on Nunivak Island said: “[I prefer] spring hunt. That’s the best time to hunt. . . . The meat is less fatty. More lean than fall hunt meat. They are pretty rich in the fall time, the meat. Easier to hunt. We hunt on snowmachine. Easier than packing it from distance all the way to the boat. A lot easier trip in the spring by snowmachine” (Ikuta and Park 2013:6). In addition, muskoxen harvested in early spring provide local diets a taste of fresh meat, which is a break from the dried or frozen stored food used within the household. Key respondents have stated that muskoxen are a valuable addition to the local diet.

Nunivak Island residents harvest muskoxen with high-powered rifles. A hunter on Nunivak Island explained: “I learned to hunt [muskoxen] in the way I learn . . . how to kill an animal. I don’t shoot them on the body. I shoot them on the head or neck, so I don’t spoil the meat” (Ikuta and Park 2013:6).

In spring, local women and children harvest *qiviut*, the inner wool of muskoxen. Every spring, a muskox sheds from four to six pounds of qiviut (Oomingmak Musk Ox Producers’ Co-operative 2013). The word “qiviut” is a word in the Inupiaq language that means “down” or “muskox wool.” Muskoxen have a two-layered coat, and qiviut refers specifically to the soft underwool beneath the longer outer wool. A man from Mekoryuk explained: “Some older folks start[ed] gathering wool that’s been dropped off of the animals [muskoxen] on the sand dunes. . . . I believe it was before the hunts started [in 1975]” (Ikuta and Park 2013:6). While some women spin qiviut into yarn at home, others send it to a “co-op,” the Oomingmak Musk Ox Producers’ Co-operative owned by approximately 250 Alaska Native women. The co-op processes and furnishes the yarn to co-op members, primarily in Nelson and Nunivak island communities, to be knitted into hats, scarves, and other products. Hides are used as rugs or sitting pads when jigging for saffron cod through the ice. Long guard hairs and qiviut are used in various arts and crafts, such as hair for handmade dolls or masks.

A man from Nunivak Island described the nutritional and economic value in customary trade of muskoxen in the region: “It [muskoxen] provides protein for people. . . . His skin can be used as means for providing economic opportunities for the people here . . . you can comb the wool out of the muskox, you can make crafts into it . . . have it woven, have it knitted into garments and provide some income for the family It’s very, very costly to go out here, from Bethel to Anchorage. It costs \$536 round-trip. And one pelt of muskox could possibly even cover that” (Ikuta and Park 2013:9). Another man from Mekoryuk agreed and said: “They start making that [qiviut] into whatever they can make or sell it Anchorage muskox farm, qiviut cooperative Some have made it into dolls, they sew the skin Some guy used to sell [the horn] for \$60 or something like that, but it’s got to be separated from the skull Some harvest and use the horns for carving” (Ikuta and Park 2013:9).

Muskox meat is primarily used as food for human consumption. It is eaten fresh, dried, or frozen for later use. A man from Nunivak Island said: “Dried. Dry the [muskox] meat. And freeze it sometimes, most of the time. It’s real good when it’s dried too. Like jerky . . . just slice it and wind dry it. Sun and wind, that’s all. Sun and wind, that’s how we dry it. When the weather stays dry, it is perfect when the meat is drying” (Ikuta and Park 2013:7).

Traditionally, young boys in western Alaska learned how to hunt by living with older men of the community in the ceremonial men's house (*qasgiq*). Today, the institution of *qasgiq* is no longer part of daily life. Yet, hunting knowledge is passed down from grandfather, father, or uncle to children. A man from Nunivak Island explained: "They learned how to butcher the muskox, what's edible, what you need to take, and they brought it back. So, in terms of the knowledge being passed down, my generation, we have learned it from our fathers or uncles or grandfathers, on how to do that" (Ikuta and Park 2013:7). As the respondents describes above, learning cannot be separated from physical involvement, and knowledge undergoes continual regeneration in the process of learning. If it is not possible for young children to participate immediately in hunting, they are expected to learn by observing experienced hunters, such as parents and grandparents, who know hunting equipment and techniques, the animal's behavior and anatomy, the geography, and the weather. Then youth are expected to participate in the actual tasks with their teachers.

Sharing

Extensive sharing and distribution of wild resources is a large part of the subsistence economy in Western Alaska (Brown, Magdanz, and Koster 2012; Brown, Ikuta et al. 2013; Ikuta et al. 2014; and Runfola et al. 2017). An elder from Mekoryuk explained: "Because there are people that are no longer able to go out hunting on their own. They rely on the younger generation of people to provide the protein for them. And that's how we've survived on Nunivak Island for over 2,000 years because we shared what we caught with the elderly, with the people that aren't capable of going hunting on their own. So sharing is very important in our culture" (Ikuta and Park 2013:8). Muskox meat and organs are shared widely throughout the community particularly if only a few members of the community obtained permits to hunt muskoxen. A 42-year-old man on Nunivak Island said: "I learned how to share. I mean if I caught a big game for the first time . . . I remember catching my first muskox, I gave parts of that meat away. So still today, whether it'd be seal, reindeer, muskox, bird, fish, I gave a portion away, so that's ingrained in me that I need to share because that's our tradition. We share what we catch. So that muskox falls into that same area" (Ikuta and Park 2013:8).

Harvests of a Wide Diversity of Resources

A number of comprehensive subsistence and large land mammal surveys in Western Alaska communities show local residents take, use, and rely upon a wide diversity of fish and game resources for subsistence (Brown, Magdanz, and Koster 2012; Fall et al. 2012; Brown, Ikuta et al. 2013; Ikuta et al. 2014; Runfola et al. 2017). Documented harvests range from 300 to 500 pounds per capita in lower Yukon and Kuskokwim river drainages communities (ADF&G 2023a). The typical community harvests approximately 50 different species of plants, fish, and wildlife each year. The mix of species depends upon species availability. For some coastal communities, as much as 80% of total harvests by weight may come from marine mammals. For other communities, terrestrial mammals, fish, and marine mammals compose approximately equal proportions of the total community harvest.

The harvesting of wild foods continues a long cultural tradition for many Yukon-Kuskokwim Delta residents, a tradition which continues to evolve in many ways as social, economic, and environmental conditions change. As conditions and resource availability changes, what remains consistent is the pattern

of using what is available locally. If hunting opportunity is provided for mainland Unit 18 muskoxen, local residents will incorporate muskoxen into their seasonal pattern of harvesting and use of wild resources as residents of Nunivak and Nelson islands have already done.

Harvest and Use of Muskoxen

The reported harvest of muskoxen from Nunivak and Nelson islands in Unit 18 was not readily available. Based on incomplete information available in the ADF&G online database, 20 communities in Unit 18 have reported harvesting muskoxen in Unit 18 since 1982: Bethel, Chefornak, Chevak, Eek, Emmonak, Hooper Bay Kasigluk, Kongiganak, Mekoryuk, Napakiak, Newtok, Napaskiak, Nightmute, Nunapitchuk, Pilot Station, Quinhagak, Scammon Bay, Saint Marys, Toksook Bay, and Tununak (ADF&G 2023b).

The estimated harvest of muskoxen is also documented in the results of periodic household surveys. During periodic harvest surveys in multiple communities over 40 years, no muskoxen harvest was recorded in most communities. Harvest that was reported is displayed in **Table 1**. The high estimate was 16 muskoxen harvested by Tununak residents in 1986. **Table 1** demonstrates sharing of muskoxen within and between communities as more households reported using muskoxen than harvesting muskoxen.

Table 1. The estimated harvest and use of muskoxen by residents of Unit 18 based on periodic household surveys, Alaska Department of Fish and Game, Division of Subsistence (blank=0, source: ADF&G 2023a).

Community	Study year	Number of Households interviewed	Households using muskoxen	Households harvesting muskoxen	Estimated harvest of muskoxen	Lower estimate	Upper estimate
Bethel	2011	473	4.7%	0.4%	8	2	18
Bethel	2012	466	4.7%	0.2%	4	1	9
Napakiak	2011	56	1.8%	1.8%	2	2	2
Quinhagak	2013	109	0.9%				
Tununak	1986	33	93.9%	24.2%	16	9	23

A potential reason for no harvests or low harvest levels in some communities is that muskoxen, or the opportunity to harvest muskoxen, does not exist in areas nearby those communities, while hunting opportunity has existed on Nunivak and Nelson islands for decades. Therefore, muskox harvest levels at Mekoryuk on Nunivak Island and for Newtok, Nightmute, Toksook Bay, and Tununak on Nelson Island are likely much higher compared to other communities.

Information regarding the use of muskoxen by communities that are not situated on Nunivak or Nelson islands is scarce. In 2012 a Bethel resident reported that he hunted for muskoxen when the moose population was low: “That’s some good eatin’ stuff, but now that the moose population is back up, I haven’t gone and done that” (Runfola et al. 2017:37). In 2011, Napakiak residents harvested an estimated two muskoxen. The location of harvest was not reported (Ikuta et al 2014). In 2013, because there was no reported harvest of muskoxen in Quinhagak, and the reported use of muskoxen was likely from meat

received through gift giving or sharing with people from other communities or from unsurveyed households within Quinhagak (Ikuta et al. 2016).

Effects of the Proposal

If adopted, Proposal WP24-23 would recognize customary and tradition uses of muskoxen in the mainland area of Unit 18 by the residents of Unit 18. Adopting the customary and traditional use determination would have no immediate effect on people’s ability to harvest muskoxen until a season and harvest limit are established.

If this proposal, WP24-23, is adopted, then the Board will consider Proposal WP24-23, which is a proposal to establish a season and a harvest limit for muskoxen on Federal public lands in the mainland area of Unit 18.

If not adopted, there will be no effects to subsistence users, and the Board cannot consider Proposal WP24-23 to establish a muskox hunt in the Unit 18 mainland area.

OSM PRELIMINARY CONCLUSION

Support Proposal WP24-22.

Justification

Residents of Unit 18, when given the opportunity to hunt them, will exemplify customary and traditional uses of muskoxen. Documented evidence in harvest reporting databases, community surveys, and ethnographic accounts demonstrate this. Nunivak and Nelson islanders have demonstrated consistent patterns of use of muskoxen. Muskoxen and muskox hunting opportunities have been available to them for several decades since ADF&G established fall and spring hunting seasons on the islands (Jones 2015). Ethnographic accounts from Nunivak Islanders further describe a heavy reliance on muskox meat and qiviut used for the manufacture of personal items and in customary trade. The use of muskoxen by Nunivak Islanders is patterned. Most local hunters prefer to take muskoxen during the winter hunting season due to the quality of the meat and easier access over snow on the ground. Fresh meat is a welcome respite from frozen and store-bought food. Residents of Unit 18 rely on a wide variety of wild foods, and when hunting opportunity is provided will incorporate muskoxen into their seasonal pattern of harvesting and use of wild resources (Ikuta and Park 2013).

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W24 23 Executive Summary	
General Description	Proposal WP24-23 requests to establish a hunt for muskox in Unit 18 remainder. <i>Submitted by: Yukon-Kuskokwim Delta Subsistence Regionals Advisory Council</i>
Proposed Regulation	<p>Unit 18—Muskox</p> <p><i>Unit 18, Nelson and Nunivak Islands</i> <i>No established Federal hunt</i></p> <p><i>Unit 18, remainder – Harvest limit to be determined by permit.</i> <i>No established Federal hunt</i></p>
OSM Preliminary Conclusion	<p>Support Proposal WP24-23 with modification to establish a “may be announced” season and delegate authority to Yukon Delta NWR manager to manage the hunt via delegation of authority letter (DAL) (Appendix 1).</p> <p>The modified regulation should read:</p> <p>Unit 18—Muskox</p> <p><i>Unit 18, Nelson and Nunivak Islands</i> <i>No established Federal hunt</i></p> <p><i>Unit 18, remainder – 1 muskox by Federal registration permit</i> <i>May be announced.</i></p>
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

DRAFT STAFF ANALYSIS
WP24-23

ISSUES

Proposal WP24-23, submitted by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council (Council), requests establishing a Federal subsistence hunt for muskox in the mainland portion of Unit 18.

The “mainland” portion of Unit 18 refers to the areas not on Nunivak or Nelson islands. In regulation, the mainland area of Unit 18 is called the “remainder” area of Unit 18.

DISCUSSION

The proponent states that they would like to see mainland muskox hunting opportunities for federally qualified subsistence users residing in Unit 18. Muskoxen have migrated from the Nelson Island and Nunivak Island herds over the past twenty years to various parts of “mainland” Unit 18. Muskoxen have been observed by local residents across various parts of the region to be increasing in numbers and expanding their range. Muskoxen were re-introduced to Alaska with the intention that one day the population would grow enough that they could be hunted and provide food for subsistence uses.

The proponent suggests that harvest limits and seasons be based on the harvestable surpluses of the various mainland herd populations. Updated population assessments may need to be completed to determine these amounts. Even if the harvestable surplus numbers are low, any new subsistence hunt opportunity could help alleviate on-going food security concerns in the region. The proponent wants to ensure that any permits are made easily accessible and available to hunters in the rural communities near the herds. Although there is not a current customary and traditional use determination for muskox in Unit 18, the proponent has submitted a companion proposal seeking to recognize a customary and traditional uses of for muskoxen in Unit 18 (Proposal WP24-22).

Existing Federal Regulation

Unit 18—Muskox

*No established
Federal hunt.*

Proposed Federal Regulation

Unit 18—Muskox

Unit 18, Nelson and Nunivak Islands *No established Federal hunt.*

Unit 18, Mainland (excluding Nelson and Nunivak Islands) – Harvest limit to be determined by permit. *Season to be determined*

Existing State Regulation

Unit 18—Muskox

Both residents and nonresidents: Unit 18, Nunivak Islands – 1 bull by drawing permits only *Aug. 1 – Sep. 30*
Jan. 15 – Mar. 31

OR

1 cow by registration permit only *Aug. 1 – Sep. 30*
Jan. 15 – Mar. 31

Both residents and nonresidents: Unit 18, Nelson Island – 1 bull by registration permit *Feb. 1 – Mar. 31*

OR

1 cow by registration permit *Feb. 1 – Mar. 31*

Both residents and nonresidents: Unit 18, remainder *No open season.*

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 (USFWS) managed lands and 3% Bureau of Land Management (BLM) managed lands.

Customary and Traditional Use Determinations

Currently, there is no Federal subsistence priority for muskoxen in Unit 18.

Proposal WP24-22, requests to recognize the customary and traditional use of muskox by residents of Unit 18 for the mainland area the Unit.

Regulatory History

A muskox hunt has never occurred in Unit 18, outside of Nunivak Island or Nelson Island under Federal or State regulations.

Current Events Involving the Species

The Council also submitted, Proposal WP24-22, requesting the recognition of the customary and traditional use of muskoxen by residents of Unit 18 for the mainland area of the Unit.

Biological Background

Muskoxen were extirpated in Alaska by the late 1800s and perhaps hundreds of years earlier on the Seward Peninsula (Gorn and Dunker 2015). In the 1930s, ADF&G introduced the first group of muskoxen to Nunivak Island. In the 1960s, 31 muskoxen were moved from Nunivak Island to Nelson Island (Harper and McCarthy 2015).

One of the struggles with population on Nelson Island is that muskoxen have been documented moving back and forth between the island and the mainland (Harper and McCarthy 2015). Muskoxen have been tracked on the mainland of Unit 18 for up to two years before they returned to Nelson Island (Harper and McCarthy 2015). In 1989, five animals were collared between Bethel and Pilot Station. One of these five collared individuals was harvested legally by a hunter in 1990 on Nelson Island (Harper and McCarthy 2015).

As early as 2010, muskoxen have been incidentally counted by the State as having a minimum population of 100 in Unit 18, mainland. By 2015, the minimum count was up to 200 animals in the Unit 18, mainland (Harper and McCarthy 2015). This apparent increase may be largely explained by muskoxen moving off of Nelson Island (where there is a current State hunt) to the mainland and not necessarily a population increase. Often, these movements are believed to be temporary, and muskoxen moved back to Nelson Island.

Muskoxen are adapted for survival in arctic habitats. Their large body size, thick undercoat and long guard hairs allow muskoxen to stay warm in arctic climates and conserve energy (Klein 1992). However, their thick fur does not allow them to regulate their body temperature, especially following high exertion activities, such as running. Their lower chest height and smaller hooves make travelling through deep snow difficult (Klein 1992; Ihl and Klein 2001); therefore, they tend towards wind swept areas with reduced snow depth (Dau 2005). These adaptations limit suitable habitat and lead muskox groups to remain localized during winter months (Klein 1992). Therefore, disturbance to muskox groups during the winter by hunters or predators could decrease survival through increased energetic requirements and movement to unsuitable habitat (Nelson 1994; Hughes 2018).

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

Cultural Knowledge and Traditional Practices

Wildlife proposal, WP24-22, requests to establish a customary and traditional use determination of muskoxen for Unit 18 mainland.

Harvest History

No legal muskox harvest has ever occurred in Unit 18, outside of Nunivak or Nelson islands under Federal or State regulations. However, poaching has occurred from the Unit 18 mainland population (Jones 2015).

Regulatory year 1975/76 was when the first muskox hunt by the State on Nunivak Island took place and it continues to take place annually. A muskox management plan was established in 1992 (Harper and McCarthy 2015).

Alternative(s) Considered

One alternative considered is delegating authority to manage the muskox hunt to the Yukon Delta National Wildlife Refuge (NWR) manager. This would provide the most flexibility and the greatest subsistence hunting opportunity. Specifically delegating authority to the Yukon Delta NWR manager to announce the season, the number of permits issued, a harvest quota, and to set sex restriction, permit conditions, and the method for permit issuance would allow for flexible, adaptive hunt management. This alternative also mitigates conservation concerns as season length, harvest and permit numbers can be adjusted annually in response to herd and hunt conditions.

The proposal as submitted did not specify seasons, harvest limits, or permit type. Currently there is limited knowledge regarding this population of muskoxen. As more information is gathered, flexibility will be necessary to address potential conservation concerns while optimizing subsistence hunting opportunity.

Effects of the Proposal

If this proposal is adopted, a Federal muskox hunt will be established for the mainland portion of Unit 18. This will provide greater subsistence opportunity to residents of Unit 18 (if Proposal WP24-22 is also adopted) and could help alleviate food insecurity given the concerns with other species in the region. However, effects on the muskox population are unknown as little biological and harvest information is currently available. Due to the lack of data, it is unknown if a hunt is sustainable at this time—it should not be assumed that mainland Unit 18 muskox hunting will occur in the near

future. Extensive aerial surveys over a vast area will need to occur to determine population numbers. In addition, strategies will need to be developed to manage the Nelson Island population differently from the Unit 18 mainland population with the understanding that muskox move on and off Nelson Island.

OSM PRELIMINARY CONCLUSION

Support Proposal WP24-23 **with modification** to establish a “may be announced” season and delegate authority to Yukon Delta NWR manager to manage the hunt via delegation of authority letter (DAL) (**Appendix 1**).

The modified regulation should read:

Unit 18—Muskox

Unit 18, Nelson Island and Nunivak Island

*No established
Federal hunt.*

Unit 18, remainder – 1 muskox by Federal registration permit

May be announced.

Justification

This proposal provides for greater subsistence opportunity for the residents of Unit 18. The DAL to the Yukon Delta NWR manager provides the management flexibility needed to mitigate potential conservation concerns through adaptive management, while maximizing subsistence opportunity. As more information becomes available about the muskox in the mainland portion of Unit 18, hunting opportunity can be adjusted accordingly through in-season management.

Adoption of the proposal also provides a meaningful Federal subsistence priority.

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Appendix 1

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

Dear 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 the Unit 18 mainland for the management of muskox on these lands.

It is the intent of the Board that actions related to management of muskox 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. Delegation: The manager of the Yukon Delta National Wildlife Refuge is hereby delegated authority to issue emergency or temporary special actions affecting muskox 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 announce the annual harvest quota**
- **To announce and open/close a season**
- **To determine the number of permits issued annually**
- **To set sex restrictions**
- **To set permit conditions. Permit conditions must be approved by OSM and in accordance with the current OMB information collection.**

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 muskox 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 the mainland portion of Unit 18.

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

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

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

For management decisions on special actions, consultation is not always possible, but to the extent practicable, two-way communication will take place before decisions are

implemented. You will also establish meaningful and timely opportunities for government-to-government consultation related to pre-season and post-season management actions as established in the Board's Government-to-Government Tribal Consultation Policy (Federal Subsistence Board Government-to-Government Tribal Consultation Policy 2012 and Federal Subsistence Board Policy on Consultation with Alaska Native Claim Settlement Act Corporations 2015).

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

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

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

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

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

Sincerely,

Anthony Christianson
Chair

Enclosures

cc: Federal Subsistence Board

Assistant Regional Director, Office of Subsistence Management
Deputy Assistant Regional Director, Office of Subsistence Management
Subsistence Policy Coordinator, Office of Subsistence Management
Wildlife Division Supervisor, Office of Subsistence Management
Subsistence Council Coordinator, Office of Subsistence Management
Chair, Yukon Delta Subsistence Regional Advisory Council
Deputy Commissioner, Alaska Department of Fish and Game
Special Projects Coordinator, Alaska Department of Fish and Game
Interagency Staff Committee
Administrative Record

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WCR24-43 Executive Summary	
General Description	Wildlife Closure Review WCR24-43 reviews the closure to moose hunting, except by residents of Tuluksak, Lower Kalskag, Upper Kalskag, Aniak, Chuathbaluk, and Crooked Creek in Unit 19A, remainder.
Current Regulation	<p style="text-align: center;">Unit 19A—Moose</p> <p style="text-align: center;"><i>Unit 19A, remainder—1 antlered bull Sept. 1-20. by Federal drawing permit or a State permit.</i></p> <p style="text-align: center;"><i>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</i></p>
OSM Preliminary Conclusion	Retain the Status Quo
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council	
Western Interior Alaska Subsistence Regional Advisory Council	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

**FEDERAL WILDLIFE CLOSURE REVIEW
WCR24-43**

Issue: Wildlife Closure Review WCR24-43 reviews the closure to moose hunting, except by residents of Tuluksak, Lower Kalskag, Upper Kalskag, Aniak, Chuathbaluk, and Crooked Creek in Unit 19A, remainder.

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

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

Closure Dates: Year-round

Current State Regulation

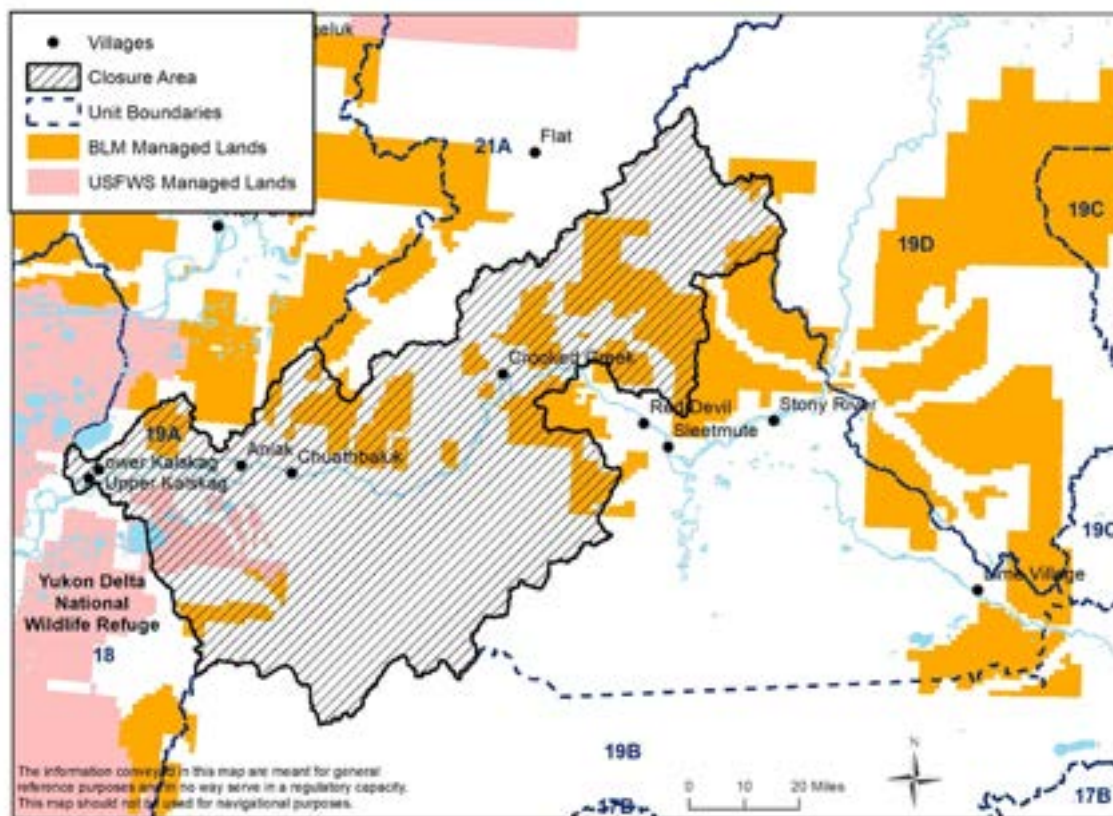
Unit 19A—Moose

Residents: 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 TM680 Sept. 1- 20

Regulatory Year Initiated: 2007

Extent of Federal Public Lands/Waters

Unit 19A is comprised of 23.6% Federal public lands and consist of 21.3% Bureau of Land Management (BLM) managed lands, and 2.4% U.S. Fish and Wildlife Service (USFWS) managed lands (**Map 1**).



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

Customary and Traditional Use Determination

Residents of Unit 18 within the Kuskokwim River drainage upstream from and including the Johnson River, and residents of Unit 19 have a customary and traditional use determination for moose in Unit 19A.

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- 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. 1-20, Nov. 20-30, Jan. 1-10, and Feb. 1-10. 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 Request 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 remainder moose population (OSM 2006).

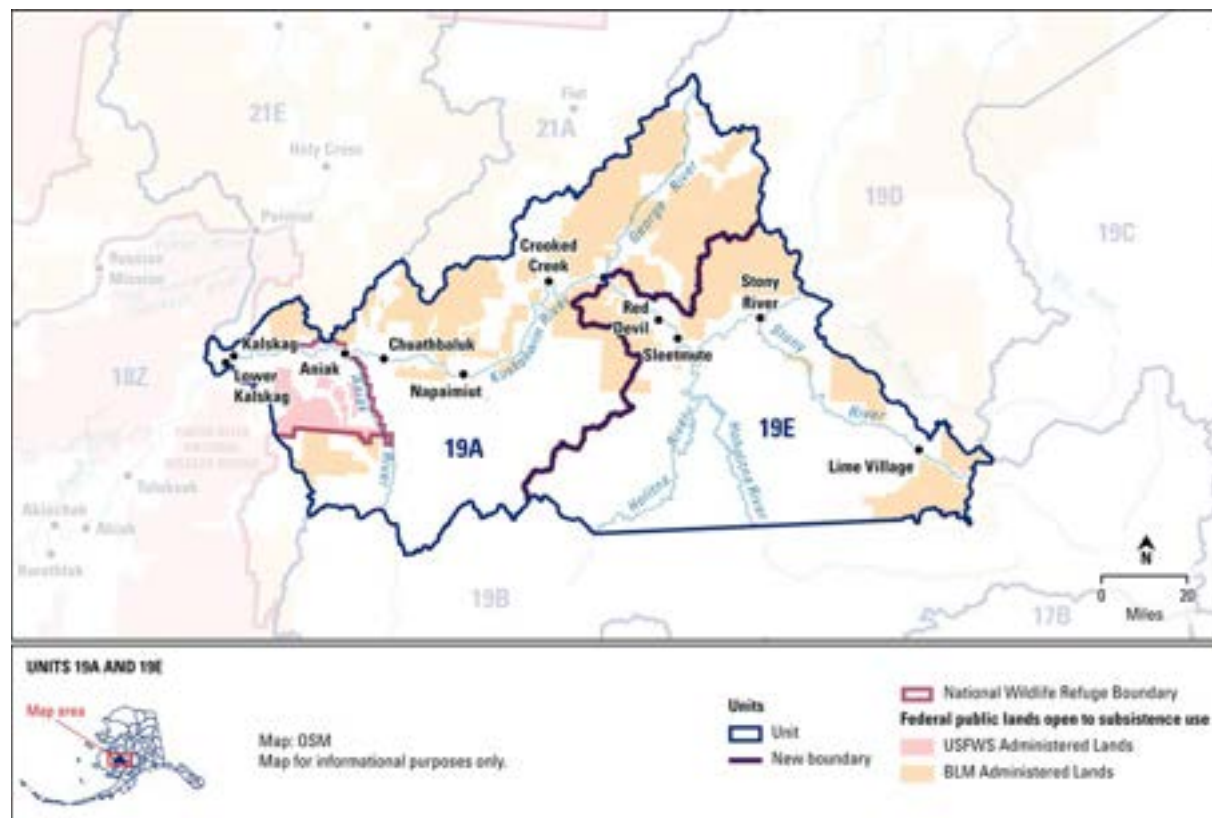
In 2007, the Western Interior Alaska Subsistence Regional Advisory Council (Western Interior Council) submitted Proposal WP07-35, requesting the same changes as WSA06-01. The Board adopted Proposal WP07-35 with modification because of continued conservation concerns for the Unit 19A moose population including low productivity, bull:cow ratios, and density combined with historically high hunting pressure (OSM 2007). This proposal also codified the temporary regulatory actions the Board took on Special Action requests WSA06-01a and WSA06-01b for moose in Units 19A and 19B in 2006. The modification was to delegate authority to the Yukon Delta National Wildlife Refuge (NWR) Manager to annually establish the harvest quota and number of available draw permits. The Western Interior and Yukon-Kuskokwim Delta Subsistence Regional Advisory 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).

In August 2020, the Board approved a revised closure policy, which stipulated all closures will be reviewed every four years. The policy also specified that closures, like regulatory proposals, will be presented to the Councils for a recommendation and then to the Board for a final decision. Previously, closure reviews were presented to Councils who then decided whether to maintain the closure or to submit a regulatory proposal to modify or eliminate the closure.

In 2020, the Board adopted a modification for Closure Review WCR20-43 that maintained the closure in the western portion of Unit 19A, eliminated the closure for the Lime Village Management Area, established seasons, harvest limits, and permit requirements for the Lime Village Management Area hunt area, and removed the language referring to establishing quotas and permit numbers from the unit-specific regulations, and delegated authority to the Yukon Delta NWR manager to set quotas and permit numbers via a delegation of authority letter only. As the bull/cow ratio was still at the lower end of the ADF&G objective, the Board preferred a more robust bull/cow ratio before relaxing the closure. The Lime Village Management Area had inadvertently been included in Unit 19A remainder, so the modification primarily corrected a past oversight. Additionally, the modifications to the closure would increase harvest opportunities for Lime Village and reduce regulatory confusion by aligning Federal seasons with State regulations.

In 2022, the BOG adopted proposal 171 dividing Unit 19A into two subunits (19A, 19E). Dividing Unit 19A into two smaller units would align with the current State moose hunting boundaries and would benefit moose management in these units (**Map 2**, Alaska Board of Game 2022).



Map 2. Boundaries of subunits 19A and 19E. (Alaska Board of Game 2022)

Closure last reviewed: 2020 – WCR20-43

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

§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 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 objective 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.

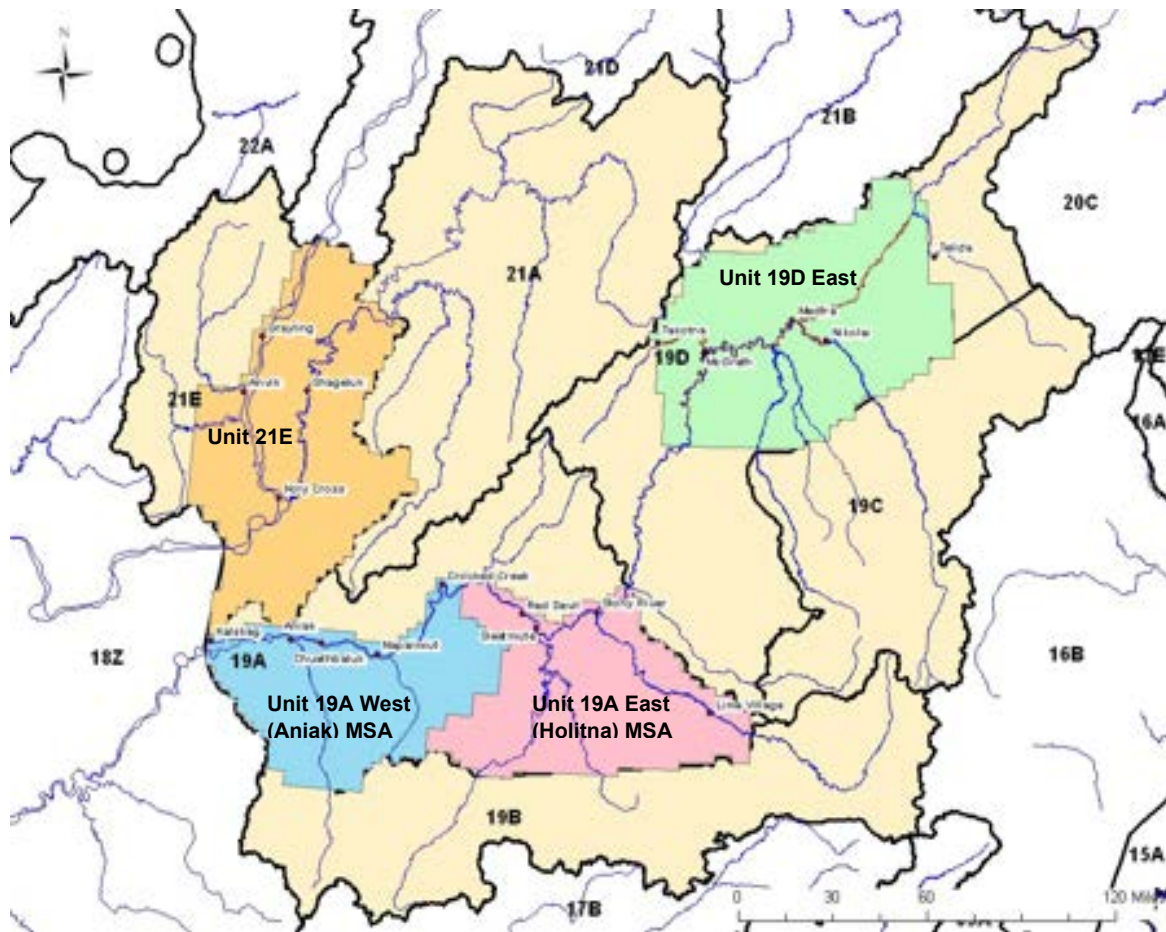
ADF&G conducts aerial surveys in Unit 19A to estimate the moose population in March (**Map 3**) (Peirce 2018, Seavoy 2014). The Federal closed area, Unit 19A remainder, primarily falls into the Unit 19A West (Aniak) moose survey area (MSA). ADF&G only surveys the Aniak MSA opportunistically, but surveys eastern Unit 19A every 3 years (**Map 3**) (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, Table 2**). ADF&G also surveyed the entire Unit 19A West hunt area (TM680) for the first time in 2017, estimating 4,135 moose with 0.7 moose/mi² (Peirce 2018, pers. comm.). The population survey in winter 2020 indicates that the Unit 19A West population is continuing to increase with an estimate of 5,224 moose and 0.9 moose/mi² (Peirce 2022, pers. comm.).

Moose densities of 0.75-0.93 moose/mi² are required to meet State population objectives (Seavoy 2014). Between 1998 and 2017, estimated moose density in Unit 19A ranged from 0.25 moose/mi² to 1.3 moose/mi² (**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/mi² is the highest ever recorded for this area and is well above State population objectives, the 2020 density estimate for the entire Unit 19A West hunt area increased to 0.9 moose/mi², which is within State management objectives (**Table 1, Table 2**).

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 (**Table 3**). 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 (**Table 3**, 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 the Holitna MSA and Aniak MSA 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 but fell back below State objectives in 2018 (**Table 3**, Peirce 2018, pers. comm., Peirce 2022, 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 (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 (figure from Seavoy 2014).

Table 1. Moose density estimates in Unit 19A (moose/mi²). See Map 2 for survey areas. The TM680 State hunt area is similar to the Federal Unit 19A remainder hunt area. Note: The BOG divided Unit 19A into two subunits, 19A and 19E, in 2022. (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
2018				
2019				
2020				0.9 ^a
2021				

^a Includes a sightability correction factor

Table 2. Estimates from Moose surveys in the TM680 hunt area (5,704 mi²) 2010-2020 (Peirce 2022, pers. comm.).

Year	Estimate of observable moose	SCF	Estimate with SCF applied	Calves %	Total moose/mi ²
2010 ^a	1,577	1.25 ^b	1,971		0.3
2017	3,392	1.22	4,135		0.7
2020	4,354	1.20	5,224	14	0.9

^a Extrapolated estimate because the survey area was a different size

^b Extrapolated SCF.

Table 3. Aniak fall aerial moose composition counts (Peirce 2022, pers. comm.).

Regulatory Year	Bulls:100 Cows	Calves:100 Cows	Calves	% Calves	Adults	Moose	Moose/Hour
2005-2006	20	23	66	16	344	410	18
2007-2008	28	52	35	29	87	122	41
2008-2009	42	23	7	14	44	51	26

Regulatory Year	Bulls:100 Cows	Calves:100 Cows	Calves	% Calves	Adults	Moose	Moose/Hour
2013-2014	38	41	34	23	113	147	28
2016-2017	22	52	245	30	574	819	55
2017-2018	20	64	95	35	178	273	39
2018-2019	26	28	45	18	206	251	83

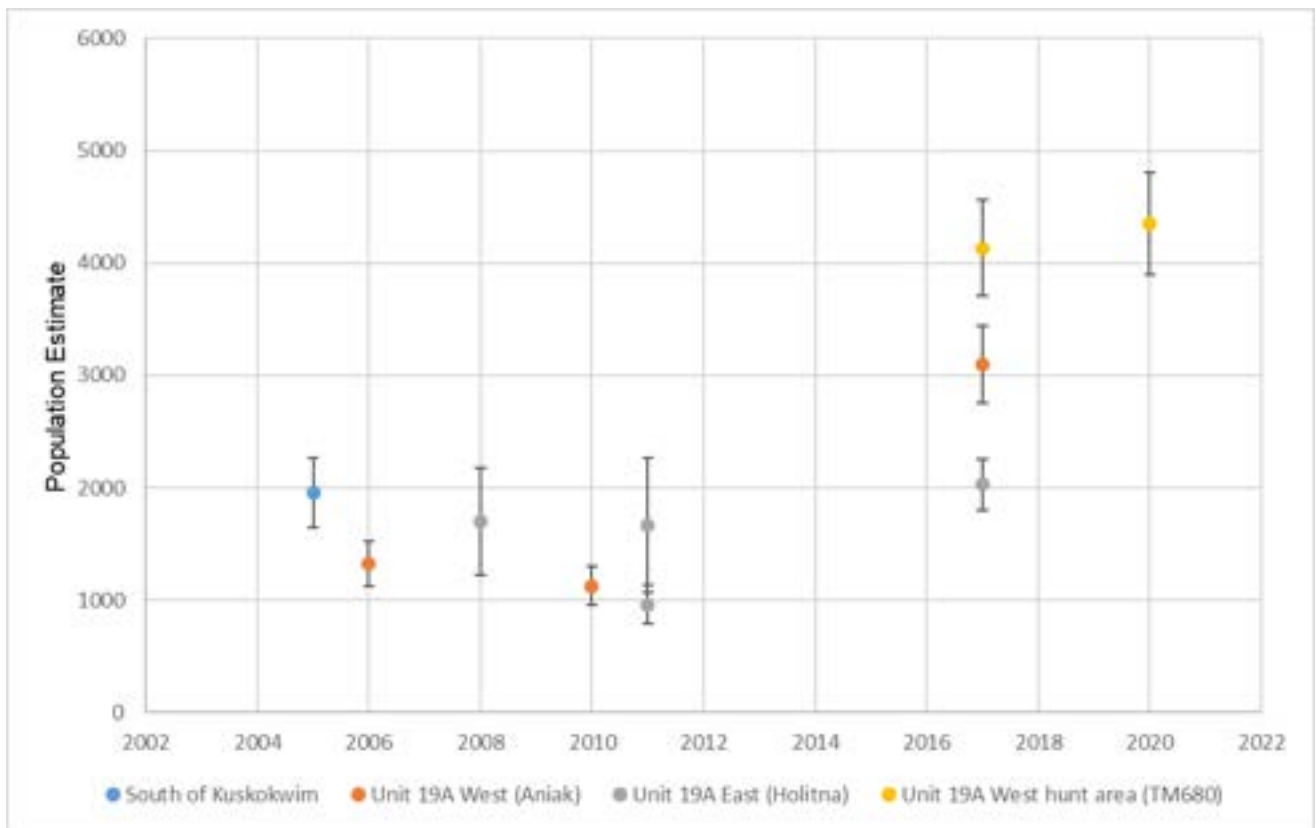


Figure 1. Population estimates for moose in Unit 19A with 90% confidence intervals. The higher estimate in 2011 and the 2017 estimate in the Unit 19A East (Holitna) survey area include sightability correction factors. See Map 2 for survey areas. The TM680 State hunt area is similar to the Federal Unit 19A remainder hunt area. Note: The BOG divided Unit 19A into two subunits, 19A and 19E, in 2022. (ADF&G 2018a, Seavoy 2014, Peirce 2018, pers. comm.).

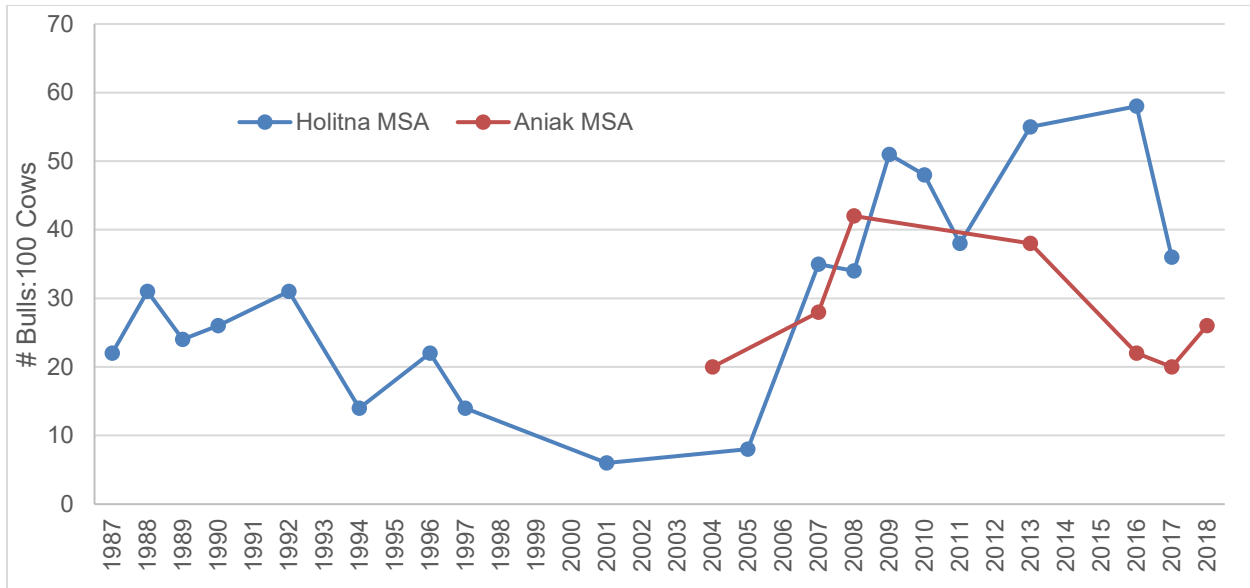


Figure 2. Fall bull:cow ratios for the Unit 19A East (Holitna) and Unit 19A West (Aniak) moose survey areas (Peirce 2018, ADF&G 2018a, Seavoy 2014, Peirce 2018, pers. comm., Peirce 2022, pers. comm.; WIRAC 2019). See Map 2 for survey areas.

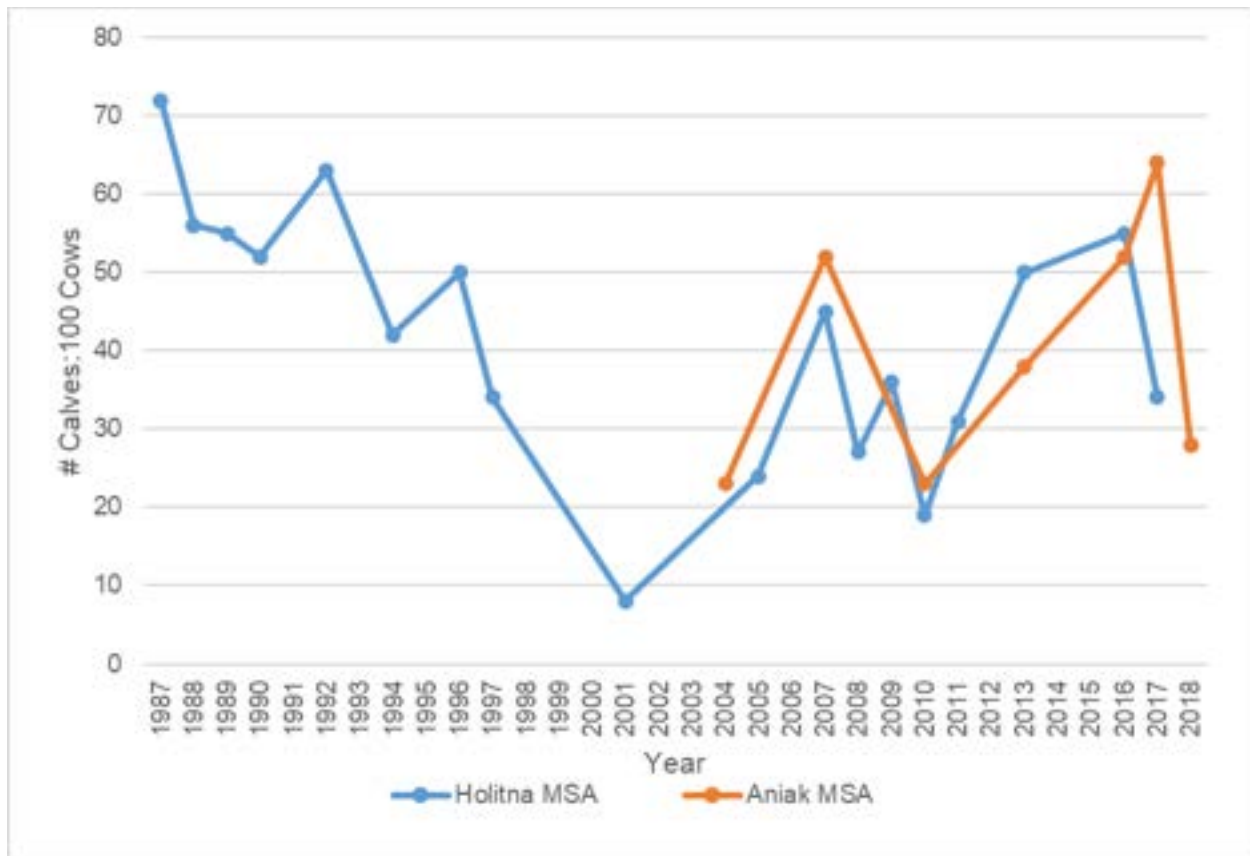


Figure 3. Fall calf:cow ratios for the Unit 19A East (Holitna) and Unit 19A West (Aniak) moose survey areas (Peirce 2018, ADF&G 2018a, Seavoy 2014, Peirce 2018, pers. comm., Peirce 2022, pers. comm.). See Map 2 for survey areas.

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 2021, annual reported moose harvest in Unit 19A remainder averaged 82 moose, ranging from 28-157 moose (**Figure 4**) (ADF&G 2018b, OSM 2022). Over the same time period, annual reported harvest on FM1901 averaged 36 moose, ranging from 4-73 moose (OSM 2022).

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 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 (**Figure 1**) appeared stable, suggesting the harvestable surplus had not changed. 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 steadily increased between 2006 and 2021 (**Table 4**).

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 2016-2018 bull:cow ratios in the Unit 19A West (Aniak) MSA indicate few surplus bulls.

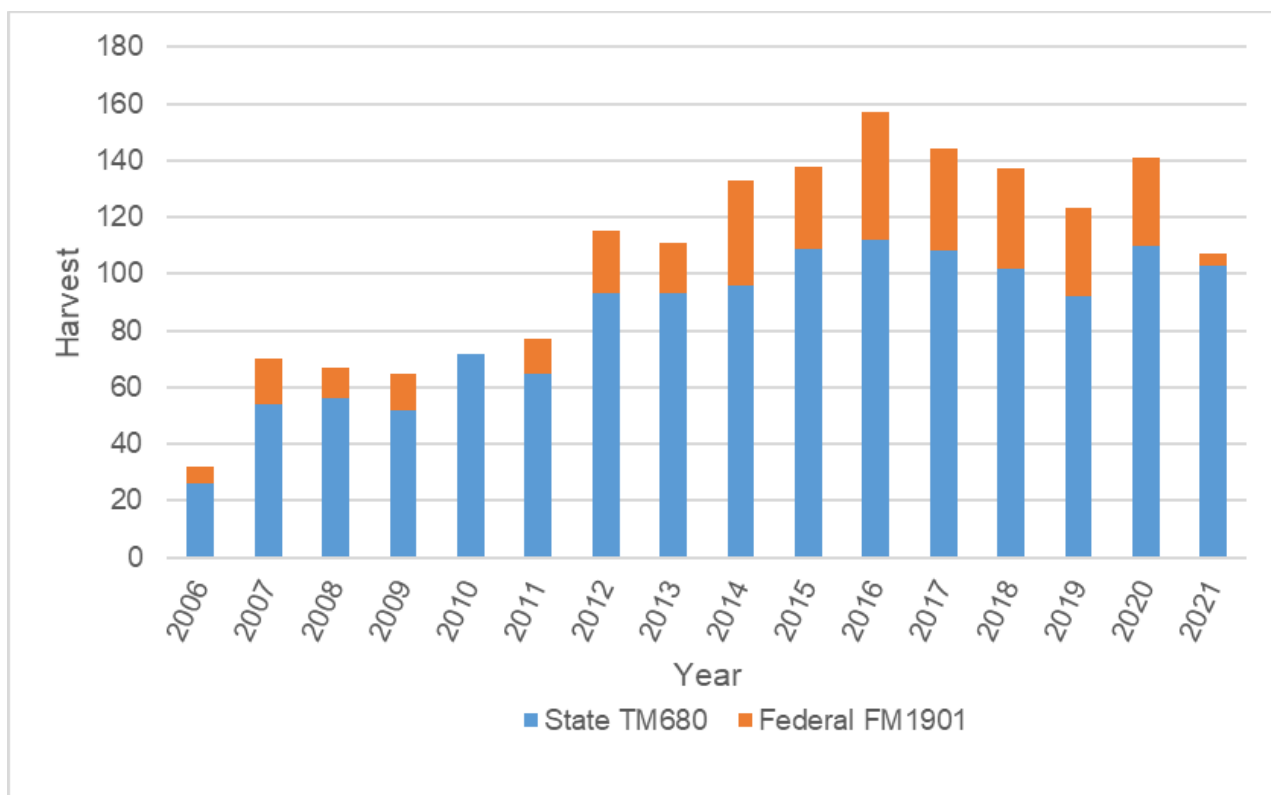


Figure 4. Reported moose harvest in Unit 19A remainder (ADF&G 2018b; OSM 2022; Peirce 2022, pers. comm.).

Table 4. Number of permits issued and success rates for the State Tier II, TM680 hunt and the Federal drawing permit, FM1901 hunt (ADF&G 2018b, 2022; OSM 2022).

Year	TM680 Issued	TM680 Success (%)	FM1901 Issued	FM1901 Success (%)
2006	200	15	92	13
2007	230	28	92	25
2008	230	28	97	14
2009	231	28	92	22
2010	200	41	*	*
2011	200	39	72	29
2012	200	56	82	43
2013	223	49	74	32
2014	192	60	92	64
2015	200	67	77	73
2016	200	64	96	65
2017	199	60	96	62
2018	210	56	100	35
2019	200	52	99	31
2020	200	64	68	31

Year	TM680 Issued	TM680 Success (%)	FM1901 Issued	FM1901 Success (%)
2021	201	62	70	4
* No data available				

Effects

Maintaining status quo would continue to limit moose harvest on Federal public lands in Unit 19A remainder to only residents of Tuluksak, Lower Kalskag, Upper Kalskag, Aniak, Chuathbaluk, and Crooked Creek. This allows for the continued growth of the moose population towards population goals, while providing the federally qualified subsistence users (FQSUs) most dependent on the resource opportunity and priority on Federal public Lands.

Rescinding the closure could increase harvest opportunities for all residents, although the State hunt is currently a Tier II hunt, which limits hunters and harvest. However, this could increase hunting pressure on a slowly growing moose population, hampering recovery. Additionally, it would eliminate the Federal subsistence priority and decrease opportunity for FQSUs.

The closure could be modified to allow hunting by all FQSU but remain closed to non-federally qualified users. This modification could increase the harvest pressure on the moose population, but would, furthermore, open the limited permits to all residents of Unit 18 within Kuskokwim River drainage upstream from and including the Johnson River, and residents of Unit 19. This could limit the permits and moose available for the residents of Tuluksak, Lower Kalskag, Upper Kalskag, Aniak, Chuathbaluk, and Crooked Creek who have been determined as the communities most dependent on this moose population. The closure could also be extended to all users, which would unnecessarily eliminate opportunity for FQSUs.

OSM PRELIMINARY CONCLUSION:

- Retain the Status Quo**
- Rescind the Closure**
- Modify the closure to . . .**
- Defer Decision on the Closure or Take No Action**

Justification

The moose population has increased over the years but remains at the lower end of the State’s population goals, and the estimated harvestable surplus is usually met. The existing closure is necessary to allow the moose population to continue to grow, while still providing the FQSU most dependent on the resource priority and opportunity on Federal public lands. The affected area should remain closed to moose hunting until the population recovers to allow increased hunting pressure.

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