YUKON-KUSKOKWIM DELTA SUBSISTENCE REGIONAL ADVISORY COUNCIL

Meeting Materials

September 26-28, 2018
Bethel

What's Inside

On the cover...

Sockeye Salmon strips from the Kuskokwim River drying in the shed.

USFWS photo

What's Inside

YUKON-KUSKOKWIM DELTA SUBSISTENCE REGIONAL ADVISORY COUNCIL

AVCP Housing Authority Conference Room
Bethel

September 26, 2018 at 1:30 p.m.
September 27 - 28, 2018, 9:00 a.m. daily

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

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

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

AGENDA

*Asterisk identifies action item.

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

   Council Member Reports

   Chair's Report

   805c Report from the Federal Subsistence Board action on wildlife proposals (*Council Coordinator*) 27

   Tribal Engagement (*Orville Lind, Native Liaison, OSM*)
8. **Public and Tribal Comment on Non-Agenda Items** (available each morning)
9. **Old Business** (*Chair*)

   a. Donlin Mine Final EIS update .....Supplemental

b. Kuskokwim Partnership Project update

c. Review FY2017 Annual Report Reply from the Federal Subsistence Board (*Council Coordinator*) ..... Supplemental

10. New Business (*Chair*)

a. Fisheries Proposals*(OSM Fisheries/Anthropology)

Kuskokwim Fisheries Proposals

Kuskokwim Salmon Season Overview (*Joint discussion with USFWS and ADF&G*)

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Yukon Fisheries Proposals

Yukon Salmon Season Overview (*Joint discussion with USFWS and ADF&G*)

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c. Notice of Funding Opportunity for the Partners for Fisheries Monitoring Program

d. Identify Issues for FY2018 Annual Report*(*Council Coordinator*).....357

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12. Agency Reports

(Time limit of 15 minutes unless approved in advance)

Tribal Governments

a. Orutsararmiut Native Council
b. Native Village of Napaimute

Native Organizations

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

Yukon River Drainage Fisheries Association

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ADF&G

North Pacific Fisheries Management Council

OSM

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14. Closing Comments

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

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

Reasonable Accommodations

The Federal Subsistence Board is committed to providing access to this meeting for all participants. Please direct all requests for sign language interpreting services, closed captioning, or other accommodation needs to Eva Patton, 907-786-3358, eva_patton@fws.gov, or 800-877-8339 (TTY), by close of business on March 5, 2018.

REGION 5
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Seat	Year Appointed *Term Expires*	Member Name and Community	
1	2004 ***2019***	**William F. Brown** Eek	
2	1997 ***2019***	**James A. Charles** Tuntutuliak	**Vice-Chair**
3	2006 ***2019***	**John W. Andrew** Kwethluk	
4	2014 ***2019***	**Michael P. Peters** Marshall	
5	***2020***	***VACANT***	
6	***2020***	***VACANT***	
7	2017 ***2020***	**Alissa N. Rogers** Bethel	**Chair**
8	***2020***	***VACANT***	
9	***2020***	***VACANT***	
10	2001 ***2018***	**Raymond J. Oney** Alakanuk	**Secretary**
11	***2018***	***VACANT***	
12	2003 ***2018***	**Robert E. Aloysius** Kalskag	
13	2012 ***2018***	**David Bill, Sr.** Toksook Bay	

YUKON-KUSKOKWIM DELTA SUBSISTENCE REGIONAL ADVISORY COUNCIL

MEETING MINUTES

AVCP Housing Authority Meeting Room
Bethel, Alaska
March 14-15, 2018

Council Members Present:
James Charles
John Andrew
William (Charlie) Brown
Robert Aloysius
David Bill, Sr.
Michael Peters
Raymond Oney
Alissa Nadine Rogers

Yupik Translation Services: Sophie Evan and Charley Charley

Meeting Attendees:
Tribal and Alaska Native Organizations:
Robert Lekander, Orutsararmiut Native Council
Tim Andrew, Natural Resources Director, Orutsararmiut Native Council
Jenessa Esquible, Partners Program Biologist, Orutsararmiut Native Council
Sarah Mutter, Association of Village Council Presidents
Martin Andrew, Organized Village of Kwethluk
Tanya Epchook, Organized Village of Kwethluk
Paul Michael, Kwethluk Incorporated
Martin Nicholai, Kwethluk Incorporated
Brian M. Henry, Akiachak Ltd., Akiachak
Henry Lomack, Akiachak Ltd., Akiachak
Phillip Peter, Akiachak Native Corporation, Akiachak
Azara Mohammadi, AVCP, Bethel
Kasigluk IRA

Public and Local organizations:
Wayne Jenkins, Yukon River Drainage Fisheries Association
Kelly Lincoln, Bethel
Mardy Hanson, Bethel
Charlie Rodgers, Bethel
Fred Phillips, Akiak
Brian Henry Akiachak
Bob Michael, Kwethluk

Agency staff:
Eva Patton, Council Coordinator, Office of Subsistence Management
Pippa Kenner, Anthropologist, Office of Subsistence Management
Gary Decossas, Fisheries Statistician, Office of Subsistence Management
Robbin La Vine, Anthropologist, Office of Subsistence Management
Ken Stahlnecker, Refuge Manager, Yukon Delta National Wildlife Refuge
Ray Born, Deputy Refuge Manager, Yukon Delta National Wildlife Refuge
Spencer Rearden, USFWS Yukon Delta National Wildlife Refuge
Aaron Webber, Fisheries Biologist, USFWS Yukon Delta National Wildlife Refuge, Bethel
Aaron Moses, Fisheries Biologist, Yukon Delta National Wildlife Refuge, Bethel
Christopher Tulik, RIT, USFWS Yukon Delta National Wildlife Refuge, Bethel
David Phillips, RIT, USFWS, Yukon Delta National Wildlife Refuge, Aniak
Charles Rogers, USFWS Yukon Delta National Wildlife Refuge, Bethel
Fred Bue, USFWS Yukon Subsistence Fisheries, Fairbanks
Pat Petrivelli, Subsistence Anthropologist, Interagency Staff Committee, BIA
Jen Peeks, Kuskokwim River Salmon Management Working Group In-season Coordinator & Western Region Board Support Coordinator ADF&G, Bethel

Via teleconference:
Dan Gillikin, Native Village of Napaimute
Anna Crary, Kuskokwim River Inter-Tribal Fish Commission
Catherine Moncrieff, Anthropologist, Yukon River Drainage Fisheries Association
Suzanne Worker, Wildlife Biologist Office of Subsistence Management
Susanna Henry, Refuge Manager, Togiak National Wildlife Refuge
Ken Harper, Fisheries Research Biologist, USFWS, Kenai Fishery Resource Office
Dan Sharp, Interagency Staff Committee, Bureau of Land Management
Rosalie Debenham, Fish and Wildlife Biologist, Bureau of Indian Affairs
Elizabeth Powers, Western Alaska Landscape Conservation Cooperative
Jill Klein, Special Assistant to the Commissioner, Alaska Department of Fish and Game
Lisa Olsen, Deputy Director, Alaska Department of Fish and Game Division of Subsistence
David Runfola, Subsistence Research Specialist, Alaska Department of Fish and Game Division of Subsistence
Caroline Brown, Subsistence Research Director, Alaska Department of Fish and Game Division of Subsistence
Jeff Estensen, Yukon River fall season fisheries manager, Alaska Department of Fish and Game
Deena Jallen, Yukon River Summer Season Manager, Alaska Department of Fish and Game
Mark Burch, Alaska Department of Fish and Game Division of Wildlife Conservation, Palmer
John Chythloook, Sport Fish Biologist, Alaska Department of Fish and Game, Fairbanks
Colton Lipka, Kuskokwim Assistant Area Management Biologist, Alaska Department of Fish and Game
Gene Sandone, Yukon Delta and Kwik'Pak Fisheries
Bill Alstrom, St. Mary's, Yukon Subsistence
John Lamont, Yukon Subsistence and commercial fisher, St. Mary's
Lisa Fierheisen, Kuskokwim Salmon Management Working Group representative
Kasigluk Traditional Council representative (unable to hear name)
Eek Traditional Council representative (unable to hear name)

Roll call

James Charles, John Andrew, William (Charlie) Brown, Robert Aloysius, David Bill, Sr., Michael Peters, Alissa Nadine Rogers, Raymond Oney

Quorum established with eight Council members present after brief weather delay.
Recent Secretarial appointments left four seats vacant on the Council including the Chair and one Council member moved out of the region which brings the current Yukon-Kuskokwim Delta Regional Advisory Council membership to only eight of 13 seats filled.

Adoption of agenda

The Council reviewed and approved the agenda with flexibility to combine all Yukon and Kuskokwim fisheries reports prior to consideration of fisheries regulatory proposal development. A report on Adapt Alaska a new collaborative project with the Western Alaska Landscape Conservation Cooperative, AVCP, and Yukon Delta National
Wildlife Refuge was added to the agenda under agency reports.

Review and Approve Previous Meeting Minutes

The Council reviewed the October 12-13, 2017 meeting minutes and corrected one name misspelling for Alissa Rogers (no "d" in Rogers). Minutes otherwise approved as written by unanimous consent.

Election of Officers

John Andrew was nominated by the Council to serve as acting interim Chair until the election of officers was held. Election was delayed until Ray Oney was able to arrive to the meeting later in the morning of the first day of the meeting due to weather delay that held up his flight.

Chair: Alissa Rogers received the majority vote of the Council and was elected Chair
Vice-Chair: James Charles received the majority vote of the Council and was elected Vice-Chair
Secretary: Ray Oney was elected Secretary.

Council member reports

David Bill – Toksook Bay. David relayed that Toksook Bay usually report all the boats at the all the trawl nets when they see them because the community is concerned about the impacts of trawl fishing on the marine environment and subsistence resources. David noted that he is seeing changes in the seals in his area that the fat and muscle of the seals are soaked in blood when they harvest them as they always have. Also he noted that the seals are starting to swim in front of Nunivak Island instead of through False Pass as they usually do and that is too far to travel to hunt them as they usually do. David expressed concern that the rivers and oceans are not the same and it is affecting the fish and the seals. He noted that some fish no longer go through

False Pass anymore and he is worried for the future because the ocean is their food. David requested that Fish and Wildlife or Fish and Game to look into what is going on with all these changes before it is too late. David noted that they are seeing these boats 3 miles from shore so whoever can deal with ships in that area when they are trawling right in front of Nunivak Island.

Charlie Brown – Eek. Charlie relayed that they used to fish where their ancestors always had at the mouth of the Kuskokwim River at a place called "Paithluk" That was the place to fish when the tide was high or when the tide was coming in because when the tide went out there were no more fish. used to fish low tide use to be fish at low water their used to be no fish only had fish at high tide once the tide goes out there would be no fish at the Kuskokwim River. It's an area where they can fish when they can't fish on the Kuskokwim River and he would be thankful if the community of Eek can fish there again. Charlie stressed that many people in his community don't have any income and live a subsistence way of life. They don't have money to travel very far and there are four key places that the community fishes and he is working to ensure they can fish in those places.

Charlie noted that he supports a subsistence way of life for his people and stressed that they have to prepare a lot of food to make it through the long winters and sometimes people do run out of food. He relayed that his number one priority to be able have fishing like they did in the past. Charlie highlighted that people usually start fishing in June because the weather is good for drying fish and the flies are not out yet in June. He would like people to be able to fish in a good way when the timing is right. Charlie noted that is the way the ancestors fished early in the season and then stopped fishing even when there were still abundant salmon in the river – they only get what they need.

James Charles – Tuntutuliak. James thanked the Fish and Wildlife Service, Department of Fish and Game, and the Inter-Tribal fish Commission for all the work together with the Working Group too in managing the fisheries. He is not pushing for more fishing on the river because they have been allowed to fish upriver on the Tagayarak, Tuntutuliak, Kialik, and Johnson Rivers. James noted that Fish and Wildlife Service has put markers at those places and it's been nice recently to catch a few fish in these non-salmon spawning rivers they even catch a few Chinook Salmon, early in the spring. He noted that these rivers are brown and end in lakes unlike the clear spawning rivers that come out of the mountains. James highlighted that people area very happy to be able to get a few fish early in the springtime.

Bob Aloysius – Kalskag. Bob reported that he has two concerns that he wants to share. He relayed that one issue of concern is that the Inter-Tribal Fish Commission should open their meetings with the Fish and Wildlife to the public and not just closed meetings because he feels there are a lot of people along the Kuskokwim who are knowledgeable and could provide information. He feels strongly that these meetings should be open to the public. The other issue Bob want to relay is that he feels the Kuskokwim Salmon Management Group meeting should be held in Bethel and be open so that the public can attend. He noted that meeting in Anchorage is not accessible to the majority of people on the Kuskokwim River. Bob highlighted that when they held the meeting in Bethel last year people from all along the Kuskokwim filled up the whole room and they had lots to say and need to continue to have their voice heard.

Michael Peters - Marshall. Michael reminded everyone that there are two Tribes in Marshall, the Marshall Tribal Council and also the Ohogamiut Tribal Council. He noted that Tribes are interested in a way to provide for elders in these times of conservation closures for salmon. Michael asked if there is a way to let the elders get some salmon early in the season to meet there needs because sometimes when the first pulse and the second pulse of fish go by or the water is too high to fish there is no getting the fish back later. Michael also expressed concern for the budget cuts affecting the salmon research and monitoring on the Yukon River. He noted that Marshall used to be involved in fisheries monitoring projects and they would like to be able to have that engagement with Yukon River salmon management. Mike expressed that he would like to help people in their area with fisheries proposals. He is very concerned that some method be worked out to get at least some salmon to the elders and that he understands the challenges in times of conservation but fish is the livelihood of the people.

Michael also reported concerns about the weather changes and moose in his area. He asked if it would be possible to have emergency openers for moose if needed when the weather was rainy or not good for moose hunting during the regular season if they could have another opener to meet subsistence needs since the moose population are doing well.

John Andrew – Kwethluk. John thanked the Council for all there good reports and noted that many things had already been reported on that he was going to share. He noted that he usually fishes for the Y a little below the Kwethluk River and always has three or four families fishing with him at fish camp. But this year the water was too low for June – the water was too low and too warm and not enough salmon in the early part of June.

John reported that they only had three subsistence salmon fishing openings in June and the first one that didn't produce too well because of too many people competing in one small area – a little bit like combat fishing. John noted that for Kwethluk in the last few years the first opening has been alright but they do not get enough fish and when the second and third subsistence fishing opening come too late into the rainy season and a third of his dry fish spoiled. John noted that his nephew has a fish camp close by and they lost nearly 40 percent of their fish to spoilage because of the rain. John noted that many people in Kwethluk had a similar experience.
John reported that the first part of the summer wasn't too good for salmon, like kings, reds, chums, but fall season was nice with abundant Silver salmon even though it was high water everywhere.

John reported that the moose season was good and they got plenty of moose. He highlighted that his first day out they saw maybe 14 or 15 cows and calves. They saw a little 3-pointer and John noted happily that his great grandnephew got that one.

John shared a Chairman's report recalling major issues that Council Chair Lester Wilde had reported on at the time. Concern for the ptarmigan decline which is common throughout the Y-K Delta and even this year with more normal snow cover people are barely seeing any Ptarmigan come back. John noted that Lester Wilde also had great concern for opportunity to subsistence fish for salmon earlier in season when people traditionally did to avoid rainy weather and flies spoiling the fish.

Raymond Oney – Alakanuk. Ray reported that people in his community are doing ok with fish and moose but fish have been somewhat lacking. He thought maybe Sheefish would pick up soon on the Yukon so people could have fresh fish for the spring. Ray noted that people are seeing more wolves in the area now. Ray also reported that he was surprised to see a bit of Ptarmigan popping up in the area now and thought they might see more rabbits soon too and he is looking forward to spring hunting.

Alissa Nadine Rogers – Bethel. Alissa reported that Pike are blooming in the tributaries and she is concerned that the pike are eating too many of the salmon smolts. She reported that she heard a lot of comments that there was a lot of Sheefish this year and they were doing great. Conversely Alissa reported that people noticed a lack of Whitefish running during the wintertime and even a reduction in whitefish caught during the summer and fall. She also noted a decline in Blackfish in the lakes and streams and many of those areas are starting to dry up. Needlefish are also in decline this year and there were not many around the Bethel area. She noted that even the smelts are in decline with only a half day run that came through Bethel this year. Her family was only able to get a half gallon of smelts this year when they went back a few hours later the smelt run was already gone.

Alissa reported that the Chum Salmon were running late this past year. When her family went out to fish for Silver Salmon in August there were still Chums running then in pretty poor condition. The Silver Salmon were in good condition with no worms or scars this year but the run was not as dense as usual. Alissa reported that they caught a bunch of Red Salmon in Piss Me Off Lake for the first time ever. She also noted that the Red Salmon were smaller this past year and the pigment of their meat is orange, more pale than usual. Alissa shared that they had not harvested any Chinook Salmon since her grandpa passed away deciding to save them for elders so they fish for other salmon. She relayed a message her grandfather always said to stay off the salmon spawning grounds to protect them and not go there even if it is targeting other fish to protect them from harm or destruction from jet boats.

Alissa reported that as of March 14 they had already seen the first mosquitos in the last week and heard that people were beginning to see them also on the Yukon. She also noted that a flock of little birds also arrived early this year. Further she noted that the water in the spring and summer has been low and really clear and gets really warm and a lot of lakes have been drying out. The ice has not been usual and the fish rely on the big floods caused by the normal big ice beak up they used to have back in the day. Also erosion is causing the river banks to slough and eddies are getting deeper making it harder to set nets there. They hardly saw any Ptarmigan – only one last year and two this year so they did not try to hunt them but the rabbits are plentiful. Mice are also plentiful and more owls are being cited around Bethel.

Alissa reported that there were lots of caribou around this year and they were healthy. She thought maybe the main herd had split into several groups since there were three or four pulses of caribou coming through and they ranged even as far as Eek. She reported that there is also a lot of moose around and lots of moose sighting close by. People on the Yukon reported seeing "herds" of moose and they were everywhere even far out along the coast. Alissa recalled that her grandpa had told here that when the moose go out to the ocean they are going to die because there are too many moose.

Alissa reported that they had a lot of good cranberries and good weather for raspberries this year but not enough blackberries. The salmon berries ripened very small and the blueberries were early and tart. She noted that it was so warm this summer that strawberries were still trying to bloom into October.

Public and Tribal Comment on non-agenda items

Tim Andrew speaking for himself expressed that he was very disappointed that RAC members were not reappointed and feels that it is a real loss to the region. He stressed that people like long time Council Chair Lester Wilde who has served on the Council for 21 years should be recognized for their lifetime of volunteer service. Tim noted that the consistency and long term knowledge of subsistence use in the region was critical to the effectiveness of the Council. Tim wanted to honor the exceptional people representing the region. He also welcomed Alissa Rogers to the Council and noted that she is very knowledgeable, having learned from her Uppa, respected elder the late John Hansen.

Martin Andrew representing his Tribe, the Organized Village of Kwethluk, Kwethluk IRA Council. Martin wished to address Chinook Salmon and recognized that in the past several years the Chinook run was low drainage wide on the Kuskokwim and people were hard pressed to get there subsistence fish with the conservation measures. He stressed the importance of earlier openings in early June so that they could harvest before the rain. Many families took a big hit to their subsistence when salmon they did catch spoiled in the rainy weather. Martin felt that even with low Chinook numbers that if an overall harvest of 20,000 – 30,000 could be taken if they had a chance to fish earlier in June then allow the rest to make it to the headwaters for escapement and spawning.

Neil Dewitt speaking on his own behalf also noted that he serves on the Anchorage area State Advisory Committee and the Western Arctic Caribou Herd Working Group. He expressed personal concern about the proposed Ambler mining road and encouraged the Council to get engaged in the process due to concerns about increased road traffic that might impact local subsistence similar to what happened on the Dalton highway which was just an industrial access highway and then became a highly used public highway for hunting access. Neil also spoke about Unit 23 federal subsistence caribou proposals but was informed that the Y-K Delta RAC is outside of the range of the Western Arctic Caribou Herd.

Brain Henry from Akiachak addressed the Council about his concerns about the proposed Donlin Mine and potential impacts to subsistence. He thought about what it means to practice a subsistence way of life and that people had to act carefully and think about the next generation.

He stressed that who they are as a people revolves around subsistence so he wants to see the next younger generation be able to be who they are and subsistence hunt and fish. Brian stressed that an ecosystem disaster will affect everything and he want to prevent this so that he can pass on a subsistence way of life to his grandkids and the next generation.

Bill Alstrom from St. Mary's reported that he participated in the Board of Fish meetings and the Yukon River proposals did pass including the one to allow retention of incidental catch of Yukon Chinook in the commercial fishery. Bill stressed that the community is still very concerned about moose antler sales. People have been complaining about moose antlers stolen out of yards and young people going out and selling antlers. Bill noted Elders have expressed concern about people going out and harassing moose just for antlers.

Gene Sandone, Qwik'Pak Fisheries LLC also addressed BOF Proposal 232 and noted that the Department of Fish and Game always had the opportunity to retain incidental catch of king salmon. Gene offered assistance to anyone who would like help with developing or submitting a proposal to the Alaska State Board of Fish and noted the deadline is April 10.

Henry Lomack, Akiachak Tribal member, relayed what it means to him to be Alaska Native and live a traditional subsistence way of life. He expressed that it was hard to convey but that it means everything to him to live a subsistence way of life but that management makes it difficult to harvest and prepare food to last for the whole year. Henry expressed concern about people not being able to fish until late when the weather was rainy and it is very hard for him to witness fish being spoiled. He works hard to prepare food to the best taste it can be and noted that everyone prepares food under the sun to make dryfish and other foods. Sun makes good food. Henry expressed that he listens to everyone and all the openings and closures and want to help with the best possible solution. He suggested perhaps technical solutions for ways to best preserve food and how people have traditionally prepared food in this part of the world.

Chris Tulik, noted that he grew up on Nelson Island and is speaking as individual out of concern for his community. He noted they live in a marine environment and harvest herring and bottom fish, and ducks, and seals but this way of life could be threatened by Donlin Mine since a spill would flow downriver and impact not only the Kuskokwim River but also the whole Delta and marine environment far beyond because the ocean currents travel past their island. Chris noted that many were in support of the mine because jobs were scarce but he was worried that all the marine resources that they depend on for their livelihood and way of life could be impacted by the mine development. Chris concurred with Council member David Bills report that the ocean is changing and he is also seeing an increase in disease in the seals and changing fish species.

Paul Michael reported that he is speaking on behalf Chariton Epchook of Kwethluk Inc. and requests something to be done need to salvage the Falkner and Walsh barge that sunk near the mouth of the Kwethluk River and remove it. He stressed that 5-6 years has passed since it sunk and there has still been no action and yet it was leaking oil and a hazard for boaters. Paul asked for the State of Alaska and US Coast Needs to address it. Paul also reported that Kwethluk Inc. still wants follow up on their request for a rafting moratorium on the Kwethluk River to help protect the Chinook Salmon spawning grounds.

Martin Nicholai, Kwethluk Inc. reported they own the land up on the river where Kwethluk makes a bend around Elbow Mountain. He asked for respect of the land and the waters of Kwethluk River. Martin expressed concern especially during Silver Salmon season they see a lot of salmon fillet with heads and bones with meat around the mouth of Magic Creek below Three Step Mountain. He conveyed that when they see this it makes their hearts break – Western

Mentality doesn't agree with the Yup'ik way – they see the whole fish as food including the head and the tail too. Martin asked for respect for the food and area around Kwethluk waters.

In response to public comments and concerns the Council made a motion to draft a letter to the Environmental Protection Agency and other relevant federal agencies or state agencies regarding the Kwethluk Inc. request regarding removal of sunken barges on the Kuskokwim River. The Council further discussed adding removal of all sunken barges to the letter including those in Steamboat Slough and the heavy tractor that recently went through the ice near Tuntutuliak. The Council expressed concerns about the sunken barge impacts to subsistence and the environment from oil leakage and safety hazard to local residents traveling by boat in the area and requested to add to the letter support for the ADV taskforce to request for proper cleanup in timely manner of all these sites. Motion passed unanimously.

Old Business

Donlin Mine Final EIS and public process update: Council Coordinator, Eva Patton provided the Council with a brief update on the Final Donlin Mine EIS which is projected to be released later in the spring. There may be another opportunity to provide public comment after the release of the final EIS and additional appendices so the Council made a motion and voted to form a working group to review the EIS and develop recommendations regarding subsistence. All Kuskokwim area Council members expressed interest in participating in the working group.

Kuskokwim Partnership Project update: Ken Stahlnecker, Yukon Delta National Wildlife Refuge Manager, provided the Council with an update and overview on the Kuskokwim Partnership Project since he was one of the primary participants in the process. Ken noted that the intent of the project was to integrate Alaska Native input in the fisheries management process and an MOU between the USFWS and Kuskokwim River Tribal representatives has been in place for a few years now and they have been working with the Kuskokwim River Inter-Tribal Fish Commission to build a collaborative unified approach to the inseason fisheries management process. The partnership is based on sharing information and they are still working on ways to further engage the public and incorporate broad input in the process. Ken reported that "Phase Two" of the Partnership Project was planned to be a subcommittee jointly chartered by the Yukon-Kuskokwim Delta and Western Interior Subsistence Regional Advisory Councils but then a year ago discussion evolved into the possibility of consolidating the State and Federal management entities with Kuskokwim River Inter-Tribal Fish Commission into a single FACA chartered group. They are still working on how this might be structured and how public input would be incorporated into the process.

Anna Crary, legal counsel for the Kuskokwim River Inter-Tribal Fish Commission (KRITFC), reported that the formal structure of "Phase Two" had stalled but that the Fish Commission is continuing to move forward with full implementation of the MOU signed with the US Fish and Wildlife Service. Ken noted that the new updated Delegation of Authority Letter for the refuge manager authorities for inseason fisheries management includes consultation with both the KRITFC and the Subsistence Regional Advisory Council. James Charles was nominated to serve in the capacity of a liaison between the KRITFC, the Y-K Delta RAC and the Refuge manager since he serves on both the Fish Commission and the RAC. The Council voted

unanimously to elect James to serve in this liaison capacity to help effectively communicate inseason discussions between the groups.

The KRITFC will be meeting later in the end of April or early May for a preseason planning meeting and invited the YK-Delta and WIRAC Chairs to participate.

New Business

Kuskokwim River Pre-season Management review (Joint USFWS and ADF&G discussion). Ken Stahlnecker, Yukon Delta National Wildlife Refuge Manager provided the Council with a handout on the preliminary run forecast. He noted they anticipate a conservative approach this season to restrict to all but Federally Qualified subsistence users. Aaron Tiernan, ADF&G Kuskokwim Area Fisheries Manager reported there was a recent news release with a preliminary forecast of 140, 000-190,000 Chinook Salmon. The Council discussed the run forecast and run reconstruction with ADF&G biologists and the federal manager. It was noted that the preseason forecast is no better this year then it was last year - forecast number are very similar to last year and last couple years.

Ken highlighted that as usual the inseason fisheries management process would proceeded collaboratively – synthesizing information coming in through a collaborative structured decision making process. Council members discussed their communities' desires to be able to fish early in the season as their ancestors did so that they could dry the fish in good weather before the rain and the flies. Some Council members also reported that elders in their community would like a way to get a few fish for elders early in the season. James Charles asked about distribution of fish from the Bethel Test Fishery and that Tuntutuliak would like to receive some fish for their elders. Council member Bob Aloysius stressed the importance of being able to harvest Sheefish for the first fresh fish of the spring right after break-up. He reiterated that the allowed use of only 4 inch mesh does not work for Sheefish because they are so big and that 6 inch gear should be allowed to catch Sheefish right after breakup in may because very few Chinook Salmon would be running that early.

The Kuskokwim Salmon Management Working Group preseason meeting will be held April 3-4 in Anchorage. The Working Group voted to alternate between holding the meeting in Bethel and Anchorage every other year.

Fisheries Special Action 18-01: Pippa Kenner, Anthropologist with the Office of Subsistence Management reported to the Council on Fisheries Special Action 18-01 submitted by the Yukon Delta National Wildlife Manager Ken Stahlnecker. Temporary Special Action Request FSA18-01, submitted by the U.S. Fish and Wildlife Service, Yukon Delta National Wildlife Refuge (Refuge), requests the following from the Board:

- Close Federal public waters of the Kuskokwim River drainage to the harvest of Chinook Salmon except by Federally qualified subsistence users beginning June 12, 2018, and lasting until August 30, 2018, unless the Federal in-season manager re-opens Federal public waters of the Kuskokwim River drainage to the harvest of Chinook Salmon by non-Federally qualified users, or when superseded by subsequent special actions, and

- Reduce the pool of eligible harvesters based on the Alaska National Interest Lands Conservation Act (ANILCA) Section 804 Subsistence User Prioritization that was implemented in 2017.

A public hearing for FSA 18-01 was held in the evening after the first day of the Council meeting and the Council was encouraged to attend. Because an analysis was not available and tribal consultation and public hearings not yet held, the Council made a motion and voted to hold a follow up meeting via teleconference in order to make a recommendation on the special action request with consideration of all the information.

Yukon River Pre-season Management Overview (Joint USFWS and ADF&G discussion). Yukon River Federal Inseason Subsistence Fisheries Manager Fred Bue presented in person with support from ADF&G fisheries management biologists Deena Jallen and Jeff Estensen participating via teleconference to discuss preseason management plans with the Council. Fred provided the Council with a comprehensive packet of information and data on Yukon Salmon and management strategies. A map of Salmon stocks on the Yukon River and patchwork of Federal lands and State and Federal waters on the Yukon River was also provided. He noted that management is fairly complex and thanked the Council for letting him know their concerns and issues which help refine management strategies. Fred highlighted that subsistence salmon harvest estimates for 2017 and that it was an improvement in both the Chinook salmon run and subsistence communities able to harvest more fish. He reported that 37,000 subsistence Chinook were harvested in the Alaska portion of the Yukon River and 3, 600 subsistence Chinook were harvested in the Canadian portion of the river in 2017.

He noted they had good passage across the border into Canada last year Alaska and Canadian interest are working together in the Joint Technical Committee including representatives from the Association of Village Council Presidents and Tanana Chiefs Conference are meeting in Whitehorse and will produce forecast for the coming season. The expectation that the run will be similar to last year. His primary concern is how to conserve Chinook and provide opportunity for summer chum. Summer Chum, Fall Chum and Coho are all doing well.

Fred highlighted that the Pre-season planning meeting with the Yukon River Panel will take place the first week of May. Funding is provided through a grant to support representatives from all along the Yukon River to meet and discuss management strategies. He notes that since everyone on the river uses fish differently it takes a lot of discussion and time to work out the process.

Deena Jallen ADF&G Yukon Fisheries Manager reported on five agenda change request (ACR) that were recently passed by the Alaska State Board of Fish and a handout with details was provided.

Fred discussed Yukon River Fisheries Resource Monitoring Program (FRMP) projects of interest to the Council and public. He again stressed that the Yukon is large complex river system with many communities, different fish stocks and very different river conditions in each part. He noted that it takes coordination of management with lot of different interest groups and that the management must be adaptive – within season. Fred highlighted that the feedback from fishermen helps to develop new strategies and try them out by trial and error to see what works

best for Chinook conservation while still providing opportunity. Fred noted that budgets are getting tighter all around and that some long-term salmon monitoring projects may not get funded this year such as salmon genetics at Pilot Station and the Adreafsky River Weir which has been operated by USFWS for over 20 years.

The Council discussed the importance of these long-term fisheries monitoring projects and expressed that it was critical to have consistent data on salmon escapement in tributaries throughout the Yukon River. The Council made a motion to draft a letter of support requesting that the Andreafsky Weir be funded again in the future addressed to the FRMP Program, the Office of Subsistence Management and the Federal Subsistence Board. Motion passed unanimously. The Council also discussed the importance of protecting the spawning grounds and juvenile salmon habitat and made a motion to write a letter to the land manager of the Andreafsky River to protect the spawning grounds from being damage by activities in the area. It was noted that the Andreafsky River has Wild and Scenic designation and BLM may have management authority in this case as well as the area of river on Refuge land. Motion passed unanimously to draft this letter to the relevant management agency.

Alaska State Board of Fish: Jen Peeks, ADF&G Board Support, provided the Council with updates on the Board of Fish and Board of Game process. The current Alaska State Board of Fish fisheries regulatory proposal deadline is April 10, 2018. Jen and other staff offered assistance with proposal development and support for public participation in the process.

Call for Federal Subsistence Fisheries Proposals: Pippa Kenner, Anthropologist, and Gary Decossas, Fisheries Biologist provided the Council with an overview of the call for federal subsistence fisheries proposals and invited the Council and the public to submit proposals. The call had not officially been posted to the Federal Register yet but proposals are being accepted and a news release with the deadline would be distributed once the notice was published.

The Council discussed several potential fisheries proposals and voted to submit one regarding use of dip nets as legal gear for subsistence salmon fishing on the Yukon River. Council member Alissa Rogers noted that she used to sit on the bank of the Yukon River and fish for Fall Chum with her Grandma. However she noted that while dip nets can be used for commercial fishing on the Yukon River now, dip nets are not legal gear for subsistence salmon fishing. She would like people to have this opportunity to fish subsistence with dip net if they want to.

The Council made a motion to submit a proposal for use of dip net as a legal subsistence gear type on the Yukon River year round to harvest salmon except in times of conservation Chinook salmon would be released alive. Council vote: 5 yes and 2 no – motion passes.

Call for Rural/Non-rural determination: Pippa Kenner, Anthropologist, Office of Subsistence Management provided an overview of the current Rural/Non-rural determinations and the call to submit proposals to change the current determinations. In January of 2017, the Federal Subsistence Board adopted a new policy on nonrural determinations that was developed with input from all 10 Regional Advisory Councils. The final policy was presented at the Councils winter 2017 meeting. The policy lays out the requirements for submitting a proposal and a three-year timeline. Proposals submitted during the upcoming call will be considered by the Federal

Subsistence Board in January of 2021. The four-year cycle begins concurrent with every other fisheries regulatory cycle. The next call for proposals on regulatory changes to nonrural determinations will not occur until the spring of 2022.

Fisheries Resource Monitoring Program: Pippa Kenner, Office of Subsistence Management Anthropologist, provided a brief update on the Fisheries Resource Monitoring Program (FRMP). Budgets had not yet been confirmed to finalize which new projects would be awarded research grants this year. Updates will be provided when available.

The Council discussed forming a working group to address development of Priority Information Needs (PINs) to help guide the direction of call for FRMP proposals for the Yukon and Kuskokwim regions. It was noted that the Western Interior and Eastern Interior Councils had already met and had elected to also form PIN working groups and there was opportunity for all three groups to meet by teleconference to discuss their observations and priorities with each other. The Council voted unanimously to form a Yukon and a Kuskokwim PIN Working Group with Ray Oney and Michael Peters as representatives for the Yukon and all remaining Council members except Charlie Brown for the Kuskokwim Group.

Partners for Fisheries Monitoring Program: The Council was provided with a handout and update on the Partners for Fisheries Monitoring Program call for funding which is coming in the fall of 2018. The program provides competitive grants to hire staff biologist, anthropologist, or educator to work with local rural organizations such as Tribe, local non-profit, or schools. The program is set up to build partnerships and local capacity for community based research, monitoring, and education and outreach related to subsistence fisheries and other matters related to subsistence.

Review and approve FY2017 Annual Report

The Council reviewed and approved the draft FY2017 Annual Report with one edit to a sentence to help clarify the intent. All edits will be incorporated into the final Annual Report to be submitted to the Board.

Update on the Subsistence Regional Advisory Council Charter

The Charter centrally reflects the roles and responsibilities of the Council as it relates to Title 8 of ANILCA. The Council Charter is renewed and approved by the Secretary of Interior every two years and this year the new language was added to the Charter that are initiatives of interest to the current Department of Interior Secretary Zinke. The Secretaries office required insertion of this new language in all Federal Advisory Committee charters throughout the US but has no relevance to the roles and responsibilities of the Alaska Federal Subsistence Regional Advisory Councils. Ken Lord, Solicitor for the Federal Subsistence Program, responded via email during the meeting to the Councils concerns and re-confirmed for the Council that this new language is not relevant to the Federal Subsistence Program and has no effect on the Councils mandate.

Agency Reports

Orutsararmiut Native Council. Janessa Esquible, Partners Program Biologist, Orutsararmiut Native Council (ONC) provided the Council with an overview of the ONC inseason and postseason fisheries monitoring projects. They will be conducting inseason subsistence harvest surveys at Bethel area fish camps again this year assessing fishing effort and harvest. They compile results from these surveys each week and write a report for the salmon management working group meeting. Janessa noted that ONC will also continue its annual subsistence caught Chinook salmon Age-Sex-Length sampling working with communities from Tuntutuliak to Akiak to gather this data. ONC is also conducting post season salmon harvest surveys in conjunction with ADF&G to obtain harvest numbers for Chinook, Sockeye, Chum and Coho Salmon. Janessa highlighted the ONC youth and internship programs working with several college interns and plans for hosting an Alaska Native Science and Engineering Program youth career academy in Bethel with a focus on the biological sciences and traditional knowledge.

Tim Andrew, ONC Natural Resources Director, noted that he appreciates that the Council brought up the issue of derelict barges in Steamboat Slough. He also thanks the council for bringing up the waste of salmon as an issue to be addressed to align with Yup'ik values to only take what you need and not waste food – use all parts. Tim highlighted that all recommendations regarding subsistence come from the ONC Tribal Council and the ONC Subsistence Committee that has elected representatives to make knowledgeable informed decisions for the Tribe. He noted that the ONC designated fisherman program had worked well and was well received by their community providing an opportunity to harvest salmon in the traditional way while still helping with conservation efforts.

Native Village of Napaimute (NVN).
Dan Gillikin, Partners for Fisheries Monitoring Program Fisheries Biologist and Environmental Program Director for NVN, provided the Council with an overview of their inseason subsistence fisheries program. He highlighted their work and partnerships on the middle-Kuskokwim which are largely focused on outreach and education and building a local professional workforce for subsistence fisheries monitoring and management. Their monitoring projects include the Salmon River Weir, the Aniak Test Fishery, and inseason subsistence monitoring in the middle river area communities in conjunction with ADF&G. Building local capacity and engagement in subsistence fisheries management has continued to be their main focus. This year Dan noted they area also partnering with ADF&G Subsistence Division staff David Runfola to assess how peoples subsistence needs are being met inseason for the middle river area and report back to the Kuskokwim Salmon Management Working Group.

Dan reported they are also partners with Kuspuk school district on a Science Camp program that involves rafting the Aniak River to learn about salmon ecology and stream ecology and the scientific process. This project helps to broaden the scope of potential careers for students throughout the region and see the headwaters of the salmon spawning streams. NVN also submitted a proposal in to the Tribal Fish and Wildlife Grant program for a Kuskokwim River Basin wide stream temperature monitoring project.

Association of Village Council Presidents (AVCP)
Sarah Mutter, Biologist for the AVCP Natural Resources Department, provided the Council with a brief overview on all the subsistence work AVCP is involved with from migratory birds to marine mammals, beluga, and salmon management. She highlighted that she is a recent hire to AVCP and has been working with the program director, Jennifer Hooper, for the past year. She noted that Jennifer was currently attending the Yukon River Joint Technical Committee Meeting.

Sarah reported that AVCP have become very involved with forestry projects removing brush and trees from around homes in the villages for wildfire defense and prevention. She also noted AVCP has been in communication with the Coast Guard working on an oil spill seminar and oil spill response training for AVCP villages. She also noted that AVCP submitted comments to BOEM on the Bering Sea development plan. They have also been in collaboration on the planning for Adapt Y-K Delta.

Yukon River Drainage Fisheries Association. Yukon River Drainage Fisheries Association (YRDFA) Director Wayne Jenkins provided the Council with a handout describing the many projects the program is involved with on the Yukon River and also provided a brochure describing a project on how Yukon River traditional knowledge and how communities value salmon. He highlighted the upcoming Yukon River preseason meeting with funding from the Yukon River Panel Restoration and Enhancement Fund to support attendance of a representative of every community along the river and has been an important part of building relationships. Wayne reported that YRDFA has funding through next summer to hold the weekly inseason teleconferences in order to share run timing information and harvest from the Yukon Delta all the way up to Teslin in Canada. YRDFA will also be continuing inseason harvest interviews to track how subsistence fishing is going. Ten communities are participating and Wayne reported they have FRMP funding through 2020 to hire a local surveyor in each village. He highlighted that for the first time in many years people were able to use 7 and 1/2 inch mesh net to meet subsistence salmon needs.

YRDFA formed a Yukon Salmon Subcommittee since 40% of Yukon Chinook spawn in Canada. The goal is to meet and build understanding of fisheries issues faced by both Canada and Alaska. They are planning an educational exchange for the YRDFA 15th year and six Canadians will come to Alaska and plan to travel down to the mouth of the Yukon River. Other projects that YRDFA Anthropologist Catherine Moncrieff has been involved with include FRMP project Customary Trade and Barter on the Upper Yukon and Tanana River and also a Lower Yukon River Workshop on King salmon. The project will document Yupik understanding of King salmon natural indicators, concern for subsistence management and knowledge of salmon. Meetings were held in Yupik with local representatives to document local knowledge of elders. Danielle Stickman is heading up YRDFA Education and Outreach and this year has a National Fish and Wildlife Foundation grant to host a workshop for 6 young fishers on the lower Yukon River to encourage youth to get involved in salmon management.

Wayne reported that they have also been working on community support for engaging on BLM land management planning and Public involvement in the NEPA process. He noted that Tribes are requesting government to government tribal consultation how protect local subsistence interests and subsistence resource planning.

Togiak National Wildlife Refuge. Susanna Henry, Refuge Manager, Togiak National Wildlife Refuge referenced the Refuge report in the meeting book and provided a brief overview for the Council. She highlighted the information on the fish weirs that Togiak Refuge is involved with, noting that this year there was no funding for the Kenektok River weir and only limited funding the Middle Fork of the Goodnews River weir. The refuge has been engaged in moose surveys and have been working with local students on hunter safety. Susanna highlighted that the Togiak Refuge has been participating with ADF&G on introducing archery in schools and she has enjoyed this opportunity to get out with young people and meet with people in the villages.

Susanna noted that hiring process for new positions has been gradual but they have been able to hire a new Refuge Information Technician (RIT) and a summer seasonal from the village of Togiak. She noted that long time RIT John Mark of Quinhagak was going to be retiring this year. Susanna also reported sadly that longtime RIT and Bristol Bay RAC member and elder Pete Abraham passed away this year.

Yukon Delta National Wildlife Refuge. Aaron Moses, Fisheries Biologist for the Yukon Delta National Wildlife Refuge provided the Council with a handout and overview on the 2018 Refuge projects. Aaron reported that studies of migratory birds on the Delta continues and they have been banding waterfowl to track the population. The refuge has also been involved with moose studies in the region in partnership with ADF&G. Recently they have been focused on the study of moose habitat and their browse as it relates to the moose population. This moose browse project will also incorporate ANSEP students in the work. Aaron noted snow conditions were poor with little snow cover needed to see moose when conducting aerial surveys but they still saw a lot of moose especially along the Yukon River. The Refuge is also working with students in the coastal villages to teach hunter safety courses.

Aaron highlighted that he will be working on a fish preservation study to find out ways to help people keep fish from spoiling and gather traditional knowledge on how best to preserve fish in the summer so that it lasts the whole year. Aaron reported that the Refuge staff have been involved with the Kuskokwim River Inter-Tribal Fish Commission meetings to discuss management strategies for the upcoming summer. Aaron reported that the Refuge has initiated a water monitoring project along the sea wall in Bethel to track water temperatures and water levels throughout the summer. Aaron discussed with the Council that the Refuge always contact the community first before going there to work on a project and noted that he grew up in Toksook Bay and speaks Yup'ik so he can connect with people in their own language.

Adapt Y-K Delta. Ray Born, Deputy Refuge Manager for the Yukon Delta National Wildlife Refuge Provided an overview and handout on the Adapt Y0K Delta project. This is a collaborative process and partnership with the Refuge, Western Alaska Landscape Conservation Cooperatives, and the Association of Village Council Presidents with funding to hold participatory workshops on addressing climate change adaptation. They have convened a local steering committee and are working on the first workshop to develop local priorities and strategies for addressing climate change impacts and community based adaptation.

Office of Subsistence Management. Robbin LaVine, OSM Anthropologist provided the Council with a brief update on staffing changes, noting that student hires had been recently made for fisheries and anthropology Pathways Students. The Anthropology Division Chief at OSM still remains vacant but a request to hire for that position is underway.

Future Meeting Dates

The Council confirmed the fall meeting date for September 27-28, 2018 to be held in Bethel and selected March 12 - 13 in Bethel for the Winter 2019 meeting.

Closing Comments

The Council thanked staff and all the meeting participants. Council members further shared personal closing comments reflecting on their role in advocating for a subsistence way of life in the region and acknowledging their elders. The Council requested agency reports at the next meeting to address the marine fisheries concerns and observations of coastal residents on the declining health of seals. Council members wished to expressly thank the service of the long-time Chair Lester Wilde and others who were not reappointed to the Council this year. Council member Bob Aloysius requested the Council write a letter to the Secretary of the Interior to express the importance of these long time serving members who were not reappointed and to try to convey they value of their work. The Council voted unanimously to submit this letter.

The meeting adjourned by unanimous consent.

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

_____
Eva Patton, Designated Federal Officer
USFWS Office of Subsistence Management

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

These draft minutes will be formally considered by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council at its Fall 2018 public meeting.

YUKON-KUSKOKWIM DELTA SUBSISTENCE REGIONAL ADVISORY COUNCIL

Follow up meeting held by Teleconference
USFWS Regional Office
Anchorage, Alaska
May 3, 2018

MEETING MINUTES

Council members present:
Alissa Rogers, Chair
John Andrew
David Bill
James Charles
Raymond Oney

Meeting Attendees:
Eva Patton, Council Coordinator, Office of Subsistence Management
Orville Lind, Native Liaison, Office of Subsistence Management
Pippa Kenner, Anthropologist, Office of Subsistence Management
Gary Decossas, Fisheries Biologist, Office of Subsistence Management
George Pappas, State Subsistence Liaison, Office of Subsistence Management
Robbin Lavine, Anthropologist, Office of Subsistence Management
Sarah Mutter, Association of Village Council Presidents
Mary Peltola, Kuskokwim River Inter-Tribal Fish Commission
Robert Leander, Kuskokwim River Inter-Tribal Fish Commission
Mary Mathias, Natural Resources Director, Orutsararmiut Native Council
Dan Gillikin, Native Village of Napaimute
Ralph Nelson, Native Village of Napakiak
Richard Long, Native Village of Kwethluk
Nicholai Alexie, Kwethluk, Inc.
Martin Nicholai, Kwethluk, Inc.
Chariton Epchook, Kwethluk
Henry Lupie, Tuntutuliak
Adolph Lupie, Tuntutuliak
Sophie Enoch, Tuntutuliak
Charlie Charlie, Tuntutuliak
Roland White, Tuntutuliak
Nick Carter, Eek
Gerald Kameroff, Kalskag
David Dorris, Kalskag
Rebecca Wilmarth, Red Devil
John Lamont, Yukon River Subsistence
Ray Born, Deputy Refuge Manager, Yukon Delta National Wildlife Refuge
Chris Tulik, Refuge Information Technician, Yukon Delta National Wildlife Refuge
Mark Burch, Alaska Department of Fish and Game Division of Wildlife Conservation, Palmer
Caroline Brown, Subsistence Research Director, Alaska Department of Fish and Game Division

of Subsistence
Dave Runfola, Subsistence Research Specialist, Alaska Department of Fish and Game, Division of Subsistence
Aaron Tiernan, Kuskokwim Area Management Biologist Alaska Department of Fish and Game,
Colton Lipka, Kuskokwim Assistant Area Management Biologist, Alaska Department of Fish and Game
Jen Peeks, Kuskowkim Salmon Management Working Group Coordinator, ADF&G
Tom Whitford, Interagency Staff Committee, US Forest Service
Dan Sharpe, Interagency Staff Committee, Bureau of Land Management
Carol Damberg, Interagency Staff Committee, US Fish and Wildlife Service

Roll Call

Alissa Rogers, Chair, John Andrew, David Bill, James Charles, Raymond Oney. Five of eight current members present via teleconference – Quorum established. Three Council members were excused to travel to Anchorage for medical appointments that had been delayed due to inclement weather the previous week.

Adoption of agenda

The Council confirmed this follow up teleconference meeting had one order of business to review, hear public and agency comments, and make recommendations on Fisheries Special Action Request FSA18-01 and FSA18-03. Council members began the meeting by checking in with subsistence reports from their community and area.

Council Member Reports

Ray Oney – Alakanuk. Ray reported that near Alakanuk and other surrounding villages the river conditions are still solid although the snow is melting. He noted that the river seemed to be rising from the tides and also from spring runoff. Ray reported a lot of people were out for under ice fishing and jigging for Sheefish. He noted that there had been a steady run of Sheefish in the last couple weeks and people were mainly focused on that now. Ray also noted that the birds were late coming into the area this year and people are waiting for the birds to show up still. Overall people have been enjoying the warm weather this spring.

John Andrew – Kwethluk. John reported that people in his village are out fishing for whitefish back in the lakes but not a many as have in years past. He noted that some people that can afford to go out by boat are looking for migratory birds now. John noted that the water seems higher on the Kwethluk River this year but not so much on the Kuskokwim River. He observed very clear water on the Kuskokwim from the bluffs all the way down to Bethel. John relayed that the weather had not been very good for subsistence hunting and gathering this winter and spring but that today was finally a nice day.

James Charles – Tuntutualiak. James reported that many people from his village who can afford to travel up to the Johnson River to fish have been going up there since the Kuskokwim River is narrower and easier to catch fish there. James shared his thoughts on the fisheries special actions and his perspective as an elder for how things used to be when he was a kid. James noted that people used to stay out at fish camp all summer and not worry about fishing for

Chinook because they had to buy twine and weave their own nets. Those nets were maybe only 15 feet long and 10 meshed deep. James noted those days were gone now that people buy nets but felt that they could get by in times of conservation like they used to back when they had to make their own nets so he supports FSA18-01.

David Bill – Toksook Bay. David reported that has come early this year in his area. He noted the ice was gone early and some of the birds are coming in early now. He noted they are getting a lot of smelts around Nelson Island now but other fish have not come in yet. David expressed that the weather and everything is different now and they don't know what is going to happen but hopes that they can catch fish like it used to be before.

Alissa Rogers – Bethel. Alissa reported that the Kuskokwim River has not broken up by Bethel yet or even moved very much. They are seeing a lot of geese fly over now but no swans yet. She noted that people are out fishing and trying to get trout in the lakes which is pretty early. Alissa also noted that the little sand mites are early but she has seen them already too.

Fisheries Special Action 18-01 and 18-03

Fisheries Biologist, Gary Decossas and Anthropologist, Pipper Kenner with the Office of Subsistence Management provided the Council with a thorough overview of the analysis for both Fisheries Special Action 18-01 and 18-03 regarding management of the Kuskowkim River Chinook Salmon subsistence fishery. Temporary Fisheries Special Action Request FSA18-01, submitted by the U.S. Fish and Wildlife Service, Yukon Delta National Wildlife Refuge manager, who is also the Federal in-season manager for the Kuskokwim area, on February 5th, 2018 and Temporary Fisheries Special Action Request 18-03 was submitted by the Akiak Tribal Council on March 28th. Both actions request that Refuge waters be closed to the harvest of king salmon except by residents of the area plus the four coastal communities of Kong, Kwig, Chefornak and Kipnuk. The request from the Refuge Manager is for the closure to begin on June 12th. The request from the Akiak Tribe is for the closure to begin on May 20th. The Akiak Tribe is also requesting community allocations similar to what happened in 2015.

The Council had convened this follow up meeting to make recommendations to the Federal Subsistence Board on these special actions and were reminded that they could support, oppose, or support with modification if they took action. The Council had received the full final analysis in the mail and followed along as page numbers were referenced in the overview. Tribal and ANCSA Corporation consultation and comments received at the public hearings were incorporated into the analysis and summarized for the Council. The Council followed the regulatory proposal process procedures and heard comments from members of the public, Tribal and ANCSA representatives, ADF&G, and USFWS/Yukon Delta National Wildlife Refuge representatives. Other regional Advisory Council comments were also sought from the Western Interior Regional Advisory Council but no representatives were on line for this meeting. The Council heard from many members of the public all along the Kuskokwim River participating in the meeting and the comments ranged widely in support, opposition, or recommendations for possible modification of the special action requests.

Council Recommendation on FSA18-01: The Council made a motion to support FSA 18-01

with modification to move the closure start date up to May 25th , move the closure end date to June 30, and add a community based allocation system for the harvest of Chinook Salmon similar to the goals of the 2015 allocation system that was requested by the Native Community of Akiak in FSA18-03, including the Section 804 subsistence user prioritization for the drainage and for Bethel, but with the flexibility to use the lessons learned to implement a system that would work for all communities.

The full motion with modification is as follows:
Unless reopened by the Yukon Delta National Wildlife Refuge manager, Federal public waters in that portion of the Kuskokwim River drainage that are within and adjacent to the exterior boundaries of the Yukon Delta National Wildlife Refuge are closed to the harvest of Chinook Salmon except by Federally-qualified subsistence users that are residents of the Kuskokwim River drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganak effective from May 25th, 2018 through June 30th, 2018.

Federal subsistence fishing schedules, openings, closures, and fishing methods will be determined by the Refuge manager. Additionally, a community based allocation system will be implemented amongst the limited pool of Federally-qualified subsistence users and residents of Bethel as identified in Appendix F (ANILCA Section 804) of the analysis.

Motion passed with unanimous vote.

Justification: The Council confirmed and supported that the Federal inseason manager would be responsible for making management decisions to allow for subsistence fishing opportunity as proposed in FSA 18-01 and also that the modification for an earlier start date and adding an allocation system similar to the goals* of the 2015 allocation system would give the Federal inseason manager the greatest flexibility and tools to manage both for subsistence fishing opportunity and conservation of Chinook Salmon.

The Council requested amending to an earlier start date of May 25th to close Federal public waters to harvest of Chinook except by Federally qualified subsistence users so that the Federal inseason manager had more time and flexibility to manage for subsistence opportunity earlier in the fishing season. The Council also noted that this date of May 25th had been discussed by the Kuskokwim Salmon Management Working Group and had broad support from many users along the Kuskokwim River.

The Council supported amending to add an allocation system based on feedback from many communities that were in favor of this option as a means to manage for Chinook conservation while still allowing some Chinook Salmon to be harvested based on customary and traditional use and potentially have more subsistence fishing opportunity because it would provide an additional tool for managing for Chinook Salmon (in addition to gear restrictions and time and area openings). The Council noted that Bethel residents had spoken in favor of an allocation system that would help address conservation concerns for managing fishing pressure around the community with the largest population on the Kuskokwim. The Council felt since Chinook conservation was still needed an allocation system would be an appropriate way to carefully manage Chinook Salmon harvest. The Council noted that there was a broad range of feedback

from communities that had participated in the allocation system and stressed the need to manage for the goals of the 2015 allocation system while allowing flexibility to take the lessons learned of what worked or didn't work to modify the allocation system to best fit each community. The Council reconfirmed that overall goal of the modification to add a community based allocation system was to allow more opportunity for Chinook salmon to be harvested based on traditional use and greater opportunity to meet subsistence needs while still managing for Chinook Salmon conservation.

In closing, the Council relayed that they valued the information in the analysis and all the feedback received both in this meeting and previous public meetings. Council members stressed they take all comments fully into consideration and try to make the right decision based on that feedback. The Council noted again that they recognize that the final inseason management decisions will ultimately be made by the Federal inseason manager in consultation with the Kuskokwim River Inter-Tribal Fish Commission and felt that these amendments would give them the best options to work with to do the best for Chinook Salmon to rebound and support the people of the Kuskokwim River.

Council Recommendation on FSA 18-03: Motion to take no action on FSA18-03 based on action taken on FSA18-01. Motion passed with unanimous vote.

Closing Comments

The Council thanked staff and all the meeting participants. Council members further shared reflections on their work in support subsistence way of life in the region and expressed their hope that they had made their recommendation balancing the broad range of feedback from many communities to best support conservation and subsistence opportunity.
The meeting adjourned by unanimous consent.

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

_____
Eva Patton, Designated Federal Officer
USFWS Office of Subsistence Management

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

These draft minutes will be formally considered by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council at its Fall 2018 public meeting.

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

JUL 05 2018

OSM 180040.CJ

Ms. Alissa Rogers, Chair
Yukon-Kuskokwim Delta Subsistence
Regional Advisory Council
c/o Office of Subsistence Management
1011 E. Tudor Road, MS121
Anchorage, Alaska 99503-6199

Dear Ms. Rogers:

The Federal Subsistence Board met on April 10-13, 2018 regarding proposed changes to subsistence wildlife regulations and customary and traditional use determinations. This letter and the enclosed report identify action taken on proposals affecting residents of the Yukon-Kuskokwim Region.

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

In total, the Board accepted the recommendations of the Regional Advisory Councils, in whole or with modifications, in 46 out of the 52 proposals where the Board took action. Details of these actions and the Board's deliberations are contained in the meeting transcripts. Copies of the transcripts may be obtained by calling our toll free number, 1-800-478-1456, and are available online at the Federal Subsistence Management Program website, https://www.doi.gov/subsistence.

The Board adopted the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council's (Council) recommendation on the following proposals: **WP18-25/26**, to establish a new hunt area and may-be-announced season for moose in Unit 17C *(rejected)*; **WP18-27**, to establish customary and traditional use determination for musk ox in Unit 18 for residents of Nunivak Island *(rejected)*; **WP18-29**, to lengthen the moose season by one month in Unit 18 remainder *(adopted)*; and **WP18-30**, to shorten the season and decrease harvest limit and possession limit for ptarmigan in Unit 18 *(adopted with OSM modification)*.

Ms. Rogers 2

The Board's action differed from the Council's recommendations on the following proposals: **WP1S-21,** to change harvest limit to 2 caribou throughout Mulchatna caribou herd range and consolidate hunt *(adopt with OSM modification);* **WP1S-28,** to add a winter may-be-announced season for moose in Unit 18, Goodnews Bay *(adopted with OSM modification.);* **WP1S-31,** to shorten caribou season in portions of Unit 18 by 15 days *(rejected);* **WP1S-51,** to align Federal bear baiting restrictions with State regulations, specifically the use of biodegradable materials *(adopted with OSM modification).* The Board's action on these proposals and justification are discussed in the enclosed report. The Council took no action on **WP1S-33/36,** so no report is provided on the Board's action for those proposals.

The Federal Subsistence Board appreciates the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council's active involvement in and diligence with the regulatory process. The 10 Regional Advisory Councils continue to be the foundation of the Federal Subsistence Management Program, and the stewardship shown by the Regional Advisory Council chairs and their representatives at the Board meeting was noteworthy.

If you have any questions regarding the summary of the Board's actions, please contact Eva Patton, Subsistence Council Coordinator, at (907) 786-3358.

Sincerely,

Anthony Christianson
Chair

Enclosure

cc: Federal Subsistence Board
Yukon-Kuskowkim Delta Subsistence Regional Advisory Council members
Eugene R. Peltola, Jr., Assistant Regional Director, Office of Subsistence Management
Thomas Doolittle, Deputy Assistant Regional Director, Office of Subsistence Management
Jennifer Hardin, PhD., Subsistence Policy Coordinator, Office of Subsistence Management
Carl Johnson, Supervisory Program Analyst, Office of Subsistence Management
Eva Patton, Subsistence Council Coordinator, Office of Subsistence Management
Interagency Staff Committee
Administrative Record

FEDERAL SUBSISTENCE BOARD 805(c) REPORT

YUKON-KUSKOKWIM DELTA REGIONAL PROPOSALS

Proposal WP18-21

DESCRIPTION: WP18-21, submitted by the Bristol Bay Subsistence Regional Advisory Council, requested that the harvest limit for the Mulchatna Caribou Herd be changed to 2 caribou with no additional restrictions in portions of Units 9, 17 and 19. It also requests consolidation of several hunt areas.

COUNCIL RECOMMENDATIONS:
Bristol Bay Subsistence Regional Advisory Council - **Support with OSM modification**
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council – **Support**
Western Interior Alaska Subsistence Regional Advisory Council – **Support with OSM modification**

BOARD ACTION: **Adopted with OSM modification**

JUSTIFICATION: The regulation will consolidate several hunt areas and no additional restrictions in portions of Units 9, 17, and 19. It will create a single hunt area and align with State regulations, reducing regulatory complexity. Additionally, the delegation of authority to the local manager for in-season management decisions within the hunt area will ensure flexibility to respond to caribou movements. While the Board's action differed from the Yukon-Kuskokwim Delta Council's recommendation, the outcome is consistent with the Council's stated concerns about the herd population. It is also consistent with the recommendations of the Bristol Bay and Western Interior Alaska Subsistence Regional Advisory Councils, as well as the position stated by the Lake Clark National Park Subsistence Resource Commission.

Proposal WP18-28

DESCRIPTION: Proposal WP18–28, submitted by the Togiak National Wildlife Refuge, requested the addition of a winter may-be-announced moose season in the portion of Unit 18 in the Goodnews River drainage and south to the Unit 18 boundary.

COUNCIL RECOMMENDATIONS:
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council – **Support**
Western Interior Alaska Subsistence Regional Advisory Council – **No action taken**

BOARD ACTION: **Adopted with OSM modification**

JUSTIFICATION: The modification provided by OSM simply clarifies the regulatory language and does not change the intent of the proposal as written and, thus, would be supported by the Yukon Delta Regional Advisory Council. Establishing a winter season provides an additional

opportunity for Federally- qualified subsistence users to harvest moose if they are unsuccessful in the fall. Relative to a preset season, a may be announced season, poses little risk to the moose population in the area since it allows local managers to be responsive to changing population and harvest dynamics.

Proposal WP18-31

DESCRIPTION: Proposal WP18-31, submitted by the Orutsararmiut Native Council, requested that the caribou season in Unit 18 be shortened from Aug. 1 – Mar. 15 to Aug. 1 – Feb. 28.

COUNCIL RECOMMENDATIONS:
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council **– Support**
Bristol Bay Subsistence Regional Advisory Council – **Oppose**
Seward Peninsula Subsistence Regional Advisory Council – **Oppose**

BOARD ACTION: **Rejected**

JUSTIFICATION: If this proposal were adopted, the Federal caribou season throughout Unit 18 would be shortened by 15 days, resulting in an Aug. 1 – Feb. 28 season. Consequently, the Federal season will be 15 days shorter than the State season, which can be viewed as a reduction in subsistence opportunity. However, there is expected to be no realized effect on subsistence harvest or on the Mulchatna Caribou Herd, since local users will be able to continue harvest through March 15 under State regulation. Differing State and Federal seasons, both of which require a State registration permit, may result in confusion among those hunting under Federal regulation.

The Federal Subsistence Board voted to oppose the proposal based on justification consistent with the recommendations of the Bristol Bay Regional Advisory Council and the Seward Peninsula Regional Advisory Council to oppose this proposal. This proposal is not expected to address the proponent's or the Yukon Delta Regional Advisory Council's conservation concerns and does not provide any clear benefit to the population biology of the Mulchatna Caribou Herd or to Federally-qualified subsistence users. Because harvest will remain legal through March15 under State regulations, and because Federally qualified subsistence users may hunt on both State and Federal lands under State regulation throughout Unit 18, it would have negligible effects on subsistence harvest or on population dynamics of the Mulchatna Caribou Herd. In addition, the misalignment of State and Federal seasons would likely result in confusion among Federal users, which is unnecessary in the absence of a conservation benefit. The Board works to try to avoid confusing regulations for people out on the land and avoid any Federal subsistence restrictions if there is not a clear conservation benefit. Thus, rejection of the Yukon-Kuskokwim Delta Council's recommendation is warranted due to sound wildlife management principles and the continuation of subsistence uses.

STATEWIDE PROPOSALS

Proposal WP18-51

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

COUNCIL RECOMMENDATIONS:
Eastern Interior Alaska Subsistence Regional Advisory Council – **Support with OSM modification**
Southeast Alaska Subsistence Regional Advisory Council – **Support with OSM modification**
Southcentral Alaska Subsistence Regional Advisory Council – **Support with OSM modification**
Kodiak/Aleutians Subsistence Regional Advisory Council – **No action taken**
Bristol Bay Subsistence Regional Advisory Council – **Support with OSM modification**
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council – **Support**
Western Interior Alaska Subsistence Regional Advisory Council – **Support with OSM modification**
Seward Peninsula Subsistence Regional Advisory Council – **Support with OSM modification**
Northwest Arctic Subsistence Regional Advisory Council – **Support with OSM modification**
North Slope Subsistence Regional Advisory Council – **Support**

BOARD ACTION: **Adopted with OSM modification**

JUSTIFICATION: The use of biodegradable baits is already permitted as a form of baiting. Aligning State and Federal regulations will reduce this confusion. Defining scent lures will clarify the regulation and, again, reduce the potential for what we see as may be harmful or inappropriate use of other materials that are non-biodegradable. In adopting the Office of Subsistence Management (OSM) modification rather than the proposal as submitted, the Board's action differs from the recommendation of the Yukon-Kuskokwim Delta and North Slope Subsistence Regional Advisory Councils. However, as both of those Councils supported adopting the proposal, and the proposal was modified only to provide clarity to users, the adoption with modification does not meaningfully intrude upon the Councils' recommendations.

FP17–05 Executive Summary	
General Description	Proposal FP17-05 requests that Federal subsistence management plans, strategies, fishing schedules, openings, closings and fishing methods for the Kuskokwim Area be issued independently by the Federal Subsistence Management Program in consultation with appropriate agencies and entities. In 2017, the Federal Subsistence Board (Board) deferred action on this proposal until this regulatory cycle. Previously executive summary and analysis can be found in **Appendix 1**. *Submitted by: LaMont E. Albertson.*
Proposed Regulation	§___.27(e)(4) Kuskokwim Area *(ii) For the Kuskokwim area, Federal subsistence* ***management plans, strategies,*** *fishing schedules, openings, closings, and fishing methods are* ~~*the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.*~~ ***issued independently by the Federal Subsistence Program, including the Federal In-season Manager in consultation with appropriate agencies and entities***
OSM Preliminary Conclusion	**Support**
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
FP17-05

ISSUES

Proposal FP17-05, submitted by LaMont E. Albertson of Aniak, Alaska, requests that Federal subsistence management plans, strategies, fishing schedules, openings, closings and fishing methods for the Kuskokwim Area be issued independently by the Federal Subsistence Management Program in consultation with appropriate agencies and entities. In 2017, the Federal Subsistence Board (Board) deferred action on this proposal until this regulatory cycle.

DISCUSSION

The proponent notes that provisions of the Alaska National Interest Lands Conservation Act (ANILCA) and applicable Federal land management missions and mandates differ in certain critically important ways from Alaska Statute. The proponent states that changing this regulation is necessary for ensuring that Federal subsistence management practices align with Federal mandates in the Kuskokwim Area. The proponent notes that there are many cases where it is appropriate for Federal fisheries management plans and actions to mirror those of the State, and that the proposed regulation change is not intended to discourage or impede unified regulations when appropriate. The proponent believes that existing regulations severely limit the ability of the Federal subsistence program to exercise independent judgment, and he would like to see additional latitude for Federal managers to issue independent management plans, strategies, and fishing schedules when necessary to achieve the mandates and mission of ANILCA. The proponent noted that existing regulatory language may have been a necessary stop gap measure when the U.S. Fish and Wildlife Service (FWS) did not possess its own fisheries management expertise, but this is no longer the case and it is now necessary to provide the FWS the latitude necessary to meet program mandates.

The proponent clarified the proposal during telephone discussions on May 17 and June 27, 2016, and in an e-mail from the proponent on June 22, 2016. The proponent is seeking to remove language stating that Federal subsistence fishing regulations for the Kuskokwim Area "*are the same as issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by Federal Special Action.*" The proponent wants the Federal Subsistence Management Program, including the Refuge Manager, to work with the Alaska Department of Fish and Game (ADF&G) (including direct participation of the Kuskokwim River Salmon Management Working Group), and the Kuskokwim River Inter-tribal Fisheries Commission to determine a management strategy for Kuskokwim River drainage fisheries. The proponent clarified that he is supportive of Regional Advisory Council and Board processes. The Federal in-season manager is the Yukon Delta National Wildlife Refuge (Refuge) Manager.

During the 2017 regulatory cycle, the Yukon-Kuskokwim Delta and Western Interior Alaska Councils recommended the Board adopt Proposal FP17-05. In January 2017, the Board deferred action on Proposal FP17-05. The Board requested that the Office of Subsistence Management (OSM) update the

Delegation of Authority Letter from the Board to the Kuskokwim Area Federal in-season manager so that the updated letter could inform the Board during its deliberations on this proposal (the updated letter is in **Appendix 1**, the initial analysis of this proposal is in **Appendix 2**). The Board said it will also consider any developments in collaborative management efforts since 2017, such as the development of the Kuskokwim River Partnership Project.

Existing Federal Regulations

§___.27(e)(4) Kuskokwim Area

(ii) For the Kuskokwim area, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.

Proposed Federal Regulation

§___.27(e)(4) Kuskokwim Area

(ii) For the Kuskokwim area, Federal subsistence ***management plans, strategies,*** *fishing schedules, openings, closings, and fishing methods are ~~the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.~~* ***issued independently by the Federal Subsistence Program, including the Federal In-season Manager in consultation with appropriate agencies and entities***

Existing State Regulation

Sec. 16.05.060. Emergency orders

(a) This chapter does not limit the power of the commissioner or an authorized designee, when circumstances require, to summarily open or close seasons or areas or to change weekly closed periods on fish or game by means of emergency orders.

(b) The commissioner or an authorized designee may, under criteria adopted by the Board of Fisheries, summarily increase or decrease sport fish bag limits or modify methods of harvest for sport fish by means of emergency orders.

(c) An emergency order has the force and effect of law after field announcement by the commissioner or an authorized designee. An emergency order adopted under this section is not subject to AS 44.62 (Administrative Procedure Act).

Extent of Federal Public Lands

For the purposes of this discussion, the phrase "Federal public waters" is defined as those waters described under 50 CFR 100.3. The Kuskokwim Area includes all waters of Alaska between the latitude of the westernmost point of the Naskonat Peninsula and the latitude of the southernmost tip of Cape

Newenham including the waters of Alaska surrounding Nunivak and Saint Matthew Islands and those waters draining into the Bering Sea. The Kuskokwim Area includes waters that are within and adjacent to the exterior boundaries of the Yukon Delta National Wildlife Refuge, Togiak National Wildlife Refuge, Lake Clark National Park and Preserve and the Denali National Park and Preserve. This includes portions of Districts 1 and 2 of the Kuskokwim Fishery Management Area; these waters are generally described as the lower Kuskokwim River drainage from the mouth upriver to and including about 30 miles of the Aniak River, hereafter referred to as Refuge waters.

Customary and Traditional Use Determinations

For fish other than Rainbow Trout, rural residents of Kuskokwim Area except those persons residing on United States military installations located on Cape Newenham, Sparrevohn USAFB, and Tatalina USAFB have a customary and traditional use determination in the Kuskokwim Area.

For Rainbow Trout, rural residents of the communities of Akiachak, Akiak, Aniak, Atmautluak, Bethel, Chuathbaluk, Crooked Creek, Eek, Goodnews Bay, Kasigluk, Kwethluk, Lower Kalskag, Napakiak, Napaskiak, Nunapitchuk, Oscarville, Platinum, Quinhagak, Tuluksak, Tuntutuliak, and Upper Kalskag have a customary and traditional use determination in the Kuskokwim Area.

Regulatory History

In 1999, Federal salmon subsistence fishery management was authorized by the Board. In 2000, an Interim Memorandum of Agreement between the agencies on the Board and ADF&G provided a foundation for coordinated Federal-State fisheries management and subsistence use on Federal public lands in Alaska.

In 2000, because of low runs of Chinook and Chum Salmon, on July 8 ADF&G restricted by emergency order the salmon subsistence fishery to the use of 6-inch or less mesh gillnets, and hook and line fishers were limited to one Chinook Salmon per day. The Federal in-season manager issued an emergency special action with similar effect (Burkey et al. 2001).

In 2001, ADF&G implemented a new salmon management strategy in the Kuskokwim River drainage and restricted by emergency order the salmon subsistence fishery by “windowed” closures. Throughout the Chinook and Chum Salmon runs, the drainage was closed to the harvest of salmon, except by hook and line, from three days per week (upper river) to five days per week (lower and middle river), during which gillnets were restricted to 4-inch or less mesh size. The intent was to provide a distribution of salmon (primarily Chinook Salmon) throughout the Kuskokwim River drainage (Whitmore et al. 2004).

In 2002, OSM submitted Fisheries Special Action Request FSA02-01 to the Board requesting “Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Emergency Orders (ACC 16.05.060), unless superseded by a Federal Splecial Action” in the Yukon and Kuskokwim river drainages during the 2002 fishing season (OSM 2002). The Board approved Special Action Request FSA02-01.

In 2003, Proposal FP03-28 was submitted by OSM and requested that statewide for all fish "Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action" (OSM 2002:Tab B Page 171). The Yukon-Kuskokwim Delta Council recommended the Board adopt the proposal; Bristol Bay, Seward Peninsula, Western Interior Alaska, and Eastern Interior Alaska Councils recommended the Board adopt the proposal with modifications; Southcentral Alaska, Kodiak Aleutians, Northwest Arctic, and North Slope Alaska Councils had no recommendations for the Board. The Board adopted the Interagency Staff Committee's recommendation and modified the proposal to apply the regulations only to the Yukon River drainage and Kuskokwim Area. This modification was consistent with the recommendations of the Yukon Kuskokwim Delta, Western Interior Alaska, and Eastern Interior Alaska Councils (OSM 2003; 68 FR 29 7277, 7286 February 12, 2003). The Interagency Staff Committee further added in its justification that this would "allow the current Federal/State in-season protocol effort to develop operating guidelines and recommendations for the statewide implementation" (OSM 2002:Tab B Page 173).

In 2008, the Board, the Alaska Boards of Fisheries and Game, and ADF&G signed a Memorandum of Understanding to provide the basis for coordinated Federal-State fisheries management and subsistence use on Federal public lands in Alaska. It expired in November 2014 and no subsequent Memorandum Agreement has been signed by the parties.

In 2010, from June 10 through July 31, due to conservation concerns, the Federal in-season manager closed the Tuluksak and Kwethluk rivers to the harvest of Chinook Salmon with gillnets, during which gillnets were restricted to 4-inch or less mesh size in the Tuluksak and Kwethluk rivers (Brazil et al. 2011).

In 2011, from June 1 through July 25 ADF&G by emergency order closed the harvest of Chinook Salmon using hook and line gear and gillnets were restricted to 4-inch or less mesh size in salmon spawning tributaries of the Kuskokwim River drainage. Additionally, District 1 of the Kuskokwim River main stem closed to the harvest of salmon from June 16 through June 19 and from June 23 through June 29. The Federal in-season manager closed Refuge waters to the harvest of salmon for three days from June 30 through July 2 because of continuing concerns for the conservation of Chinook Salmon (Brazil et al. 2013).

In 2012, from June 1 through July 25 ADF&G by emergency order closed the drainage to the harvest of Chinook Salmon using hook and line gear and gillnets were restricted to 4-inch or less mesh size in salmon spawning tributaries of the Kuskokwim River drainage. In the mainstem, during the Chinook Salmon run, the harvest of salmon was restricted for 12 consecutive days by the use of rolling closures from the Kuskokwim River mouth to the headwaters followed by six days of rolling open fishing periods when 6-inch or less mesh size gillnets were allowed. After six-day periods when there were no closures, harvest of salmon was again prohibited in rolling closures until a date between June 30 (in the lower river) and July 14 (at the headwaters); however, the harvest of salmon with hook and line gear remained closed until later in the summer (Ellison et al. 2015).

In 2013, ADF&G closed the harvest of Chinook Salmon using hook and line gear and gillnets were restricted to 4-inch or less mesh size in salmon spawning tributaries of the Kuskokwim River drainage. Gillnets were limited to 6-inch or less mesh size in the lower river beginning June 28 and in the middle river beginning July 3 in order to conserve Chinook Salmon. All restrictions were lifted by July 15 (Tiernan and Poetter 2015).

Since 2014, each year the Board has closed Refuge waters to the harvest of Chinook Salmon (and Chum Salmon in 2016) except by a subset of Federally qualified subsistence users identified in an ANILCA Section 804 Subsistence User Prioritization analysis. These actions have been necessary because of concerns for conservation and continuation of subsistence uses of Kuskokwim Chinook Salmon, given run sizes for the species have been below historical averages since 2011. After an initial closure, the Refuge Manager has managed harvest opportunities using openings, closings, and restrictions on legal gear through his Delegated Authority Letter issued to him by the Board. Since 2016, these closures have begun on June 12. These Federal actions are described further, below, in Kuskokwim Area Management Plans.

In 2005, Proposal FP06-07 was submitted by OSM and requested that the 48-hour closure to subsistence fishing before the first commercial salmon fishing opening in the Chignik Area be reduced to 24 hours for those who hold a commercial fishing license within the Chignik Area or that they be limited to the provisions specified on a subsistence fishing permit. The Bristol Bay Council recommended the Board support the proposal with modification to align Federal regulations with current State regulations and minimize the need for future changes to Federal subsistence fishing regulations. The Council said the modifications would also make Federal regulations more efficient by eliminating the need for a Federal special action every time ADF&G issued an emergency order for subsistence fisheries in the Chignik Area (OSM 2006). The Board adopted the Council's recommendation but for salmon only, which is the following: "For salmon, Federal subsistence fishing openings, closings and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action" (71 FR 60 15583, March 29, 2006).

This language occurs in regulation for these three areas only: the Kuskokwim Area, the Yukon River drainage, and the Chignik Area (for salmon). Fishery management regulations in all other areas of Alaska do not contain the reference to Federal regulations being the same as those implemented by ADF&G emergency orders unless superseded by Federal special action.

Kuskokwim Area Management Plans

The proponent requests that management plans, strategies, fishing schedules, openings, closings and fishing methods for the Kuskokwim Area be issued by the Federal Subsistence Management Program, including the Refuge Manager, in consultation with other agencies and entities. Several Kuskokwim River fisheries management plans have been adopted by the Alaska Board of Fisheries. Since 2014, Federal in-season management strategies have been developed and implemented by the Refuge Manager in collaboration with other agencies and entities. This section will try to briefly cover the development of

the Kuskokwim River Salmon Management Plan, as well as try to summarize management strategies that have been recently implemented or discussed.

In 2001, the Alaska Board of Fisheries adopted the Kuskokwim River Rebuilding Plan (5 AAC 07.365). The Management Plan allowed ADF&G to implement a management strategy of issuing emergency orders to restrict the salmon subsistence fishery by "windowed" closures. The intent was to provide a distribution of fish (primarily Chinook Salmon) throughout the Kuskokwim River drainage. These windowed closures were implemented from 2001 through 2006 (Tiernan and Poetter 2015).

In 2013, the Alaska Board of Fisheries adopted the Kuskokwim River Salmon Management Plan (5 AAC 07.365) that replaced the Rebuilding Plan, described above. The Management Plan has been amended several times since 2013. Significantly, in 2016, the Alaska Board of Fisheries added language mandating that ADF&G close the drainage at some point to the harvest of Chinook Salmon by emergency order through June 11 every year. The intent of this closure is to provide an equitable distribution of (primarily) Chinook Salmon throughout the Kuskokwim River drainage. In 2016, 2017, 2018, ADF&G implemented the closure by closing the mainstem and salmon spawning tributaries to the use of gillnets, while allowing the use of other legal gear to target fish other than Chinook Salmon. During these times of closures to gillnets, any incidental harvests of Chinook Salmon were required to be released immediately back into the water alive. These closures to the harvest of Chinook Salmon through complete gillnets restrictions have been implemented sequentially up the mainstem of the Kuskokwim River. The lower part of Refuge waters (Tuluksak and below) has been closed to gillnets by May 20 (2016, 2017) and by May 25 (2018), while the upper part of Refuge waters (Tuluksak to Aniak) has been closed to gillnets by May 25 (2016, 2017) and by May 30 (2018). Essentially, since 2016, Refuge waters have been closed to the use of gillnets in the mainstem Kuskokwim River by the last week of May (May 25 in 2016 & 2017, May 30 in 2018) (ADF&G 2018).

In 2017, the Alaska Board of Fisheries amended the Management Plan to allow for at least one fishing opportunity period per week with 4-inch or smaller mesh set gillnets before June 12. The intent was to provide some opportunity for subsistence users to harvest fish other than Chinook Salmon; however, any Chinook Salmon harvested during these opportunities can be retained. In 2017, ADF&G provided three 12 hour 4-inch or smaller mesh set gillnet opportunities on May 27, June 3, and June 10. In 2018, ADF&G provided two 12-hour, 4-inch or smaller mesh set gillnet opportunities on May 30 and June 6 (ADF&G 2018).

In 2017, Temporary Special Action Request FSA17-03 was submitted by the Kuskokwim Inter-Tribal Fisheries Commission. It requested the Board approve a pre-season management strategy that closes Refuge waters to the harvest of Chinook Salmon except by Federally qualified subsistence users if the forecasted run size was less than a target identified by the Kuskokwim River Inter-tribal Fish Commission. The target was the combined total of the following: (1) 75% of the sustainable escapement goal (SEG) range of 65,000–120,000 Chinook Salmon (106,250 fish); plus (2) a potential harvest that is the midpoint of ADF&G's Amounts Reasonably Necessary for Subsistence Uses range of 67,228–109,778 Chinook Salmon (88,500 fish); plus (3) a buffer that is 10% of the combined escapement target and potential harvest (19,500 fish). If implemented as was requested, any forecasted run size below

214,450 Chinook Salmon for the Kuskokwim River drainage in 2017 would have triggered the Federal closure, as stated by the proponent. The Board approved the request with modification to begin the closure on June 12, 2017. The Board determined there was sufficient evidence indicating that the closure was necessary to allow for the conservation of healthy populations of Chinook Salmon and to protect the continuation of subsistence uses as mandated under ANILCA Section VIII and Federal regulations (OSM 2017).

The Refuge Manager has been issuing a suite of special actions to manage the subsistence harvest of Chinook Salmon in Refuge waters each year since 2016. In 2016, 2017, and 2018, the Board closed Refuge waters on June 12 to the harvest of Chinook Salmon except by a subset of Federally qualified subsistence users identified in a ANILCA Section 804 Subsistence User Prioritization analysis. Following these closures, the Refuge Manager has been closing Refuge waters to the harvest of Chinook Salmon by Federally qualified users. These closures to subsistence users has been implemented by closing the mainstem and salmon spawning tributaries to the use of gillnets, while allowing the use of other legal gear to target fish other than Chinook Salmon. During these times of closures to gillnets, any incidental harvests of Chinook Salmon are required to be released immediately back into the water alive. The Refuge Manager has included the lower 100 yards of tributaries in which salmon do not spawn in the gillnet closure in order to protect from harvest Chinook Salmon who wander into these streams (OSM 2018).

These actions can be the basis of a management strategy for the harvest of Chinook Salmon in Refuge waters. Any management strategy is likely to duplicate some ADF&G efforts to manage the harvest of Chinook Salmon that are based on best available science, such as, escapement goals and run-size projections.

The proponent also specifically asks for a Kuskokwim Area fisheries management plan. Any Federal subsistence fisheries management plan adopted in the future would have to meet the intent of Title VIII of ANILCA and be developed within the Federal subsistence regulatory process.

Collaborative Management

In Alaska, fisheries management is often a collaborative process and the Kuskokwim River drainage salmon fisheries are no exception. Many different groups are involved in management and management planning includes the following: the Yukon Delta National Wildlife Refuge, the Kuskokwim River Inter-tribal Fisheries Commission, ADF&G, the Kuskokwim River Salmon Management Working Group, Yukon-Kuskokwim Delta and Western Interior Alaska Federal Subsistence Regional Advisory Councils, the Lower Kuskokwim River and Central Kuskokwim River Fish and Game Advisory Committees, Kuskokwim River drainage tribes, and OSM. The Kuskokwim River Inter-Tribal Fish Commission works collaboratively with the Yukon Delta National Wildlife Refuge as specified in the Memorandum of Understand between the Commission and FWS (FWS 2016). The Board has delegated authority to the Federal in-season manager to work collaboratively with the Kuskokwim River Inter-Tribal Fish Commission, the Yukon-Delta and Western Interior Alaska Subsistence Regional Advisory Councils, ADF&G, and the Kuskokwim River Salmon Management Working Group. The management process is

guided by these regulatory agreements and collaborations between these groups. Management planning picks up a couple of months before the Chinook Salmon subsistence fishery begins and continues throughout the Chinook Salmon fishery (May–August). Preseason and in-season management processes are informed by an abundance of projects that are operated by FWS, ADF&G, tribes, and rural Alaskan organizations.

At the January 2017 Board meeting, the Board deferred action on Proposal FP17-05 until the 2019 fisheries regulatory cycle to consider new developments in collaborative management efforts, such as the development of the Kuskokwim River Partnership Project. The Partnership Project is a two-phased process. Phase I was the implementation of the Memorandum of Understanding between the U.S. Fish and Wildlife Service and the Kuskokwim River Inter-Tribal Fish Commission. Phase II of the Partnership Project was identified in the Memorandum—a subcommittee of the Yukon-Kuskokwim Delta and the Western Interior Councils; however, after the January 2017 Board meeting, Partnership Project members decided to try a different route through the construction of a Federal Advisory Committee Act group that would consolidate a number of partners on the river and be able to help provide input to the Federal in-season and State fisheries managers for the management of the subsistence fishery. To date, the second phase of the Partnership has not progressed and the members of the Kuskokwim River Partnership Project are looking for other opportunities aside from the Federal Advisory Committee Act-approved type of group to be able to provide that broader structure for input into fisheries management.

Delegation of Authority Letter

Staff presented to the Board in July 2017 a draft revised Delegation of Authority Letter from the Board to the Refuge Manager. The revised letter was then reviewed by the Yukon-Kuskokwim Delta and Western Interior Councils, the Chair of the Kuskokwim River Inter-Tribal Fisheries Commission, Co-chairs of the Kuskokwim River Salmon Management Working Group, and the Refuge Manager. Their comments were presented to the Board at its meeting in February 2018, and the Board approved the revised Delegation of Authority Letter (**Appendix 1**). The revision added specific guidance about annual expectations for collaboration among identified stakeholders, carrying out fishery management decision making processes and requirements for issuing special actions (e.g., a general schedule for annually developing management strategies, goals and objectives of in-season management, making determinations about assimilating Alaska Statutes for the subsistence taking of fish, etc.). In its letter to the Refuge Manager, the Board directed the Refuge Manage to coordinate management with the representatives from Regional Advisory Councils, the Kuskokwim River Inter-Tribal Fisheries

Current Events

Proposals FP19-08, FP19-09, and FP19-10 request the Board to adopt into regulation actions that have been previously accomplished by special actions issued to manage the harvest of Chinook Salmon in Refuge waters since 2016. Proposals FP19-08 and FP19-09 deal with the timing of gillnet restrictions and how harvest opportunity will be managed during gillnet restrictions, while FP19-10 deals with what parts of Refuge waters remain open during gillnet restrictions. All of these requests deal with specifics about timing and manner of the fishery closures and harvest opportunities, and the location of harvest

opportunities during closures. These are management topics that could benefit from a more coordinated and collaborative effort to develop permanent Federal regulations related to Chinook Salmon on the Kuskokwim River. Regardless of whether or not Proposal FP17-05 is approved, the adoption of any of these proposals would require the Federal in-season manager to continue to issue emergency special actions in order to adjust for in-season management in the absence of a comprehensive plan for Federal subsistence fisheries management.

Other Alternatives Considered

If adopted, Proposal FP17-05 in combination with any of the other Kuskokwim area proposals submitted during this cycle (FP19-08, FP19-09, and FP19-10) would affect Federal subsistence management for the Kuskokwim Area. A potential alternative for consideration would be to defer all of the Kuskokwim area proposals (FP17-05, FP19-08, FP19-09, and FP19-10) and direct OSM staff to facilitate the development of a collaborative Federal subsistence management plan that would outline strategies for management of Federal subsistence fisheries in the Kuskokwim Area. The approaches suggested in the current fisheries regulatory proposals for the Kuskokwim Area are valid approaches to fisheries management. However, it may be more effective to develop a full suite of permanent regulations through coordinated efforts with the parties identified in the Kuskokwim Area delegation of authority letter. This potential alternative would provide a mechanism to allow a larger group involving all entities the time to submit a comprehensive proposal or recommended plan that would become a Federal subsistence fisheries management plan for the Kuskokwim area.

Effects of the Proposal

If the proposal was adopted, Federally qualified subsistence users could harvest salmon in Refuge waters at any time using any legal method. As a consequence, the Refuge Manager would have to issue special actions in collaboration with the Kuskokwim River Inter-Tribal Fisheries Commission and other entities as identified in the MOU and Kuskokwim Area Delegation of Authority Letter, if necessary, based on run-size indicators, to manage the harvest of salmon, until new management plans/strategies could be added to Federal regulations to guide subsistence fisheries management for the Kuskokwim area. For example, since 2016, Chinook Salmon harvests have been managed by ADF&G issuing emergency orders effective up June 12, and by the Refuge Manager issuing special actions effective after June 11. If the proposal was adopted the Refuge Manager would also have to manage the harvest of Chinook Salmon before June 12 during years when restrictions on the harvest of Chinook Salmon were necessary. This process would continue to occur every season in which conservation concerns for Chinook Salmon exist, until Federal subsistence regulations related Chinook Salmon are created.

If the proposal was adopted, during years when salmon run-sizes are adequate to provide for subsistence uses and escapement, no restrictions on the harvest of salmon would be implemented except existing codified short closures around commercial fishing openings. Given the State's Kuskokwim River Salmon Management Plan is entirely issued through emergency orders, removing the language in Proposal FP17-05 would result in the subsistence fisheries defaulting to Federal subsistence regulations for the Kuskokwim area, which state that fishing is allowed any time without a subsistence permit unless otherwise restricted through Federal regulations or through Federal special actions.

The harvest of fish other than salmon are rarely managed by ADF&G through the issuance of emergency orders except when protecting Kuskokwim salmon from harvest in gillnets, when necessary, based on run-size indicators, before June 12. As a consequence, if this proposal was adopted, the Refuge Manager would have to issue special actions to manage the use of gillnets for Federally qualified subsistence users in order to protect salmon from harvest, during years when restrictions on the harvest of salmon are necessary.

If this proposal was not adopted, there would be no immediate effect on Federally qualified subsistence users, nonsubsistence users, or fish. However, the layering of regulations and authorities that exist in the Kuskokwim Area make it difficult for many people to understand these regulations. This situation would continue.

Creation of management plans and implementation of management strategies would be controlled by the Federal Subsistence Management Program including the Refuge Manager through a public process.

OSM PRELIMINARY CONCLUSION

Support FP17-05.

Justification

When the Board adopted the regulation that is the focus of Proposal FP17-05 in 2003, ADF&G was managing its salmon subsistence fisheries annually with a schedule of windowed closures and gear type restrictions implemented by emergency orders. The Alaska Department of Fish and Game no longer uses this management strategy. Instead, ADF&G is now mandated to close the salmon subsistence fishery until June 11 annually and after June 11 offer some harvest opportunity, depending on run-size indicators, by emergency orders. In 2003, the Federal Subsistence Management Program was not actively managing Kuskokwim subsistence fisheries, and ADF&G relied primarily on the Working Group to inform and review its management decisions. However, since 2014, the Refuge Manager has actively managed salmon subsistence fisheries in Refuge waters. The Refuge Manager must coordinate management decisions with the Kuskokwim River Inter-Tribal Fisheries Commission as well as other agencies and entities. Therefore, it is no longer reasonable to assume that ADF&G emergency orders (such as the mandated closure to the harvest of Chinook Salmon through June 11 each year), and in-season management decisions implemented through emergency orders, aid Federal management. Instead, it has become difficult for the public and agency staff to know which ADF&G emergency orders are in effect in Refuge waters. Some ADF&G emergency orders are superseded by Federal fishery regulations, a fact that is not clear. While the effects of rescinding this regulation on subsistence users, other users and uses, and fishes are likely to be minimal, it would require the Refuge Manager to manage salmon subsistence fisheries for Federal qualified subsistence users. Concerning the proponent's request for fisheries management planning, the Board addresses regulatory proposals as it receives them during its fisheries regulatory cycle, and a Federal management plan for fisheries in Refuge waters would be considered through this process.

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APPENDIX 1: REVISED LETTER OF DELEGATED AUTHORITY

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

MAR 13 2018

OSM 17058.JH

Refuge Manager
U.S. Fish and Wildlife Service
Yukon Delta National Wildlife Refuge
P.O. Box 346
Bethel, Alaska 99559

Dear Yukon Delta National Wildlife Refuge Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the Manager of the Yukon Delta National Wildlife Refuge (Refuge Manager) to issue emergency special actions when necessary to ensure the conservation of a healthy fish population, to continue subsistence uses of fish, for the continued viability of a fish population, or for public safety reasons. This delegation only applies to Federal public waters subject to the Alaska National Interest Lands Conservation Act (ANILCA) Title VIII in the Kuskokwim Area, including the Goodnews and Kanektok Rivers.

It is the intent of the Board that Federal subsistence fisheries management by Federal officials be coordinated, prior to implementation, with the representatives from Regional Advisory Councils (Councils), the Kuskokwim River Inter-tribal Fish Commission (KRITFC), the Office of Subsistence Management (OSM), and the Alaska Department of Fish and Game (ADF&G), to the extent possible. The OSM will be used by managers to facilitate communication of actions and ensure proposed actions are technically and administratively aligned with legal mandates and policies. Federal managers are expected to cooperate with managers from the State and other Federal agencies, the Council Chair(s), and applicable Council members to minimize disruption to subsistence resource users and existing agency programs, consistent with the need for emergency special action. In addition, the Kuskokwim River Salmon Management Working Group (KRSMWG) will be notified of actions and decisions whenever possible.

DELEGATION OF AUTHORITY

1. Delegation: The Refuge Manager is hereby delegated authority to issue emergency special actions affecting fisheries in Federal public waters as outlined under the **Scope of Delegation** below. Although a public hearing is not required for emergency special actions, if deemed necessary by you, then a public hearing on the emergency special action is recommended. Special actions are governed by 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 issuance of emergency special actions as defined by 36 CFR 242.19(a) and 50 CFR 100.19(a). Such an emergency action may not exceed 60 days, and may not be extended.

This delegation permits you to open or close Federal subsistence fishing periods or areas provided under codified regulations. It also permits you to specify methods and means; to specify permit requirements; and to set harvest and possession limits for Federal subsistence fisheries.

This delegation also permits you to close and re-open Federal public waters to nonsubsistence fishing, but does not permit you to specify methods and means, permit requirements, or harvest and possession limits for State-managed fisheries. This delegation may be exercised only when it is necessary to conserve healthy populations of fish or to ensure continuation of subsistence uses.

All other proposed changes to codified regulations, such as customary and traditional use determinations or requests for special actions greater than 60 days, shall be directed to the Board.

The Federal public waters subject to this delegated authority are those within the Kuskokwim Area (as described in the Subsistence Management Regulations for the Harvest of Fish and Shellfish on Federal Public Lands and Waters in Alaska). You will coordinate all local fishery decisions with all affected Federal land managers.

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

Yukon Delta National Wildlife Refuge Manager 3

5. <u>Guidelines for Review of Proposed Special Actions:</u> You will use the following guidelines to determine the appropriate course of action when reviewing proposed special actions.

a) Does the proposed special action fall within the geographic and regulatory scope of delegation?

b) Have you communicated with the OSM to ensure the emergency special action is aligned with Federal subsistence regulations and policy?

c) Does the proposed action need to be implemented immediately as an emergency special action, or can the desired conservation or subsistence use goal be addressed by deferring the issue to the next regulatory cycle?

d) Does the supporting information in the proposed special action substantiate the need for the action?

e) Are the assertions in the proposed special action confirmed by available current biological information and/or by affected subsistence users?

f) Is the proposed special action supported in the context of available historical information on stock status and harvests by affected users?

g) Is the proposed special action likely to achieve the expected results?

h) Have the perspectives of the Chair or alternate of the affected Council(s), the KRITFC, OSM, and affected State and Federal managers been fully considered in the review of the proposed special action?

i) Have the potential impacts of the proposed special action on all affected subsistence users and non-Federally qualified users within the drainage been considered?

j) Can public announcement of the proposed special action be made in a timely manner to accomplish the management objective?

k) After evaluating all information and weighing the merits of the special action against other actions, including no action, is the proposed emergency special action reasonable, rational, and responsible?

Yukon Delta National Wildlife Refuge Manager 4

6. Guidelines for Delegation: You will become familiar with the management history of the fisheries in the region, with the current State and Federal regulations and management plans, and be up-to-date on stock and harvest status information.

You will provide subsistence users in the region a local point of contact about Federal subsistence fishery issues and regulations and facilitate a local liaison with State managers and other user groups. For in-season management decisions and 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).

By March 15 of each year, you will convene a meeting of representatives from the Yukon Delta NWR, the KRITFC, and other Federally sanctioned entities to determine, in consultation with the OSM and ADF&G, if conditions warrant Federal management of subsistence fisheries on the Kuskokwim River.

In addition to any guidelines collaboratively established for issuing emergency special actions via this delegated authority, you will review emergency special action requests or situations that may require an emergency special action and all supporting information to determine (1) consistency with

36 CFR 242.19 and 50 CFR 100.19, (2) if the request/situation falls within the scope of your delegated authority, (3) if significant conservation problems or subsistence harvest concerns are indicated, and (4) what the consequences of taking an action may be on potentially affected subsistence uses and nonsubsistence uses. 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 justification of your decisions. A copy of this record will be provided to the Administrative Records Specialist at OSM no later than sixty days after development of the document.

You will immediately notify the Board through the Assistant Regional Director for the OSM, and coordinate with the Chair or alternate of the affected Council(s), the KRITFC, local ADF&G managers, and other affected Federal conservation unit managers concerning emergency special actions being considered. In addition, the KRSMWG will be notified of actions and decisions whenever possible.

If the timing of a regularly scheduled meeting of the affected Council(s) permits without incurring undue delay, you may seek Council recommendations on the proposed emergency special action.

Yukon Delta National Wildlife Refuge Manager 5

You will issue decisions in a timely manner. Before the effective date of any decision, reasonable efforts will be made to notify Council representatives, the KRITFC, the KRSMWG, the public, OSM, affected State and Federal managers, and law enforcement personnel. If an action is to supersede a State action not yet in effect, the decision will be communicated to Council representatives, the KRITFC, the KRSMWG, the public, OSM, and State and Federal managers at least 24 hours before the State action would be effective. If a decision to take no action is made, you will notify the proponents of the request immediately.

You may defer an emergency 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. These options should be exercised judiciously and only when sufficient time allows. Such deferrals should not be considered when immediate management actions are necessary for conservation purposes. The Board may determine that an emergency special action request may best be handled by the Board, subsequently rescinding the delegated authority for the specific action only.

7. Reporting: If pre-season meetings result in the need for Federal management of the fishery, you will submit a written report to the Board by June 1 of each year documenting the outcome of this determination process, as well as outlining the in-season collaborative decision making process adopted by the group to include input from the KRITFC, the OSM, and ADF&G, proposed strategies for in-season management, and agreed upon guidelines for issuing emergency special actions via delegated authority.

You must provide to the Board, through the Assistant Regional Director for the OSM, a report describing the pre-season coordination efforts, local fisheries management decisions, and post-season evaluation activities for the previous fishing season by November 15. A summary of emergency special action requests and your resultant actions must be provided to the coordinator of the appropriate Council(s) at the end of the calendar year for presentation during regularly scheduled Council meetings.

8. Support Services: Administrative support for your local Federal subsistence fisheries management activities will be provided by the Office of Subsistence Management.

Should you have any questions about this delegation of authority, please feel free to contact the Assistant Regional Director for the OSM at toll-free 1-800-478-1456 or (907) 786-3888.

Sincerely,

Anthony Christianson
Chair

Yukon Delta National Wildlife Refuge Manager 6

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
Fisheries Division Supervisor, Office of Subsistence Management
Chair, Yukon-Kuskokwim Delta Subsistence Regional Advisory
Chair, Western Interior Subsistence Regional Advisory Council
Superintendent, Lake Clark/Katmai National Parks and Preserve
Superintendent, Denali National Park and Preserve
Manager, Togiak National Wildlife Refuge
Manager, Alaska Maritime National Wildlife Refuge
Assistant Regional Director, Law Enforcement, U.S. Fish and Wildlife Service (Region 7)
Commissioner, Alaska Department of Fish and Game
Interagency Staff Committee
Administrative Record

APPENDIX 2: ORIGINAL ANALYSIS

FP17-05

FP17-05 Executive Summary	
General Description	Proposal FP17-05 requests that Federal subsistence management plans, strategies, fishing schedules, openings, closings, and fishing methods for the Kuskokwim Area be issued independently by the Federal Subsistence Management Program in consultation with appropriate agencies and entities. *Submitted by: LaMont E. Albertson.*
Proposed Regulation	*§___.27(e)(4)(ii) For the Kuskokwim area, Federal subsistence* ***management plans, strategies,*** *fishing schedules, openings, closings, and fishing methods are* ~~*the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.*~~ ***issued independently by the Federal Subsistence Program, including Federal In-Season Manager in consultation with appropriate agencies and entities.***
OSM Conclusion	**Defer**
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	**Support**
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	**Support**
Interagency Staff Committee Comments	**See page 134**
ADF&G Comments	**Oppose**
Written Public Comments	**None**

STAFF ANALYSIS
FP17-05

ISSUES

Proposal FP17-05, submitted by LaMont E. Albertson, requests that Federal subsistence management plans, strategies, fishing schedules, openings, closings and fishing methods for the Kuskokwim Area be issued independently by the Federal Subsistence Management Program in consultation with appropriate agencies and entities.

DISCUSSION

The proponent notes that provisions of ANILCA and the applicable Federal land management missions and mandates differ in certain critically important ways from Alaska Statute. The proponent states that changing this regulation is necessary for ensuring that Federal subsistence management practices align with Federal mandates in the Kuskokwim region. The proponent notes that there are many cases where it is appropriate for Federal fisheries management plans and actions to mirror those of the State of Alaska, and that the proposed regulation change is not intended to discourage or impede unified regulations when appropriate. The proponent believes that existing regulations severely limit the ability for the Federal subsistence program to exercise independent judgment, and would like to see additional latitude for Federal managers to issue independent management plans, strategies, and fishing schedules when necessary to achieve the mandates and mission of ANILCA. The proponent noted that existing regulatory language may have been a necessary stop gap measure when the Service did not possess their own fisheries management expertise, but this is no longer the case and it is now necessary to provide the Service the latitude necessary to meet program mandates.

The proponent clarified the proposal during telephone discussions on May 17 and June 27, 2016 and in an e-mail from the proponent on June 22, 2016. The proponent is seeking to remove language stating that Federal subsistence fishing regulations for the Kuskokwim Area, "*are the same as issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by Federal Special Action*". The proponent wants the Federal Subsistence Management Program, including the Federal In-Season Manager, to work with the Alaska Department of Fish and Game (ADF&G) (including direct participation of the Kuskokwim River Salmon Management Working Group), and the Kuskokwim River Inter-Tribal Fish Commission to determine a management strategy for Kuskokwim Area fisheries. The proponent clarified that he is supportive of the Regional Advisory Council and Federal Subsistence Board (Board) process.

Existing Federal Regulations

Fishery Management area restrictions for the Kuskokwim Area

50 CFR 100.27(e)(4)(ii)-For the Kuskokwim area, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking

of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.

Proposed Federal Regulation

Fishery Management area restrictions for the Kuskokwim Area

For the Kuskokwim area, Federal subsistence ***management plans, strategies,*** *fishing schedules, openings, closings, and fishing methods are* ~~*the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.*~~ ***issued independently by the Federal Subsistence Program, including Federal In-Season Manager in consultation with appropriate agencies and entities.***

Existing State Regulation

Sec. 16.05.060. Emergency orders

(a) This chapter does not limit the power of the commissioner or an authorized designee, when circumstances require, to summarily open or close seasons or areas or to change weekly closed periods on fish or game by means of emergency orders.

(b) The commissioner or an authorized designee may, under criteria adopted by the Board of Fisheries, summarily increase or decrease sport fish bag limits or modify methods of harvest for sport fish by means of emergency orders.

(c) An emergency order has the force and effect of law after field announcement by the commissioner or an authorized designee. An emergency order adopted under this section is not subject to AS 44.62 (Administrative Procedure Act).

5 AAC 07.365. Kuskokwim River Salmon Management Plan

(a) The purpose of this management plan is to provide guidelines for management of the Kuskokwim River salmon fisheries that result in the sustained yield of salmon stocks large enough to meet escapement goals, amounts reasonably necessary for subsistence uses, and for nonsubsistence fisheries. The department shall use the best available data, including preseason and inseason run projections, test fishing indices, age and sex composition, harvest reports, passage escapement estimates, and recognized uncertainty, to assess run abundance for the purpose of implementing this plan.

(b) It is the intent of the Board of Fisheries that the Kuskokwim River salmon stocks shall be managed in a conservative manner consistent with the Policy for the Management of Sustainable Salmon Fisheries under 5 AAC 39.222 to meet escapement goals and the subsistence priority.

(c) In the king salmon fishery,

(1) when the projected escapement of king salmon is below the drainagewide escapement goal range, the commissioner shall, by emergency order, close the commercial, sport, and subsistence king salmon fisheries;

(2) when the projected escapement of king salmon is within the drainagewide escapement goal range, the commissioner shall open and close fishing periods, by emergency order, as follows:

(A) to the extent practicable, at least one fishing period per week will be opened for a directed subsistence king salmon fishery to provide harvest opportunity on surplus king salmon in excess of escapement needs, except that when surplus king salmon in excess of the drainagewide escapement goal is limited, the commissioner may, by emergency order, close the subsistence fishery and immediately reopen a subsistence fishery during which

(i) king salmon may be taken only by persons 60 years of age or older; and

(ii) a person authorized to take king salmon under (i) of this paragraph may not authorize a proxy to take or attempt to take king salmon under AS 16.05.405 or 5 AAC 01.011, but the participant may be assisted by family members within the second degree of kindred; in this sub-subparagraph, "within the second degree of kindred" has the meaning given in 5 AAC 92.990(a) ;

(B) fishing may be opened for commercial and sport fisheries to provide harvest opportunity on surplus king salmon in excess of escapement and subsistence needs;

(3) when the projected escapement of king salmon exceeds the drainagewide escapement goal range, the

(A) directed subsistence king salmon fishery will be open seven days per week; and

(B) commercial and sport fisheries will be managed to provide harvest opportunity on surplus king salmon in excess of escapement and subsistence needs.

(d) In the subsistence fishery, in the Kuskokwim River drainage, in the waters of the mainstem of the river and other salmon spawning tributaries, unless otherwise specified by the department,

(1) the subsistence salmon net and fish wheel fisheries will be open seven days per week, except that if the commissioner determines that it is necessary in order to achieve escapement goals, the commissioner may alter fishing periods, by emergency order, based on run abundance;

(2) the commissioner may implement one or more of the gear limitations as described in 5 AAC 01.270(n) during times the commissioner determines that it is necessary for the conservation of king salmon;

(A) the gillnet mesh size may not exceed four inches until sockeye and chum salmon abundance exceeds the king salmon abundance;

(B) a gillnet may not exceed 25 fathoms in length, except that a longer gillnet may be used if no more than 25 fathoms of the gillnet is in a fishing condition and the remainder of the gillnet is tied up or secured so that it is not in the water in a fishing condition;

(C) a person may fish for salmon with a dip net, as defined in 5 AAC 39.105, and all king salmon caught by a dip net must be returned immediately to the water unharmed;

(3) actions to conserve king salmon may be applied to the entire Kuskokwim River, its sections, or tributaries, consistent with harvest trends and variability in abundance of king salmon available for harvest as the run progresses upstream;

(4) the commissioner may alter the subsistence hook and line bag and possession limits specified in 5 AAC 01.295, by emergency order, if the commissioner determines that inseason information indicates it is necessary for conservation purposes.

(e) In the commercial fishery,

(1) the guideline harvest level for king salmon and sockeye salmon is as follows:

(A) 0 - 50,000 king salmon;

(B) 0 - 50,000 sockeye salmon;

(2) only the waters of District 1 may be opened during the first commercial salmon fishing period;

(3) the commissioner shall open and close the Kuskokwim River commercial salmon fishery, by emergency order, if inseason information indicates a run strength that is large

enough to provide for a harvestable surplus and a reasonable opportunity for subsistence uses and for nonsubsistence fisheries;

(4) the department shall provide, to the extent practicable, at least 24 hours advance notice of the opening of Districts 1 and 2 commercial fishing periods;

(5) Districts 1 and 2 commercial fishing periods are from 12:00 p.m. through 6:00 p.m.; when longer fishing periods are allowed, the extra time is to be divided before 12:00 p.m. and after 6:00 p.m.;

(6) the department shall manage the commercial fishery to ensure there is no significant impact on escapement or allocations of salmon species as a result of incidental harvest in commercial fisheries directed at other salmon species;

(7) in June and when king salmon are abundant, the department shall manage the commercial fishery conservatively to ensure king salmon escapement goals are achieved and reasonable opportunity for subsistence uses is provided in consideration of harvest trends and abundance of king salmon available for the subsistence fishery, as follows:

> *(A) when the projected escapement of king salmon is within the drainagewide escapement goal range,*
>
> > *(i) the first opening may not occur until after June 23;*
> >
> > *(ii) only the waters of Subdistrict 1-B may be opened during the first commercial fishing period;*
> >
> > *(iii) at least 72 hours must pass between the first Subdistrict 1-B opening and the first Subdistrict 1-A opening;*
>
> *(B) when the projected escapement of king salmon exceeds the drainagewide escapement goal range, the commercial fishery will be managed to provide harvest opportunity on surplus king salmon in excess of escapement and subsistence needs;*

(8) when chum salmon abundance exceeds king salmon relative abundance, the department shall manage, to the extent practicable, the commercial salmon fishery based on chum salmon run strength;

(9) when coho salmon abundance exceeds chum salmon abundance, the department shall manage, to the extent practicable, the commercial salmon fishery based on coho salmon run strength;

(10) a person may not sell salmon roe taken in Districts 1 and 2.

(f) In the sport fishery,

(1) if the commissioner restricts the fishery, by emergency order, for conservation purposes, the restrictions must be based on the level of abundance;

(2) in the Aniak River drainage, the king salmon fishery is open from May 1 through July 25, with a bag and possession limit of two fish, 20 inches or greater in length, with an annual limit of two fish, 20 inches or greater in length; the sockeye, pink, chum, and coho salmon fisheries are open year round, with a combined daily bag and possession limit of three fish, of which no more than two fish may be king salmon;

(3) actions to conserve king salmon will only be implemented when king salmon are present, consistent with migratory timing as the run progresses upstream.

Extent of Federal Public Lands

For the purposes of this discussion, the phrase "Federal public waters" is defined as those waters described under 50 CFR 100.3. The Kuskokwim Area includes all waters of Alaska between the latitude of the westernmost point of the Naskonat Peninsula and the latitude of the southernmost tip of Cape Newenham including the waters of Alaska surrounding Nunivak and Saint Matthew Islands and those waters draining into the Bering Sea. The Kuskokwim Area includes waters that are within and adjacent to the exterior boundaries of the Yukon Delta National Wildlife Refuge, Togiak National Wildlife Refuge, Lake Clark National Park and Preserve and the Denali National Park and Preserve. This includes portions of Districts 1 and 2 of the Kuskokwim Fishery Management Area; these waters are generally described as the lower Kuskokwim River drainage from the mouth upriver to and including about 30 miles of the Aniak River.

Customary and Traditional Use Determinations

The Board has recognized the following customary and traditional uses (50 CFR 100.24) of fish in freshwater for the Kuskokwim Area:

Salmon- Residents of the Kuskokwim Area, except those persons residing on United States military installations located on Cape Newenham, Sparrevohn USAFB, and Tatalina USAFB

Rainbow trout- Residents of the communities of Akiachak, Akiak, Aniak, Atmautluak, Bethel, Chuathbaluk, Crooked Creek, Eek, Goodnews Bay, Kasigluk, Kwethluk, Lower Kalskag, Napakiak, Napaskiak, Nunapitchuk, Oscarville, Platinum, Quinhagak, Tuluksak, Tuntutuliak, and Upper Kalskag

All Other fish- Residents of the Kuskokwim Area, except those persons residing on United States military installations located on Cape Newenham, Sparrevohn USAFB, and Tatalina USAFB

Regulatory History

In April 2000, an Interim Memorandum of Agreement (MOA) between the agencies on the Board and ADF&G provided a foundation for coordinated Federal-State fisheries management and subsistence use on Federal public lands in Alaska. In 2008, the Board, the Alaska Boards of Fisheries and Game, and ADF&G signed a Memorandum of Understanding (MOU) to provide the basis for coordinated Federal-State fisheries management and subsistence use on Federal public lands in Alaska. The MOU between the Board, the State Boards of Fisheries and Game, and ADF&G expired in November 2014; however, this agreement may be reconsidered in 2016/2017 (FSB 2016).

In 2002, the Office of Subsistence Management (OSM) submitted a Fisheries Special Action request (FSA02-01) to the Board requesting streamlining of the special action process for the Yukon and Kuskokwim Rivers during the 2002 fishing season (Kron 2002, pers. comm.). Based on input from OSM staff, the Interagency Staff Committee and recommendations from the Yukon-Kuskokwim Delta, Seward Peninsula, and the Eastern Interior Alaska and Western Interior Alaska Regional Advisory Councils, the Board adopted the following wording based on Fisheries Proposal FP03-28: "*For the Yukon and Kuskokwim areas, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action*". In 2007 similar wording was adopted by the Board for salmon in the Chignik Area. Only these three (Kuskokwim, Yukon and Chignik) of the thirteen Federal fishery management areas in Alaska currently include regulatory wording that specifies that Federal Subsistence fishing openings, closings and fishing methods are; "*the same as those issued for subsistence taking of fish under Alaska Statutes (AS16.05.060), unless superseded by Federal Special Action*". Fishery management regulations for the Kotzebue, Norton Sound-Port Clarence, Bristol Bay, Aleutian Islands, Alaska Peninsula, Kodiak, Cook Inlet, Prince William Sound, Yakutat and Southeast Alaska Areas do not contain the referenced to regulations being; "the same as those issued under Alaska Statutes (AS16.05.060), unless superseded by Federal Special Action".

Current general Federal Subsistence Management Program regulations concerning these issues statewide are as follows:

> *50 CFR 100.14- Relationships to State procedures and regulations: (a) State fish and game regulations apply to public lands and such laws are hereby adopted and made part of the regulations in this part to the extent they are not inconsistent with, or superseded by, the regulations in this part.*
>
> *50 CFR 100.27(b)(16)(ii)- Except as otherwise provided for in this section, if you are not required to obtain a subsistence fishing permit for an area, the harvest and possession limits for taking fish for subsistence uses with a rod and reel are the same as for taking fish under State of Alaska subsistence fishing regulations in those same areas. If the State does not have a specific subsistence season and/or harvest limit for that particular species, the limit shall be the same as for taking fish under State of Alaska sport fishing regulations.*

The Federal Subsistence Board has delegated in-season management responsibility for the Kuskokwim Area to the Yukon Delta National Wildlife Refuge Manager (**Appendix A**, May 3, 2002).

Since the Yukon and Kuskokwim Rivers subsistence regulations were first adopted by the Board in 2003, much has changed on the Kuskokwim River. Chinook Salmon returns and subsistence harvests have declined, and harvest regulations have become more restrictive. Chinook Salmon escapements dropped to record low levels in 2010, 2012 and 2013. There have been closures to fishing and ANILCA Section 804 analyses/determinations. The Federal Subsistence Management Program has been much more involved in the Kuskokwim River fisheries management in recent years.

Current Events Involving Management of the Species

In 2011, the Department of Interior adopted a policy with Federally recognized Indian Tribes that reflects a commitment to enhance government to government consultation (DOI 2011). In 2012, the Federal Subsistence Board adopted their Government-to-Government, Tribal Consultation Policy (FSB 2012). This policy acknowledges that consultation is not always possible for in-season management decisions and special actions due to the quick turnaround times required but also notes that, to the extent practicable, two-way communication will take place before decisions are implemented.

In 2016, an MOU was signed between the U.S. Department of Interior, U.S. Fish and Wildlife Service and the Kuskokwim River Inter-Tribal Fish Commission (KRITFC) (MOU 2016) as a part of a Kuskokwim River Partnership Project (Partnership Project). The Kuskokwim River Tribes established the KRITFC for the purpose of engagement in the management of Kuskokwim River fisheries. Based on the MOU, the USFWS and the KRITFC will consult for the purpose of collaboratively making fisheries management decisions, including in-season actions with the integration and application of KRITFC knowledge, information and management strategies.

A second portion of the Partnership Project is the collaborative development of a joint subcommittee comprised of members of the Western Interior Alaska and Yukon-Kuskokwim Delta Subsistence Regional Advisory Councils (Councils), which is still in development. The joint subcommittee would make recommendations to the Councils on proposals for regulations, policies, management plans, in-season management special actions and other matters relating to management, conservation and subsistence uses of fish in the Kuskokwim River Area. At the a fall 2016 Council meetings, the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council and the Western Interior Alaska Subsistence Regional Advisory Council each named a person to work on this on-going process. Board action required to implement the Kuskokwim River joint subcommittee portion of the Kuskokwim River Partnership Project has not yet occurred.

Effects of the Proposal

The proposal requests that "management plans, strategies" be added to existing regulatory language. These are normal components of fishery management; aspects of both are already occurring and the Kuskokwim River Partnership Project will focus on these efforts when fully implemented. The proposal requests that prescriptive wording ("*are the same as those issued for the subsistence taking of fish under*

Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action") be removed from Kuskokwim Area Federal subsistence regulations. Removing this language before all aspects of the Partnership Project have been fully implemented could result in ambiguity regarding how in-season management would proceed in years during which no concerns about resource conservation or the continuation of subsistence uses have been identified.

As written, the proposal does not specifically acknowledge the role of the Subsistence Regional Advisory Councils, the Federal Subsistence Board or the Secretaries' delegation of authority directly to the Board. Clarifying discussions with the proponent revealed that he does support these aspects of the Federal Subsistence Management Program, including the collaborative process outlined in the Partnership Project for fishery management on the Kuskokwim River. However, based on a review of discussions with the proponent at the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council and Western Interior Alaska Subsistence Regional Advisory Council meetings, as well as comments received from the Interagency Staff Committee, the proposed regulatory change may not fully reflect the intended collaborative process. Furthermore, the proposed regulatory language does not provide sufficient detail about the structure, content or scope of proposed Federal subsistence management plans and strategies to fully assess the effects of mandating that these be issued independently by the Federal Subsistence Management Program. Finally, adopting this proposal before the collaborative decision making process outlined in the Kuskokwim River Partnership Project, Memorandum of Understanding (MOU) has not been implemented in its entirety, including Board action to authorize a Subsistence Regional Advisory Council subcommittee jointly chartered by the Western Interior Alaska and Yukon-Kuskokwim Delta Subsistence Regional Advisory Councils, may be premature.

OSM CONCLUSION

Defer FP17-05 and revise Delegation of Authority letter for the Kuskokwim Area to address the proponent's concerns regarding collaborative development of in-season management plans and strategies on an annual basis, in accordance with the goals and objectives of the Kuskokwim River Partnership Project.

Justification

The Kuskokwim River Partnership Project is intended to provide a mechanism to meaningfully integrate Kuskokwim tribes and Federally qualified subsistence users into the decision making process for fisheries management on Federal public waters of the Kuskokwim River drainage. The Partnership Project aims to develop unified recommendations for fishery management for the Kuskokwim River drainage, including the development of a unified management strategy and associated in-season management decisions for the Kuskokwim River. While a signed MOU is in place to outline how tribal interests will be integrated into the in-season decision making process, the second part of the Partnership Project focusing on Federally qualified subsistence users, has not yet been implemented via Regional Advisory Councils and Board action. Deferring Fisheries Proposal FP17-05 will provide time for full implementation of all aspects of the Kuskokwim River Partnership Project before decisions are made about the necessity of regulatory changes to the Federal subsistence regulations.

However, the proponent has identified a number of important concerns regarding the ways in which current in-season management may occur within the context of delegated authority from the Board and in accordance with the goals and objectives of the Kuskokwim River Partnership Project. To address these concerns and help facilitate the Partnership Project, it is recommended that the Delegation of Authority letter from the Board be revised with specific guidance about annual expectations for collaboration among identified stakeholders, carrying out fishery management decision making processes and requirements for issuing special actions (e.g., a general schedule for annually developing management strategies, goals and objectives of in season management, making determinations about assimilating Alaska Statutes for the subsistence taking of fish, etc.). The updated letter of delegation would also require collaboration between the in-season manager, representatives from the Federal Subsistence Management Program, any local advisory committees authorized under ANILCA Section 805 and Federal and State sanctioned entities to accomplish an annual determination and written report to the Board regarding whether conditions warrant Federal management of subsistence fisheries on the Kuskokwim River. Such revisions to the delegation of authority letter for the Kuskokwim Area will provide clarity in terms of roles, responsibilities, participatory decision making and Board expectations regarding in-season management of subsistence fisheries on the Kuskokwim River. The letter of delegation for the Kuskokwim is more than 14 years old. OSM is in the process of revising letters of letters of delegation for all areas of Alaska for the Board's consideration.

LITERATURE CITED

DOI. 2011. Department of Interior Policy on Consultation with Indian Tribes. Policy implemented to help meet the obligation for meaningful consultation with Indian Tribes. 14 pp.

FSB. 2012. Federal Subsistence Board, Government-to-Government, Tribal Consultation Policy. FWS, Office of Subsistence Management. Anchorage, AK. 6pp.

FSB. 2016. Letter from the Federal Subsistence Board, March 1, 2016. FWS, Office of Subsistence Management. Anchorage, AK.

Kron, T. 2002. Fishery Biologist. Personal Communication: Draft Staff Analysis for Fisheries Special Action (FSA02-01). OSM electronic files. Anchorage, AK.

MOU 2016. Memorandum of Understanding between the United States Department of the Interior U.S. Fish and Wildlife Service Alaska Region and the Kuskokwim River Inter-Tribal Fish Commission. 8pp.

SUBSISTENCE REGIONAL ADVISORY COUNCIL RECOMMENDATIONS

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Support FP 17-05. The Council emphasized the importance of everyone on the Kuskokwim having a seat at the table in the salmon management decision making process. They stressed that Tribal consultation and input from subsistence fishers that inhabit fish camps is essential in informing management decisions including when conditions are conducive to successfully drying fish. The Council noted the proposal would provide a stronger framework for much needed coordination between the Federal and State managers and Tribal communities along the Kuskokwim River. The Council was very pleased with the involvement of the Federal Inseason Managers with the Kuskokwim River Intertribal Fish Commission this past summer and felt scientific and local and traditional knowledge were brought to the table and considered in a collaborative decision making process. The Council feels that this proposal would further these efforts by formalizing the working relationship with the Federal managers and Kuskokwim Tribes and subsistence fishers and ensure the State participation through the establishment of this regulatory framework.

The Council stressed the need to engage all stakeholders in the decision making process and affirmed the proposal will be a tool to ensure all entities on the Kuskokwim River are working in collaboration on inseason fisheries management.

Western Interior Alaska Subsistence Regional Advisory Council

Support FP 17-05. The Council emphasized the Kuskokwim Area is a major subsistence fishery. The Council noted the proposal would provide a forum for much needed coordination, though it unclear how implementation would be conducted. The Council stressed the need to engage all stakeholders in the decision making process. The Council affirmed the proposal will bring together all entities on the Kuskokwim River to establish coordinated fisheries management.

INTERAGENCY STAFF COMMITTEE COMMENTS

The Interagency Staff Committee found the staff analysis to be a thorough and accurate evaluation of the proposal and that it provides sufficient basis for the Regional Advisory Council recommendation and Federal Subsistence Board action on the proposal.

While the Interagency Staff Committee supports the intent of the proposal to work toward a unified management strategy for Kuskokwim River fisheries, the Board may want to consider deferring action until the collaborative management aspects of the Kuskokwim River Partnership Project are more established. Further, there are aspects of the proposed regulatory language that may need additional vetting. The regulatory requirement for Federal subsistence management plans and strategies would be unique to the Kuskokwim River Area; however, there have not been any substantive discussion with public involvement about how the proposed management plans and strategies are developed.

The Board may want to consider which aspects of the proposal could be included in an updated Delegation of Authority Letter, which directs how the Federal in-season manager issues emergency special action. The letter includes guidelines on notification and consultation with affected agencies and entities. Delegation of authority letters can be updated at the discretion of the Board.

ALASKA DEPARTMENT OF FISH AND GAME COMMENTS

Alaska Department of Fish and Game
Comments to the Federal Subsistence Board

Fishery Proposal FP17-05: This proposal was submitted by LaMont E. Albertson and requests that Federal subsistence management plans, strategies, fishing schedules, openings, closings, and fishing methods for the Kuskokwim Area be issued independently by the Federal Subsistence Management Program in consultation with appropriate agencies and entities.

Background: This proposal seeks to remove language from federal regulation that states for the Kuskokwim area Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action. There have been various clarifications on the intent expressed by the proponent since the proposal was published.

Recent sharp declines in Chinook salmon abundance have caused severe hardship for fishery-dependent communities in the Kuskokwim Area.

Impact on Subsistence Users: If adopted as written, management would be split, rather than aligned, resulting in confusion for subsistence users.

Impact on Other Users: With two management plans in place, and the resultant confusion, it is not certain that other uses and users could be provided for.

Opportunities Provided by State: Regulatory authority for Kuskokwim River salmon management is shared by the Federal Subsistence Board and the State of Alaska Board of Fisheries. The State is responsible for implementing regulations in accordance with the *Kuskokwim River Salmon Management Plan* (5 AAC 07.365) unless the Federal subsistence program determines that all non-Federally-qualified subsistence uses must be eliminated in order to meet the Federal subsistence priority. Subsistence salmon harvest in the Kuskokwim River is allowed without a permit and with no closed season or bag limits (with an exception for the Aniak River). Legal gear includes gillnets, hook and line, seines, and fish wheels.

Recommendation: The State OPPOSES this proposal as written, but SUPPORTS the clarified intent of the proposal to increase collaboration among State and Federal fisheries management authorities so that subsistence uses continue to be the priority use for Kuskokwim River fish stocks. The State SUPPORTS

clarifying the delegation of authority to the Federal inseason manager, and stands ready to provide biological and management expertise to that effort.

FP19-08 Executive Summary	
General Description	Proposal FP19-08 requests that from June 1 through June 25, the use of six-inch or less mesh size gillnets will only be restricted, if necessary, during rolling closures implemented sequentially up the Kuskokwim River in a step-wise progression consistent with Chinook Salmon run-timing. *Submitted by: Alissa N. Rogers*.
Proposed Regulation	*§___.27(e)(4) Kuskokwim Area* *(ii) For the Kuskokwim area, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060),* ***except from June 1 through June 25 the use of 6-inch or less mesh size gillnets will only be restricted, if necessary, during rolling closures implemented sequentially up the river in a step-wise progression consistent with Chinook Salmon run timing****, unless superseded by a Federal Special Action.*
OSM Preliminary Conclusion	**Support** FP19-08 **with modification** to change the end date to July 15 and to remove language about implementing rolling closures consistent with Chinook Salmon run-timing.
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
FP19-08

ISSUES

Proposal FP19-08, submitted by Alissa N. Rogers of Bethel, Alaska, requests that from June 1 through June 25, the use of six-inch or less mesh size gillnets will only be restricted, if necessary, during rolling closures implemented sequentially up the Kuskokwim River in a step-wise progression consistent with Chinook Salmon run-timing.

DISCUSSION

The proponent states that Alaska Department of Fish and Game's (ADF&G) Kuskokwim River Salmon Management Plan requires the State to close the Chinook Salmon fishery through June 11 every year, which is implemented through a closure to the use of gillnets. The proponent notes that there should be opportunity to harvest Chinook Salmon before June 11 every year, and that this opportunity be provided between rolling closures implemented sequentially up the river in a step-wise progression consistent with Chinook Salmon run timing. The proponent is seeking to establish "pulse" protection for Chinook Salmon similar to how Chinook Salmon in the Yukon River are managed.

Existing Federal Regulation

> ***§___.27(e)(4) Kuskokwim Area***
>
> * * * *
>
> *(ii) For the Kuskokwim area, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.*
>
> * * * *

Proposed Federal Regulation

> ***§___.27(e)(4) Kuskokwim Area***
>
> *(ii) For the Kuskokwim area, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060),* ***except from June 1 through June 25 the use of 6-inch or less mesh size gillnets will only be restricted, if necessary, during rolling closures implemented***

***sequentially up the river in a step-wise progression consistent with Chinook Salmon run timing**, unless superseded by a Federal Special Action.*

Existing State Regulation

Kuskokwim Area—Subsistence Fishing

5 AAC 01.255. Description of districts, subdistricts, and sections

(a) Districts and subdistricts are as described in 5 AAC 07.200.

(b) During times of king salmon conservation, the Kuskokwim River may be divided into the following sections by emergency order:

(1) Section 1: from a line at the Yukon Delta National Wildlife Refuge boundary at the mouth of the Kuskokwim River at 59_ 59.96' N. lat., 162_ 30.46' W. long. to 59_ 59.95' N. lat., 162_ 11.15' W. long. to the confluence of the Johnson River and Kuskokwim River;

(2) Section 2: from the confluence of the Johnson River and Kuskokwim River to a line between ADF&G regulatory markers located approximately one-half mile upstream of the Tuluksak River mouth;

(3) Section 3: from a line between ADF&G regulatory markers located approximately one-half mile upstream of the Tuluksak River mouth to a line between ADF&G regulatory markers at the Yukon Delta National Wildlife Refuge boundary near Aniak;

(4) Section 4: from a line between ADF&G regulatory markers at the Yukon Delta National Wildlife Refuge boundary near Aniak to a line between ADF&G regulatory markers located downstream of the Holitna River mouth;

(5) Section 5: from a line between ADF&G regulatory markers located downstream of the Holitna River mouth to the headwaters of the Kuskokwim River.

Kuskokwim River Salmon Management Plan

5 AAC 07.365. Kuskokwim River Salmon Management Plan

(c) In the king salmon fishery,

(1) when the projected escapement of king salmon is below the drainagewide escapement goal range, the commissioner shall close, by emergency order, the commercial, sport, and subsistence king salmon fisheries;

(2) when the projected escapement of king salmon is within the drainagewide escapement goal range, the commissioner shall open and close fishing periods, by emergency order, as follows:

> *(A) the commissioner shall close, by emergency order, the commercial, sport, and subsistence king salmon fisheries, and after June 11, to the extent practicable, the commissioner shall open, by emergency order, at least one fishing period per week for a directed subsistence king salmon fishery to provide harvest opportunity on surplus king salmon in excess of escapement needs,*
>
> *(B) after June 11, fishing may be opened for commercial and sport fisheries to provide harvest opportunity on surplus king salmon in excess of escapement and subsistence needs;*
>
> *(C) notwithstanding (c)(2)(A) of this section, before June 12 the commissioner shall open, by emergency order, at least one subsistence fishing period per week with four-inch or smaller mesh gillnets; the gillnet may only be operated as a set gillnet and no part of the set gillnet may be more than 100 feet from the ordinary high water mark;*

(3) when the projected escapement of king salmon exceeds the drainagewide escapement goal range,

> *(A) the commissioner shall close, by emergency order, the commercial, sport, and subsistence king salmon fisheries, and after June 11, the directed subsistence king salmon fishery will be open seven days per week; and*
>
> *(B) after June 11, the commercial and sport fisheries will be managed to provide harvest opportunity on surplus king salmon in excess of escapement and subsistence needs.*
>
> *(C) notwithstanding (c)(3)(A) of this section, before June 12 the commissioner shall open, by emergency order, at least one subsistence fishing period per week with four-inch or smaller mesh gillnets; the gillnet may only be operated as a set gillnet and no part of the set gillnet may be more than 100 feet from the ordinary high water mark;*

(4) notwithstanding the provisions of (2) and (3) of this subsection, if the department determines there is a harvestable surplus of king salmon, the commissioner may open, by emergency order, a subsistence king salmon fishery during which

> *(A) king salmon may be taken only by a person 60 years of age or older; and*

(B) a person authorized to take king salmon under this paragraph may not authorize a proxy to take or attempt to take king salmon under AS 16.05.405 or 5 AAC 01.011, but the participant may be assisted by family members within the second degree of kindred; in this subparagraph, "within the second degree of kindred" has the meaning given in 5 AAC 92.990(a).

(d) In the subsistence fishery, in the Kuskokwim River drainage, in the waters of the mainstem of the river and other salmon spawning tributaries, unless otherwise specified by the department,

(1) the subsistence salmon net and fish wheel fisheries will be open seven days per week, except that if the commissioner determines that it is necessary in order to achieve escapement goals, the commissioner may alter fishing periods, by emergency order, based on run abundance;

(2) the commissioner may implement one or more of the gear limitations as described in 5 AAC 01.270(n) during times the commissioner determines that it is necessary for the conservation of king salmon;

(A) the gillnet mesh size may not exceed four inches until sockeye and chum salmon abundance exceeds the king salmon abundance;

(B) a gillnet may not exceed 25 fathoms in length, except that a longer gillnet may be used if no more than 25 fathoms of the gillnet is in a fishing condition and the remainder of the gillnet is tied up or secured so that it is not in the water in a fishing condition;

(C) a person may fish for salmon with a dip net, as defined in 5 AAC 39.105, and all king salmon caught by a dip net must be returned immediately to the water unharmed;

(3) actions to conserve king salmon may be applied to the entire Kuskokwim River, its sections, or tributaries, consistent with harvest trends and variability in abundance of king salmon available for harvest as the run progresses upstream;

(4) the commissioner may alter the subsistence hook and line bag and possession limits specified in 5 AAC 01.295, by emergency order, if the commissioner determines that inseason information indicates it is necessary for conservation purposes.

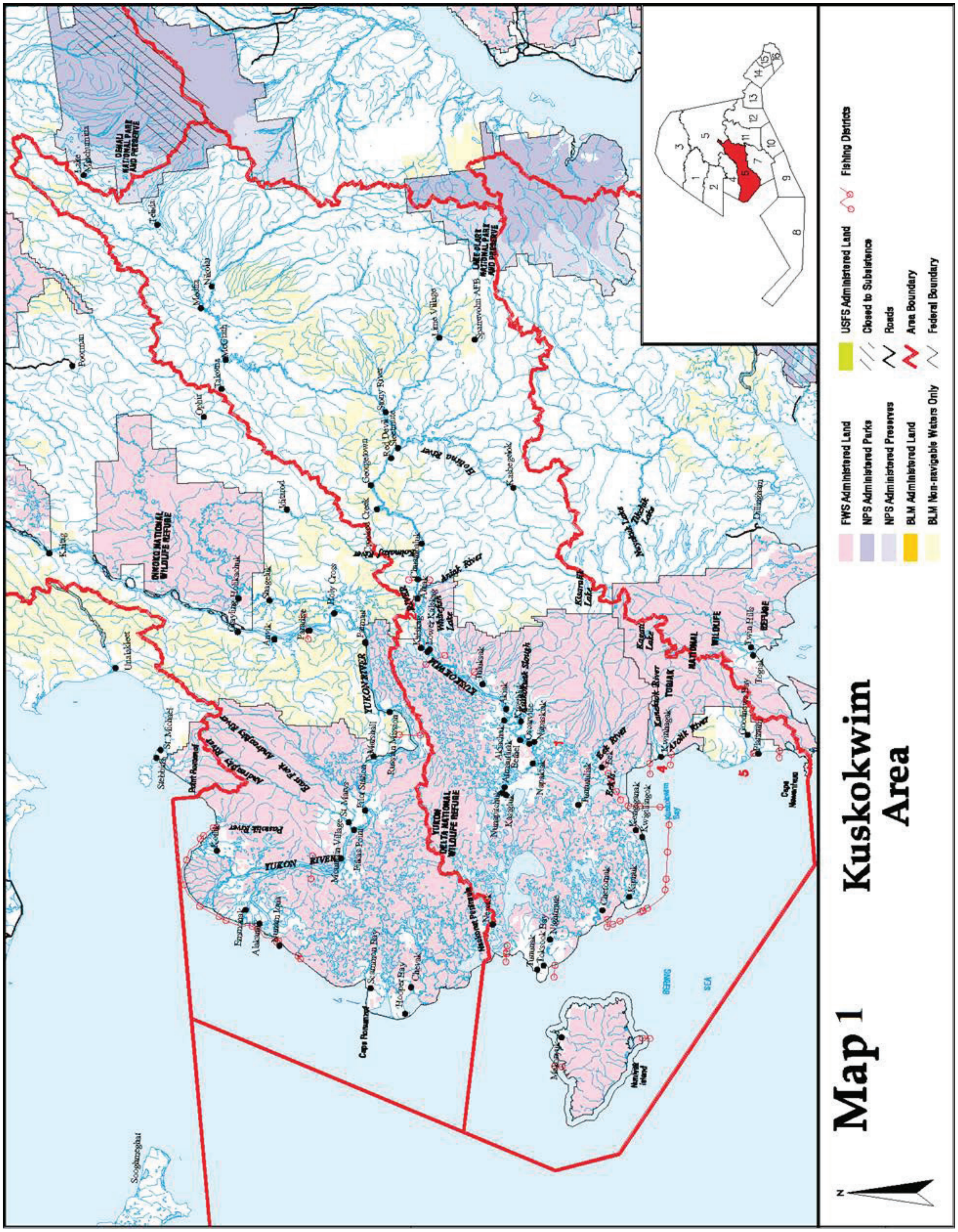
Extent of Federal Public Lands

For purposes of this analysis, the phrase “Federal public waters” is defined as those waters described under 36 CFR 242.3 and 50 CFR 100.3. The affected area consists of those waters of the Kuskokwim River drainage that are within and adjacent to the exterior boundaries of the Yukon Delta National Wildlife Refuge (Refuge), including District 1 and portions of District 2 of the Kuskokwim Fishery

Management Area. The waters are generally described as the lower Kuskokwim River drainage from the mouth upriver to and including about 30 miles of the Aniak River (**Map 1**).

Customary and Traditional Use Determinations

Residents of the Kuskokwim Area, except those persons residing on United States military installations located on Cape Newenham, Sparrevohn USAFB, and Tatalina USAFB, have a customary and traditional use determination for salmon (50 CFR 100.24 and 36 CFR 242.24).


Map 1
Kuskokwim Area
FWS Administered Land
NPS Administered Parks
NPS Administered Preserves
BLM Administered Land
BLM Non-navigable Waters Only
USFS Administered Land
Closed to Subsistence
Roads
Area Boundary
Federal Boundary
Fishing Districts

Regulatory History

History of Rolling Closures (2001-2009)

The practice of limiting the subsistence fishery through "windowed", or rolling closures implemented sequentially up the river in a step-wise progression consistent with salmon run-timing, began in 2001 upon passage of the Kuskokwim River Rebuilding Plan (5 AAC 07.365) by the Alaska Board of Fisheries, continued until 2006, stopped between 2007 through 2011 as runs returned to normal, and then finally ended in 2012. The rebuilding plan was put into place after the Alaska Board of Fisheries designated the Kuskokwim River Chinook and Chum Salmon stocks of yield concern. This action was based on the Sustainable Fisheries Policy and poor runs since 1997 (Whitmore et al. 2004, Poetter and Tiernan 2017). The plan provided direction for establishing a subsistence fishing schedule that allowed salmon gillnet and fish wheel fisheries to be open for four consecutive days per week in June and July as announced by emergency order. Once escapement goals were assured for Chinook and Chum Salmon, subsistence fishing would then be allowed seven days per week. The days of the week open to subsistence fishing were selected through meetings with the Kuskokwim River Salmon Management Working Group. The schedule was generally released before the fishing season and the removal of restrictions were dependent on in-season information gathered on the run.

Throughout the Chinook and Chum Salmon runs in 2001, the drainage was closed to the harvest of salmon (except by rod and reel), from three days per week (upper river) to five days per week (lower and middle river). During these closures gillnets were restricted to 4-inch or less mesh size (Whitmore et al. 2004). Lower river closures were implemented on June 3, middle river closures on June 10, and upper river closures on June 17 (Hamazaki 2008). All restrictions were lifted by July.

From 2002 through 2003, during the Chinook Salmon run, the Kuskokwim River drainage was closed to the harvest of Chinook Salmon (except by hook and line), three days a week in rolling closures. During these closures gillnets were restricted to 4-inch or less mesh size (Whitmore et al. 2004). In 2002, lower river closures were implemented on June 9 and middle river closures on June 28 (Hamazaki 2008). In 2003, lower river closures were implemented on June 1, middle river closures on June 8, and upper river closures on June 15 (Hamazaki 2008). Restrictions in 2002 were lifted by June 28, while restrictions in 2003 were lifted by July 3.

From 2004 through 2006, three day per week rolling closures to the harvest of Chinook Salmon were implemented. During these closures gillnets were restricted to 4-inch or less mesh size (Whitmore et al. 2004). In 2004, lower river closures were implemented between June 3 and June 20 (Hamazaki 2008). In 2005 and 2006, lower river closures were implemented between June 5 and June 19 (Hamazaki 2008). There were no closures to the harvest of salmon in the upriver areas during these years (Martz and Whitmore 2005, Martz and Dull 2006, Dull and Shelden 2007).

In 2007, the Alaska Board of Fisheries discontinued the stock of concern designation for Kuskokwim River Chinook and Chum salmon based on at or above the historical average runs each year since 2002.

Salmon Management 2010 – 2013

In 2010, from June 10 through July 31, the Federal in-season manager closed the Tuluksak and Kwethluk rivers to the harvest of Chinook Salmon with gillnets due to conservation concerns. During this time gillnets were restricted to 4-inch or less mesh size in the Tuluksak and Kwethluk rivers (Brazil et al. 2011).

In 2011, from June 1 through July 25, the harvest of Chinook Salmon using hook and line gear or gillnets (restricted at the time to 4-inch or less mesh size) was closed in the following important salmon rearing tributaries: Kuskokuak Slough, including all waters of the Kisaralik, Kasigluk, and Kwethluk river drainages; and the Tuluksak River drainage. District 1 of the Kuskokwim River main stem was closed to the harvest of salmon from June 16 through June 19 and June 23 through June 29. The Federal in-season manager closed Refuge waters to the harvest of salmon for three days from June 30 through July 2 because of continuing concerns for the conservation of Chinook Salmon (Brazil et al. 2013).

In 2012, from June 1 through July 25 the harvest of Chinook Salmon using hook and line gear was closed, while gillnets were restricted to 4-inch or less mesh size. Areas closed in Kuskokuak Slough, included all waters of the Kisaralik, Kasigluk, and Kwethluk river drainages, and the Tuluksak, Aniak, and George river drainages. In the mainstem, during the Chinook Salmon run, the harvest of Chinook Salmon was restricted for 12 consecutive days by the use of rolling closures from the Kuskokwim River mouth to the headwaters followed by six days of rolling open fishing periods when 6-inch or less mesh size gillnets were allowed. After six-day periods openings, harvest of salmon was again prohibited by rolling closures starting on June 30 in the lower river and ending July 14 at the headwaters. The harvest of salmon with hook and line gear remained closed until later in the summer (Elison et al. 2015). 2012 was the last year in which rolling closures were implemented in the Chinook Salmon subsistence fishery before the Kuskokwim River Salmon Management plan was adopted in 2013.

In 2013, the Alaska Board of Fisheries adopted the Kuskokwim River Salmon Management Plan (5 AAC 07.365). The plan provided guidelines for managing the Kuskokwim River salmon fishery to meet escapement goals and subsistence use priority (Tiernan and Poetter 2015). On June 1, subsistence Chinook Salmon fishing with gillnets was restricted to four-inch or less mesh not to exceed 60 feet in the Kwethluk River drainage including its confluence with Kuskokuak Slough, as well as the Kasigluk, Kisaralik, Tuluksak, Aniak river drainages. This restriction was to conserve Chinook Salmon in the salmon-bearing tributaries of the Kuskokwim River while allowing the harvest of non-salmon species such as whitefish, Northern Pike, and Burbot. Gillnets were limited to six-inch or less mesh size in the lower river below Tuluksak beginning June 28 and between Tuluksak and Aniak beginning July 3 in order to conserve Chinook Salmon. All restrictions were lifted by July 15 (Tiernan and Poetter 2015).

Salmon Management 2014 – Present

For a complete list of Federal special actions and State emergency orders from 2014 – 2017, see **Appendix 1**.

Salmon management from 2014 through present is substantially different than salmon management from 2001 to 2013 due to consistently low Chinook Salmon returns. Salmon management from 2014 to 2017 provided very limited harvest opportunities, and these were provided to Federally qualified subsistence users or a limited pool of Federally qualified subsistence users through the Federal special action process. Dates for harvest opportunities were decided during the in-season management process rather than through published fishing schedules provided at the beginning of the season as took place in 2001-2006. During this time period, fishing schedules, openings, closings, and gear restrictions for the Chinook Salmon subsistence fishery have been determined by the Federal in-season manager in collaboration with the Kuskokwim River Inter-Tribal Fish Commission, as well as other Federal and State entities.

Since 2016, there has been a complete restriction to gillnets in the main-stem Kuskokwim River and its salmon bearing tributaries during the front-end of the Chinook Salmon return (May 20 – June 12) in order to provide equitable distribution of Chinook Salmon harvest to middle and upper portions of the Kuskokwim River drainage. During these years, Federal public waters of the Kuskokwim River drainage have been closed to the use of all gillnets beginning between May 20 – May 30, and lasting until June 12. These past actions have been implemented by ADF&G, as mandated by State of Alaska regulations that state the Chinook Salmon subsistence fishery be closed through June 11. During these complete closures to gillnet use, ADF&G has provided limited weekly opportunities with four-inch or less mesh size set gillnets to harvest non-salmon species, as mandated by State of Alaska regulations that require at least one opportunity a week with four-inch or less mesh size set nets during the front-end closure (Poetter and Tiernan 2017).

Since 2016, the Chinook Salmon subsistence fishery has been restricted after June 11 through emergency special actions issued by either the Board or the Federal in-season manager for the Kuskokwim area. During this time, the Federal in-season manager limited Chinook Salmon harvest by providing short, time-limited opportunities for the harvest of Chinook Salmon by a limited pool of Federally qualified subsistence users with six-inch or less mesh size drift gillnets based on in-season information gathered as the Chinook Salmon return was monitored past the Bethel area.

Biological Background

Chinook Salmon

Run-Size

Estimates of drainage-wide run size are produced by the Chinook Salmon run-reconstruction model. This model uses multiple sources of data such as weir and aerial escapement indices, commercial catch and effort, mark-recapture estimates, and harvest to estimate annual returns (Liller and Smith 2018). As of May 2018, the run-reconstruction model has been updated to include newly available mark-recapture information from 2014-2017, as well as additional model changes and data updates (Hamazaki et al. 2018).

Chinook Salmon abundance in the Kuskokwim River system has been highly variable with cyclical (~10 years) peaks around 379,000 and valleys around 120,000 fish. The last peak run-size occurred in 2004

with an estimated size of 366,725 Chinook Salmon. Run-sizes have dropped steadily from that peak until reaching an all-time low of 79,238 salmon in 2012. Since 2012, the population appeared to be on an increasing trend, with the 2017 run size estimated at 133,267 Chinook Salmon, which is a slight increase from the 2016 run-size of 128,855 Chinook Salmon. The Chinook Salmon run-size has remained effectively consistent from 2015 to 2017 (**Table 1, Figure 1**). In relation to the previously published run-size estimates (Liller and Smith 2018), run-size estimates have decreased on average by 11% across the entirety of the time series, with 2014-2017 estimates being, on average, 28% lower due to the influence of the new scalar information from mark-recapture projects conducted from 2014-2017 (Hamazaki et al. 2018).

Table 1. Published comparison of estimates for Kuskokwim River Chinook Salmon run-size, escapement, and harvest from 1976 to 2017. Estimates produced by Liller and Smith (2018) are in parentheses, revised estimates from Hamazaki et al. (2018) are not.

Kuskokwim River Drainage							
Year	Total Run	Escapement	Harvest				
			Subsistence	Commercial	Sport	Test Fish	Total
1976	187,584 (233,967)	97,037 (143,420)	58,606	30,735		1,206	90,547
1977	348,824 (295,559)	255,117 (201,852)	56,580	35,830	33	1,264	93,707
1978	241,781 (264,325)	158,309 (180,853)	36,270	45,641	116	1,445	83,472
1979	233,787 (253,970)	137,485 (157,668)	56,283	38,966	74	979	96,302
1980	357,950 (300,573)	260,982 (203,605)	59,892	35,881	162	1,033	96,968
1981	308,660 (389,791)	198,261 (279,392)	61,329	47,663	189	1,218	110,399
1982	173,072 (187,354)	66,071 (80,353)	58,018	48,234	207	542	107,001
1983	148,278 (166,333)	66,133 (84,188)	47,412	33,174	420	1,139	82,145
1984	171,853 (188,238)	82,677 (99,062)	56,930	31,742	273	231	89,176
1985	143,568 (176,292)	61,641 (94,365)	43,874	37,889	85	79	81,927
1986	123,452 (129,168)	52,840 (58,556)	51,019	19,414	49	130	70,612
1987	186,184 (193,465)	81,941 (89,222)	67,325	36,179	355	384	104,243
1988	204,824 (207,818)	77,061 (80,055)	70,943	55,716	528	576	127,763
1989	214,081 (241,857)	87,928 (115,704)	81,175	43,217	1,218	543	126,153
1990	266,353 (264,802)	102,167 (100,614)	109,778	53,502	394	512	164,186
1991	210,525 (218,705)	97,377 (105,589)	74,820	37,778	401	149	113,148
1992	259,154 (284,846)	127,881 (153,573)	82,654	46,872	367	1,380	131,273
1993	274,830 (269,305)	175,319 (169,816)	87,674	8,735	587	2,515	99,511
1994	411,724 (365,246)	289,094 (242,616)	103,343	16,211	1,139	1,937	122,630
1995	371,079 (360,513)	236,161 (225,595)	102,110	30,846	541	1,421	134,918
1996	307,072 (302,603)	201,561 (197,092)	96,413	7,419	1,432	247	105,511
1997	295,259 (303,189)	203,878 (211,247)	79,381	10,441	1,227	332	91,381
1998	184,356 (213,873)	84,140 (113,627)	81,213	17,359	1,434	210	100,216
1999	158,770 (189,939)	80,940 (112,082)	72,775	4,705	252	98	77,830
2000	129,138 (136,618)	60,905 (65,180)	67,620	444	105	64	68,233

Table 1 (Continued).

Kuskokwim River Drainage							
Year	Total Run	Escapement	Harvest				
			Subsistence	Commercial	Sport	Test Fish	Total
2001	205,152 (223,707)	126,677 (145,232)	78,009	90	290	86	78,475
2002	226,106 (246,296)	144,445 (164,635)	80,982	72	319	288	81,661
2003	232,282 (248,789)	164,180 (180,687)	67,134	158	401	409	68,102
2004	366,725 (388,136)	266,084 (287,178)	96,788	2,305	857	691	100,641
2005	326,904 (366,601)	235,901 (275,598)	85,090	4,784	572	557	91,003
2006	326,067 (307,662)	232,409 (214,004)	90,085	2,777	444	352	93,658
2007	244,754 (273,060)	146,637 (174,943)	96,155	179	1,478	305	98,117
2008	219,709 (237,074)	111,613 (128,978)	98,103	8,865	708	420	108,096
2009	189,370 (204,747)	103,101 (118,478)	78,231	6,664	904	470	86,269
2010	112,975 (118,507)	43,541 (49,073)	66,056	2,732	354	292	69,434
2011	113,749 (133,059)	49,718 (72,097)	62,368	747	579	337	64,031
2012	79,238 (99,807)	55,746 (76,074)	22,544	627	0	321	23,492
2013	84,311 (94,166)	36,823 (47,315)	47,113	174	0	201	47,488
2014	84,326 (135,749)	72,560 (123,987)	11,234	35	0	497	11,766
2015	125,058 (172,055)	108,454 (155,464)	16,124	8	0	472	16,604
2016	128,855 (176,916)	97,640 (145,718)	30,693	0	0	522	31,215
2017	133,267 (166,863)	116,579 (150,193)	16,380	0	0	290	16,670

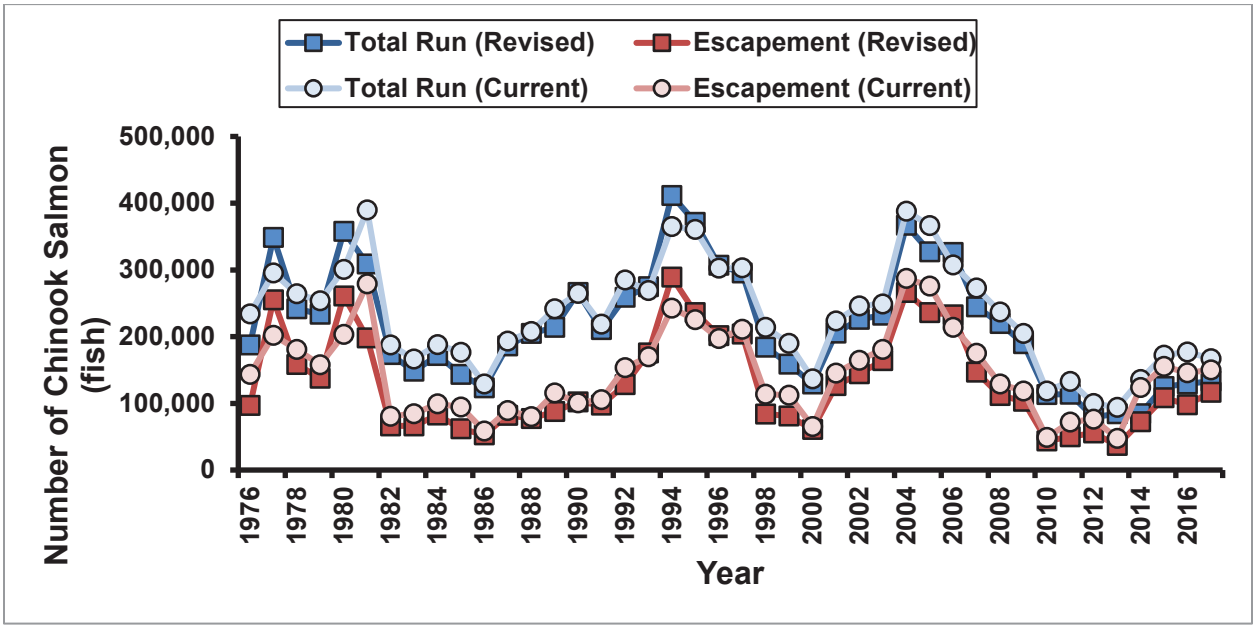


Figure 1. Comparison of Estimates for Kuskokwim River Chinook Salmon total run-sizes and escapements from 1976 to 2017. Estimates are produced from the Kuskokwim River Chinook Salmon Run-Reconstruction Model (Liller and Smith 2018) and the revised Kuskokwim River Chinook Salmon Run-Reconstruction Model (Hamazaki et al. 2018). Blue lines indicate estimates produced by Liller and Smith 2018, while red lines indicate revised estimates produced by Hamazaki et al. (2018).

Direct estimates of total run-size for Kuskokwim River Chinook Salmon are available from 2003–2007 and 2014–2017 through extensive mark-recapture surveys performed by ADF&G. The mark-recapture projects from 2003 to 2007 and in 2014 were performed above Kalskag during above average run abundances (with the exception of 2014), while the 2015 to 2017 projects were performed in the lower Kuskokwim River just above Eek during below average run abundances. Methods for estimating escapement to unmonitored tributaries downriver of the tag site also were changed in 2015 to 2017 (Hamazaki et al. 2018). From 2003 to 2007, direct estimates ranged from 242,000 to 423,000 Chinook Salmon, while 2014–2017 estimates ranged from 78,600 to 133,200 Chinook Salmon (**Table 2**). The mark-recapture estimate for Chinook Salmon in 2017 is 133,200 (CI: 101,500 – 160,274 fish). Recent mark-recapture information (2014-2017) were included in the revised run-reconstruction model and methods for estimating escapement to unmonitored tributaries downriver of the tag site were standardized (Hamazaki et al. 2018).

Table 2. Mark-Recapture estimates of Chinook Salmon for years 2003-2007 and 2014-2017. Numbers inside parentheses represent lower and upper 95% confidence intervals.

Year	Mark-Recapture Estimate
2003	241,617 (169,871 - 313,363)
2004	422,657 (283,025 - 562,289)
2005	345,814 (254,337 - 437,291)
2006	396,248 (273,062 - 519,434)
2007	266,219 (201,637 - 330,801)
2014	78,600 (67,300 – 98,100)
2015	122,400 (112,000 - 132,600)
2016	127,500 (110,100 - 155,300)
2017	133,200 (101,500 – 160,274)

In addition to the mark-recapture abundance estimates, ADF&G in 2017 began operating a sonar and drift gillnet apportionment project near Church Slough above Bethel in order to estimate daily and total abundance of adult salmon species returning to the Kuskokwim River. Given that the sonar is located above Bethel, the total abundance reported is in terms of numbers of Chinook Salmon escaping past the Bethel fishery. In order to calculate a total abundance number, estimated Chinook Salmon harvest below Bethel would need to added to the sonar abundance estimate. The preliminary abundance estimate for Chinook Salmon at the sonar site in 2017 was 61,500 (45,800 – 77,100 fish) (FWS 2017). As 2017 was the first year the sonar was in full operation, the initial results should be viewed cautiously until the project has accumulated enough years' worth of data. The data collected for this project is not currently used in the run-reconstruction for Kuskokwim River Chinook Salmon; however, once enough data is accumulated and any kinks are identified and fixed, the sonar data will be pursued and analyzed as an additional data source to be used in the run-reconstruction.

Escapement

The ADF&G and U.S. Fish and Wildlife Service monitor Chinook Salmon escapement throughout the Kuskokwim River drainage with a variety of weir and aerial surveys. Six weirs are utilized as data

sources in the run-reconstruction model: two in the lower river (Kwethluk, Tuluksak) and four in the upper river (George, Kogrukluk, Tatlawiksuk, and Takotna). The ADF&G discontinued the Takotna weir in 2014, but has since restarted the weir again in 2017. Two other weirs in the drainage are not used as data inputs in the run-reconstruction model (Salmon River of the Aniak drainage, Salmon River of the Pitka Fork drainage). In addition to the weir projects, 14 aerial index surveys are utilized as inputs into the run-reconstruction model: three in the lower river (Kwethluk, Tuluksak, and Kisaralik) and 11 in the upper river (Salmon-Aniak, Kipchuk, Aniak, Holokuk, Oskawalik, Holitna, Cheeneetnuk, Gagaryah, Pitka, Bear, and Salmon-Pitka). The drainage-wide sustainable escapement goal for Chinook Salmon is 65,000 – 120,000 fish and was established in 2013. The drainage-wide escapement goal is currently under review and will be determined during the Alaska BOF Arctic-Yukon-Kuskokwim Finfish meeting in January 2019.

Total escapement estimates of Chinook Salmon follow the same general trend as total run estimates with cyclical peaks and valleys. Average high escapement years were around 268,000 fish, while average low escapements were around 77,000 fish (**Table 1, Figure 1**). The last peak was in 2004, with an escapement of around 266,084 Chinook Salmon (**Table 1, Figure 1**). After the last peak, the escapement dropped to a record low of around 36,823 fish in 2013 (**Table 1, Figure 1**). Since the record low, escapement has steadily increased although it appears as though the rate of increased escapement is slower than escapement cycles in the past despite heavy restrictions to harvest. Since 2015, conservative fisheries management has led to escapement being held between 98,000 - 117,000 (**Table 1, Figure 1**). Before revised escapement estimates were published, conservative fisheries management targeted escapement for the upper quartile of the State's drainage-wide sustainable escapement goal range (100,000 – 120,000 Chinook Salmon), which resulted in maintaining escapement around 150,000 fish under the previously estimated run-reconstruction model (Liller and Smith 2018). Due to model revisions, the evaluation of management objectives with revised numbers is complicated without a revision to the drainage-wide sustainable escapement goal.

Salmon Run-Timing, Composition

Given that Chinook Salmon, Chum Salmon, and Sockeye Salmon all return to the Kuskokwim River during the time period suggested by the proponent, it is important to discuss the run-timing and composition of the salmon runs as restrictions to limit the harvest of Chinook Salmon also effect the harvest of the other salmon species.

In-season run-timing heavily relies on information gathered from the Bethel Test Fishery. The Bethel Test Fishery has been operated upstream of Bethel since 1984, and provides a long term data set on species composition, relative abundances, and run-timing. There are complications with using data from the test fishery to help in-season management both because in-river abundance during the season is confounded with run-timing, as well as the test fishery being located upstream of where much of the salmon harvest takes place. There is also a large amount of variation in historical run-timing, which complicates in-season predictions of run abundance. During in-season operations, run-timing becomes more informed as the season progresses with more data being collected from the Bethel Test Fishery.

Run-Timing

The cumulative catch of salmon at the test fishery can best be described by a sigmoidal shaped curve (i.e., S-shaped), and can be utilized to generalize run-strength, run-timing, and species composition (**Figure 2, Figure 3**).

Chinook Salmon enter the Kuskokwim River beginning in late May and continue through early August. The estimated dates at which 50% of the Chinook Salmon run has passed the Bethel Test Fishery (D50) ranges from June 14 to July 2, with an average of June 22 ± 4 days (**Figure 2, Figure 3**).

Chum Salmon starting moving past the Bethel Test Fishery near the middle of June, with the earliest capture date being June 1. On average early July (July 3 – July 6) is the time at which 50% of the run has passed the Bethel Test Fishery (**Figure 3**).

Sockeye Salmon start moving past the Bethel Test Fishery in early June, with the earliest capture date at the test fishery being on June 1. On average, late June (June 27 – June 30) is the time at which 50% of the run has passed the Bethel Test Fishery (**Figure 3**).

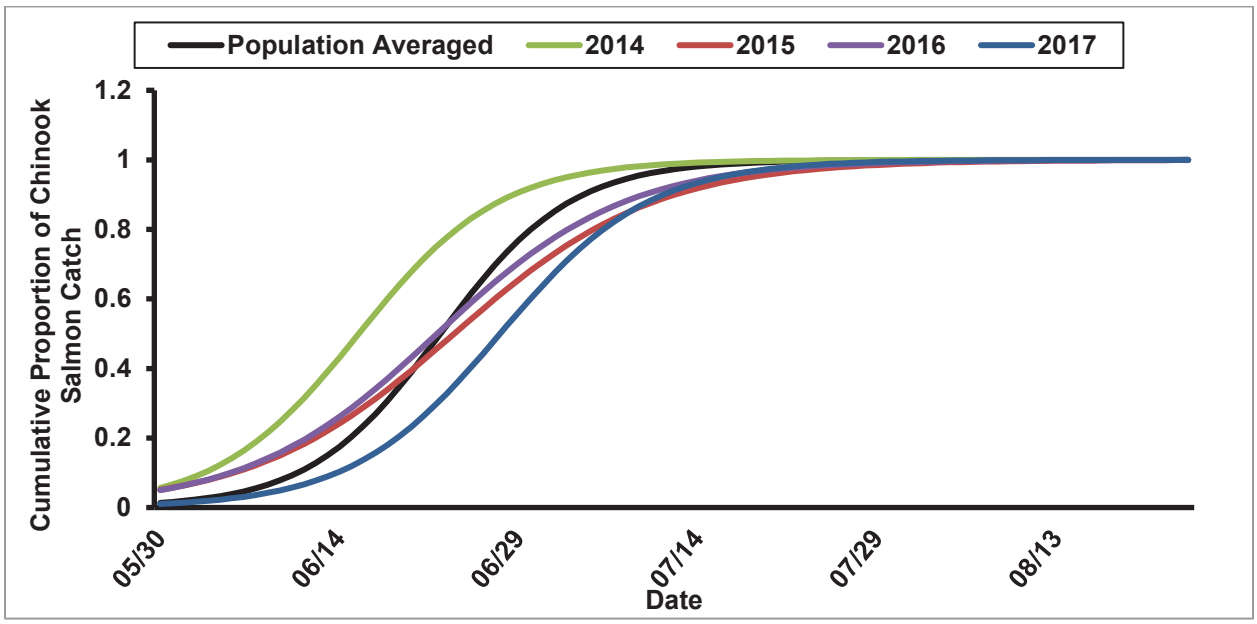


Figure 2. Estimated average of the cumulative proportion of Chinook Salmon catch collected by date at the Bethel test fishery from 1984 to 2017. The most recent three years of the cumulative proportion of catch at the Bethel test fishery is also plotted for comparison purposes. Dates were estimated using non-linear version of the logistic equation.

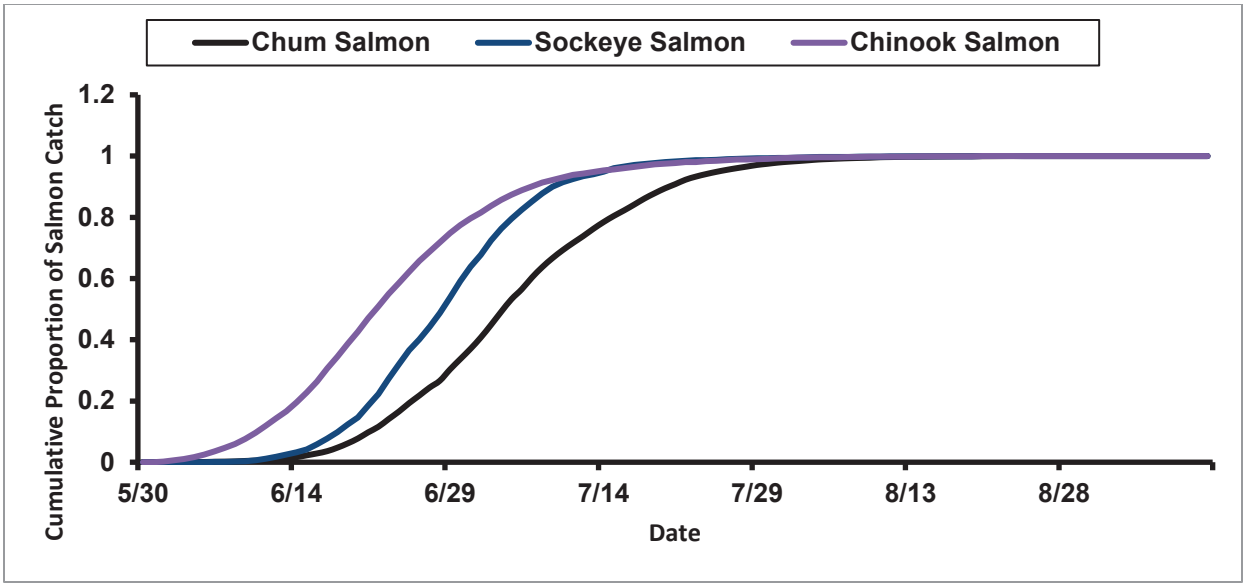


Figure 3. Average of the cumulative proportion of all salmon species catch collected by date at the Bethel Test Fishery from 1984 to 2016.

Past research has shown that Chinook Salmon migrating to the upriver portions of the drainage tend to migrate earlier in this range than Chinook Salmon migrating to the middle or lower portions of the drainage (Stuby 2007, Smith and Liller 2017a, 2017b). Tagging studies performed by ADF&G in 2015 and 2016 performed near the confluence of the Johnson and Kuskokwim rivers, showed headwater Chinook Salmon comprised between 50 - 67% of the studies' catches during the end of May/beginning of June, while toward the middle/end of June the same sub-stock only comprised 5% or less of the catch. Additionally, these studies showed that the contribution of lower and middle river sub-stocks increased weekly throughout the run. In 2015, middle river tributaries made up 50 – 95% of the weekly catch between June 8 and July 24, while the lower river tributaries made up 17 – 33% of the weekly catch. In 2016, middle river stocks increased from 45% of the catch during the initial portion of the season to 70% of the catch by June 20 – June, while lower river stocks represented 5% of the total catch during the initial portion of the season to 33% by the end of the season.

The tagging studies in 2015 and 2016 also showed that all sub-stocks display similar migration rates. Between the tagging site near the confluence of the Johnson and Kuskokwim rivers to the area near Bethel (river kilometer [rkm] 112), tagged Chinook Salmon migrated at a rate between 9 – 16 rkm/day. Chinook Salmon passing between these locations took 3 – 5 days to pass rkm 112 near Bethel. Chinook Salmon migrating pass this point proceed at a faster rate between 31 – 45 rkm/day (Smith and Liller 2017a, 2017b).

It is important to note that pulse protection has not occurred on the Kuskokwim River like what is currently seen on the Yukon River system. Pulses of Chinook Salmon have not been extensively documented in the Kuskokwim River, unlike Chinook Salmon pulses found within the Yukon River drainage. The Yukon River system is much larger than the Kuskokwim River and Chinook Salmon take much longer to traverse the length of the river. There is also a more considerable amount of information

on run-timing for Chinook Salmon across the entire Yukon River drainage than in the Kuskokwim River. Information on migration rates for the entire Kuskokwim River drainage only became recently available through telemetry studies performed in the lower Kuskokwim River from 2015 – 2017 (Smith and Liller 2017a, 2017b). Before these studies, telemetry data collected in 2002 – 2007 were collected from the middle of the Kuskokwim River drainage between Kalskag and Aniak; thus did not provide any information on run-timing information for lower river stocks. Currently, information on the progression of the Chinook Salmon run during the season are gathered through the Bethel Test Fishery and Kuskokwim River sonar projects, which are above Bethel, as well as the Aniak Test Fishery near the middle of the drainage. The sparsity of in-season data collections tools makes it difficult to establish run-timing schedules, particularly for the lower river below Bethel (given no projects collect information below Bethel). Currently, all that is known about stock specific run-timing in the Kuskokwim River is that headwater Chinook Salmon stocks are the first fish to begin migrating past Bethel in the early part of the season, while lower and middle river Chinook Salmon stocks come in later.

Composition

Chinook Salmon are the main salmon species moving in the Kuskokwim River in the beginning of the season; however, the composition of the run transitions to Chum and Sockeye Salmon by mid-June (**Figure 4**). From 1984 to 2017, the average date at which the proportions of Chinook Salmon is equal to that of Chum Salmon plus Sockeye Salmon at the Bethel test fishery (1:1 ratio) is June 13 (**Figure 3**). The overall composition of catch by species at the Bethel test fishery is dominated by Chum and Sockeye Salmon, which on average account for 93% of the catch, while Chinook Salmon account for only 7% of the total catch (**Figure 4**).

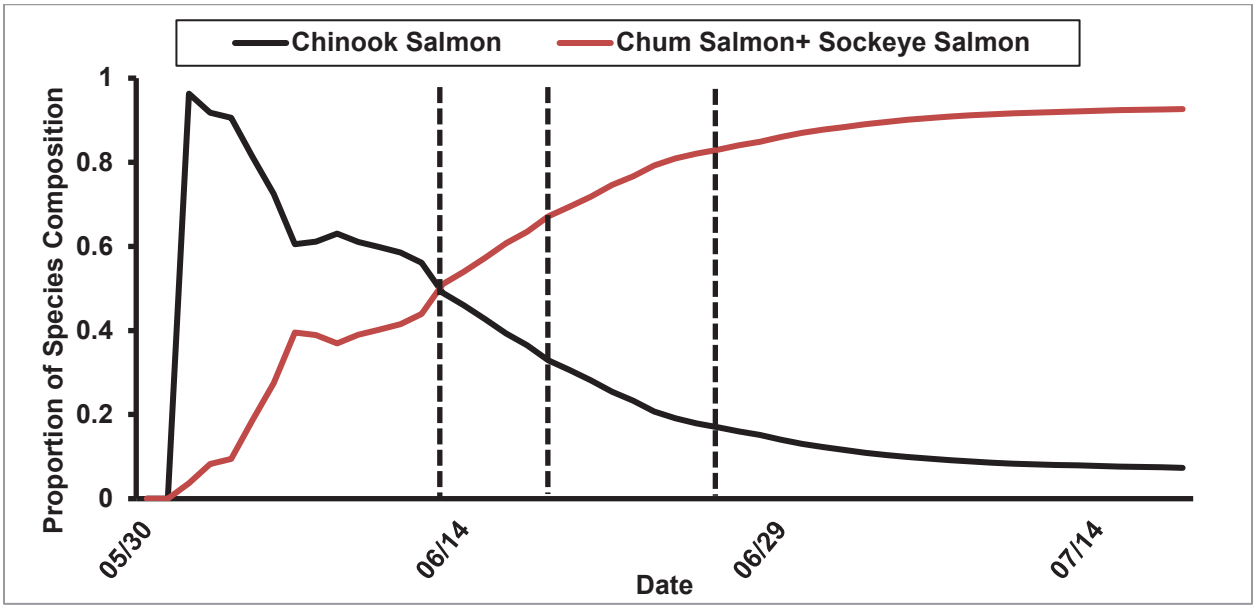


Figure 4. Average proportion of species composition by date caught at the Bethel test fishery from 1984 to 2017. Three vertical dashed lines represent three increasing ratios of Chum and Sockeye to Chinook Salmon, which occur approximately on June 13 (1:1), June 18 (2:1), and June 26 (5:1).

Harvest History

Chinook Salmon

Commercial

The beginnings of the commercial salmon fishery on the Kuskokwim River started in the 1800s (Oswalt 1990). The exportation of salmon commercially harvested from the Kuskokwim area has occurred since about 1935 (Pennoyer et al. 1965); however, the fishery did not mature until statehood. During the 1960s and 70s, commercial salmon fisheries in the Kuskokwim area were considered experimental and were managed using adaptive fisheries management. The directed Chinook Salmon commercial fishery was formally closed in 1987 to insure subsistence needs were met, but incidental catch in the Chum and Sockeye Salmon fisheries was still allowed (Schindler et al. 2013). Incidental harvest of Chinook Salmon in the Chum and Sockeye fisheries are limited to 50,000 fish (Hamazaki et al. 2012).

Commercial Chinook Salmon harvest in the Kuskokwim River averaged 23,000 per year during the 1960s and peaked in the 1980s with an average annual harvest of around 39,000 fish. From the 1990s to present commercial harvest of Chinook Salmon has dropped drastically from a peak of around 53,000 fish in 1990 to 0 fish in 2017. The average harvest during this period was around 9,800 Chinook Salmon (**Table 1, Figure 5**; Liller and Smith 2018)

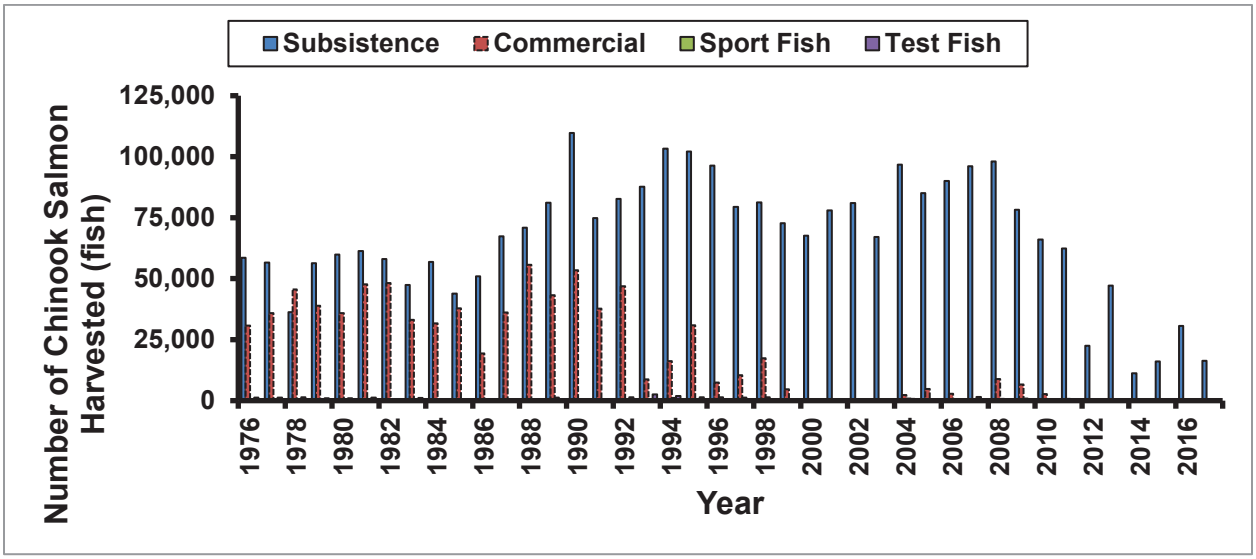


Figure 5. Number of Chinook Salmon harvested in the Kuskokwim River from 1976 to 2017 for Subsistence, Commercial, Sport Fish, and the Bethel Test Fishery (Liller and Smith 2018).

Subsistence

The Kuskokwim River Chinook Salmon subsistence fishery is the largest in Alaska. Before 1990, annual harvest surveys employed various non-standard, ad hoc methods that were not always comparable between years. In 1990, a formal statistical survey protocol was established (Walker and Coffing 1993, Simon et al. 2007). Since 2009, the harvest of Chinook Salmon has been restricted during most years.

From 1990 to 2009, annual subsistence harvest averaged 73,303 fish, with a range of 67,596 fish in 2000 to 109,778 fish in 1990. Since 2009, the annual subsistence harvest has gone down, including the lowest annual harvest on record in 2014 of 11,234 fish (**Table 1, Figure 5**). The most recent five-year (2013–2017), ten-year (2008–2017), and 20-year (1998–2017) average annual subsistence harvest estimates for Chinook Salmon are: 24,305 fish, 44,883 fish, and 63,234 fish, respectively (**Table 3**, Liller and Smith 2018). The Chinook Salmon subsistence harvest for 2017 was 16,380 fish (Liller and Smith 2018). The majority of harvest occurs in the lower river, where the majority of the human population of the drainage resides (**Table 4**).

Table 3. Summary statistics (average, standard deviation, minimum, first quartile, median, third quartile, and maximum) of Chinook Salmon subsistence harvest on the Kuskokwim River by time periods (overall, five year, ten years, twenty years) in comparison to ANS range set by the Alaska Board of Fisheries in 2013.

Chinook Salmon Harvest in Kuskokwim River Subsistence Fishery							
Time Period	**Average**	**SD**	**Min**	**1st Quartile (25%)**	**Median (50%)**	**3rd Quartile (75%)**	**Max**
Overall (1976-2017)	68,052	23,319	11,234	56,432	67,620	83,872	109,778
Five Year (2013-2017)	24,305	14,675	11,234	13,679	16,380	38,895	47,113
10 Year (2008-2017)	44,883	30,141	11,234	16,316	38,895	69,100	98,103
20 Year Average (1998-2017)	63,234	28,959	11,234	34,785	70,198	84,121	98,103
ANS (set in 2013)	88,500	-	67,228	-	-	-	109,778

Table 4. The number of people living at the 40 communities in the customary and traditional use determination for salmon in the Kuskokwim River drainage,1960-2010, based on U.S. Bureau of the Census estimates (ADCCED 2014).

Community	1960	1970	1980	1990	2000	2010	2010 number of households
South Kuskokwim Bay and Coast							
Platinum	43	55	55	64	41	61	19
Goodnews Bay	154		168	241	230	243	76
Quinhagak	228	340	412	501	555	669	165
Newtok	129	114	131	207	321	354	70
Tununak	183	274	298	316	325	327	84
Toksook Bay		257	333	420	532	590	125
Nightmute	237	127	119	153	208	280	59
Mekoryuk	242	249	160	177	210	191	70
Chefornak	133	146	230	320	394	418	92
Kipnuk	221	325	371	470	644	639	153
Kwigillingok	344	148	354	278	338	321	82
Kongiganek		190	239	294	359	439	94
Subtotal	**1,914**	**2,225**	**2,870**	**3,441**	**4,157**	**4,532**	**1,089**
Lower Kuskokwim River Drainage							
Tuntutuliak	144	158	216	300	370	408	96
Eek	200	186	228	254	280	296	91
Napakiak	190		262	318	353	354	96
Napaskiak	154	259	244	328	390	405	94
Oscarville	51	41	56	57	61	70	15
Kasigluk	244		342	425	543	569	113
Nunapitchuk	327	526	299	378	466	496	124
Atmauthluak			219	258	294	277	63
Bethel	1,258	2,416	3,576	4,674	5,471	6,080	1,896
Kwethluk	325	408	454	558	713	721	192
Akiachak	229	312	438	481	585	627	183
Akiak	187	171	198	285	309	346	90
Tuluksak	137	195	236	358	428	373	92
Subtotal	**3,446**	**4,672**	**6,768**	**8,674**	**10,263**	**11,022**	**3,145**
Central Kuskokwim River Drainage							
Lower Kalskag	122	183	246	291	267	282	75
Kalskag	147	122	129	172	230	210	60
Aniak	308	205	341	540	572	501	166
Chuathbaluk		94	105	97	119	118	36
Subtotal	**577**	**604**	**821**	**1,100**	**1,188**	**1111**	**337**
Upper Kuskokwim River Drainage							
Napaimute							
Crooked Creek	92	59	108	106	137	105	38
Georgetown							
Red Devil	152	81	39	53	48	23	12
Sleetmute	122	109	107	106	100	86	36
Stony River	75	74	62	51	61	54	20
Lime Village	32	25	48	42	46	29	11
Subtotal	**438**	**274**	**350**	**345**	**381**	**295**	**119**
Headwaters							
Takotna	40	0	48	38	50	52	41
McGrath	241	279	355	528	401	346	147
Telida							
Nikolai	85	112	91	109	100	94	37
Subtotal	**401**	**465**	**508**	**688**	**562**	**494**	**204**
TOTAL	**6,776**	**8,240**	**11,317**	**14,248**	**16,551**	**17,454**	**4,894**

Black cell=no information available.

Chum Salmon

Commercial

Kuskokwim Fishery Management Area Chum Salmon commercial harvests increased from the 1960s to the 1970s, and subsequently peaked in the 1980s when about 560,000 fish were caught annually. The decadal annual commercial harvests of Chum Salmon average about 330,000 fish in the 1990s, and since the early 2000s have averaged about 60,000 fish. The Chum Salmon commercial fishery dropped off during the early 2000s due to little processor interest coupled with very low prices (Clark et al. 2006). This was followed by a period of increased commercial harvest from 2009 to 2013, then a substantial decrease following the record low Chinook Salmon abundances in 2013. From 2005 to 2014, the average Chum Salmon harvest in the Kuskokwim area was 131,816 fish, with the most recent harvest in 2015 being 21,068 fish (ADF&G 2017). In 2015, there were no directed Chum Salmon commercial opportunities in the Kuskokwim River, with only 507 Chum Salmon estimated to be harvested in the commercial fishery incidental to fishing for Coho Salmon (ADF&G 2017). In 2016, salmon commercial fishing was allowed on July 29 and August 12; however, no commercial salmon processors were available in the area and the opportunity was for catcher/sellers only (ADF&G 2016a and 2016b).

Subsistence

From 1990 to 2015, the subsistence harvest of Kuskokwim River Chum Salmon has averaged 68,736 fish, with a range of 37,770 in 1997 to 100,786 fish in 1996 (Shelden et al. 2016). The recent five-year average (2010–2014) subsistence harvest was 60,212 fish. In 2015, the estimated subsistence harvest was 40,872 fish. Kuskokwim River Chum Salmon subsistence harvest by village and sections of the Kuskokwim River can be found in **Table 5**.

Table 5. Chum Salmon harvest in the Kuskokwim River by village from 2005 – 2015 (Shelden et al. 2016).

Table 5. Estimated number of Chum Salmon harvested for subsistence, Kuskokwim River drainage, based on the annual postseason survey, 2005 to 2015.

CHUM SALMON													
KUSKOKWIM RIVER DRAINAGE													
Community	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2010-2014 average	2005-2014 average
Kongiganak[a]	1,960	2,420	***2,353***	1,755	1,420	2,522	2,809	***1,638***	***1,397***	***1,915***	-	2,056	2,019
Bay	1,960	2,420	2,353	1,755	1,420	2,522	2,809	1,638	1,397	1,915	0	2,056	2,019
Tuntutuliak	3,568	4,024	3,350	***3,375***	3,330	2,439	1,865	2,614	2,180	***2,967***	2,143	2,413	2,971
Eek	***877***	***1,075***	***783***	***788***	782	721	486	1,552	1,232	1,182	1,023	1,035	948
Kasigluk	***4,194***	***5,461***	***4,309***	***1,502***	1,857	2,338	2,029	3,261	2,197	3,612	2,080	2,687	3,076
Nunapitchuk	4,167	5,150	**6,619**	***4,705***	3,468	3,223	4,257	5,312	2,977	5,213	3,631	4,196	4,509
Atmautluak	1,940	***2,337***	2,193	*2,177*	1,665	1,386	1,864	2,701	2,409	3,327	2,165	2,337	2,200
Napakiak	3,238	8,143	3,628	1,313	1,638	1,759	1,546	1,711	1,185	2,392	1,508	1,719	2,655
Napaskiak	2,205	4,323	3,032	2,400	1,451	3,110	1,783	3,216	2,589	3,171	2,173	2,774	2,728
Oscarville	686	1,151	932	847	534	352	402	599	490	599	350	488	659
Bethelb	14,273	20,953	16,540	15,853	10,055	9,575	15,324	26,872	12,506	18,017	10,958	16,459	15,997
Kwethluk	4,328	6,328	6,291	5,729	4,111	3,112	3,484	3,849	3,825	4,318	2,230	3,718	4,538
Akiachak	2,428	4,333	4,782	6,856	2,872	2,856	3,205	4,150	3,417	4,744	2,085	3,674	3,964
Akiak	3,528	3,095	4,141	3,522	1,350	1,163	2,421	***2,925***	2,212	2,982	2,348	2,341	2,734
Tuluksak	2,183	3,094	***3,202***	2,920	1,570	3,180	2,697	2,585	3,062	2,274	1,747	2,760	2,677
Lower Kuskokwim	47,615	69,466	59,803	51,988	34,683	35,214	41,363	61,347	40,281	54,798	34,441	46,601	49,656
Lower Kalskag	997	4,703	1,997	1,004	930	691	1,643	3,284	1,214	1,458	1,233	1,658	1,792
Upper Kalskag	1,201	2,469	294	2,432	329	391	1,599	1,930	1,534	1,038	642	1,298	1,322
Aniak	2,952	3,722	4,108	2,830	2,602	2,515	2,391	5,667	2,880	4,695	1,395	3,630	3,436
Chuathbaluk	530	1,451	***1,541***	593	937	535	686	796	935	805	342	751	881
Kuskokwim	5,680	12,345	7,940	6,859	4,798	4,132	6,319	11,677	6,563	7,996	3,612	7,337	7,431
Crooked Creek	1,064	1,513	***813***	352	519	539	862	610	***1,803***	391	383	841	847
Red Devil	214	41	186	188	244	122	434	516	981	284	48	467	321
Sleetmute	422	1,475	818	373	367	524	689	1,004	542	633	337	678	685
Stony River	***324***	***790***	***540***	1,247	771	338	516	***491***	***27***	***89***	44	292	513
Lime Village[a]	***573***	***316***	***419***	***297***	***405***	***314***	***499***	419	909	295	-	487	445
McGrath	***470***	999	464	676	825	944	476	885	598	642	7	709	698
Takotna	*4*	0	***0***	***0***	***0***	***0***	0	***0***	***12***	***0***	**0**	2	2
Nikolai	230	308	223	54	292	440	349	1,044	513	1,356	2,000	740	481
Telida[a]	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Kuskokwim	3,301	5,442	3,464	3,187	3,423	3,221	3,825	4,970	5,386	3,690	2,819	4,218	3,991
River[b]	58,555	89,674	73,560	63,789	44,324	45,089	54,316	79,631	53,627	68,398	40,872	60,212	63,096

Source: Shelden, Hamazaki, Horne-Brine, and Roczicka 2016.

Note: Dashes indicate harvest was not estimated; bold indicates Bayesian estimates.

[a] Villages not surveyed in 2015. Harvest was not estimated due to lack of recent data.

[b] Kuskokwim River Total includes the Lower, Middle, Upper Kuskokwim areas and North Kuskokwim Bay.

Sockeye Salmon

Commercial

Inriver commercial harvest of Sockeye Salmon has likely been occurring since the early 1900s (Pennoyer et al. 1965). Commercial harvest of Sockeye Salmon was considered incidental to Chum Salmon commercial harvest in the Kuskokwim River from 1987 to 2003; however, in 2004, a guideline incidental harvest level of 0–50,000 Sockeye Salmon was established. District 4 and 5 commercial fisheries, in

Kuskokwim Bay, target Sockeye Salmon (ADF&G 2017). Commercial harvest of Sockeye Salmon from the Kuskokwim area increased from the 1960s through the 1990s with decadal annual averages increased from 5,000 fish in the 1960s to 15,000 fish in the 1970s to 110,000 fish in the 1980s to 160,000 in the 1990s. Annual commercial harvest of Sockeye Salmon since 2000 has average about 70,000 fish (Clark et al. 2006). From 2005 to 2014, the average Sockeye Salmon harvest in the Kuskokwim area was 120,940 fish, with the most recent harvest in 2015 being 56,260 fish (ADF&G 2017). In 2015, limited commercial harvest opportunity was provided by ADF&G, due to overlapping run-timing with Chinook and Chum Salmon and the need to conserve those species. Only 130 Sockeye Salmon were harvested in the Kuskokwim River commercial fishery in 2015 (ADF&G 2017). In 2016, salmon commercial fishing was allowed on July 29 and August 12; however, no commercial salmon processors were available in the area and the opportunity was for catcher/sellers only (ADF&G 2016a and 2016b).

Subsistence

From 1990 to 2015, the subsistence harvest of Kuskokwim River Sockeye Salmon has averaged 42,387 fish, with a range of 31,290 in 1995 to 52,213 fish in 2008 (Shelden et al. 2016). The recent five-year average (2010–2014) subsistence harvest was 43,426 fish. In 2015, the estimated subsistence harvest was 36,781 fish. Kuskokwim River Sockeye Salmon subsistence harvest by village and sections of the Kuskokwim River can be found in **Table 6**.

Table 6. Sockeye Salmon harvest in the Kuskokwim River by village from 2005 – 2015 (Shelden et al. 2016).

Table 6. Estimated number of Sockeye Salmon harvested for subsistence, Kuskokwim River drainage, based on the annual postseason survey, 2005 to 2015.

SOCKEYE SALMON													
KUSKOKWIM RIVER DRAINAGE													
Community	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2010-2014 average	2005-2014 average
Kongiganak[a]	1,103	1,464	***960***	1,502	1,018	1,869	1,266	***1,307***	***1,031***	***1,230***	-	1,341	1,294
Bay	1,103	1,464	960	1,502	1,018	1,869	1,266	1,307	1,031	1,230	0	1,341	1,294
Tuntutuliak	2,145	1,834	1,763	***2,120***	932	2,068	1,274	1,516	1,183	***1,774***	1,999	1,563	1,607
Eek	1,033	***684***	***558***	***834***	1,019	1,241	664	1,490	1,319	1,450	1,111	1,233	1,029
Kasigluk	***1,634***	***2,248***	***1,786***	***1,041***	1,215	1,441	1,269	1,451	1,470	1,990	1,442	1,524	1,546
Nunapitchuk	1,821	1,871	2,147	***2,549***	1,538	1,902	2,223	2,396	1,806	2,059	2,851	2,077	2,055
Atmautluak	1,444	***1,012***	1,041	***1,250***	624	731	827	1,623	1,316	1,531	1,173	1,206	1,106
Napakiak	2,122	1,845	1,962	1,244	917	1,183	1,351	1,141	1,105	1,573	1,179	1,271	1,369
Napaskiak	1,344	1,784	1,738	2,620	1,579	1,979	1,587	2,065	2,069	2,514	2,022	2,043	1,993
Oscarville	278	778	712	677	332	250	228	323	347	679	282	365	481
Bethelb	14,297	12,816	13,902	15,247	11,272	11,103	16,946	18,282	12,616	14,828	11,951	14,755	14,112
Kwethluk	2,457	2,770	3,536	4,920	2,432	2,534	2,357	2,884	2,705	5,921	1,955	3,280	3,340
Akiachak	2,372	2,661	3,269	4,354	2,407	2,433	2,647	3,443	2,594	3,047	2,551	2,833	2,984
Akiak	1,920	2,000	3,695	2,881	1,290	1,161	2,576	***1,818***	1,731	2,418	1,855	1,941	2,174
Tuluksak	987	2,247	***1,845***	2,133	1,691	2,483	1,699	1,380	1,541	622	1,037	1,545	1,738
Lower Kuskokwim	33,854	34,550	37,955	41,869	27,248	30,509	35,648	39,812	31,802	40,406	31,408	35,635	35,533
Lower Kalskag	439	1,434	780	1,583	1,044	507	802	891	977	1,040	487	843	1,006
Upper Kalskag	945	563	417	1,000	369	460	938	770	662	839	718	734	669
Aniak	1,015	692	1,261	1,585	923	1,165	1,168	1,375	1,466	1,578	2,407	1,350	1,246
Chuathbaluk	369	508	***484***	363	564	403	300	297	480	481	382	392	431
Kuskokwim	2,768	3,197	2,942	4,531	2,900	2,535	3,208	3,333	3,585	3,938	3,994	3,320	3,352
Crooked Creek	693	544	***523***	220	329	302	243	234	***514***	391	303	337	367
Red Devil	272	510	318	359	477	475	502	511	270	151	88	382	397
Sleetmute	673	1,181	1,303	1,164	684	1,024	693	715	362	541	497	667	852
Stony River	***688***	***746***	***1,019***	1,476	977	372	303	***469***	447	137	91	346	661
Lime Village[a]	***1,368***	***1,216***	***1,406***	***659***	***1,080***	***932***	***739***	780	***831***	***888***	-	834	948
McGrath	***454***	149	375	417	965	650	630	233	538	451	0	500	490
Takotna	***1***	0	***1***	***3***	***3***	***2***	0	***2***	***2***	***3***	0	2	2
Nikolai	10	20	14	13	66	65	13	0	0	236	400	63	47
Telida[a]	-	-	-	-	-	-	-	-	-	-	-	-	-
Upper Kuskokwim	4,160	4,365	4,960	4,310	4,581	3,822	3,123	2,945	2,964	2,798	1,379	3,130	3,763
River[b]	41,885	43,577	46,817	52,213	35,747	38,735	43,245	47,396	39,382	48,372	36,781	43,426	43,943

Source: Shelden, Hamazaki, Horne-Brine, and Roczicka 2016.

Note: Dashes indicate harvest was not estimated; bold indicates Bayesian estimates.

[a] Villages not surveyed in 2015. Harvest was not estimated due to lack of recent data.

[b] Kuskokwim River Total includes the Lower, Middle, Upper Kuskokwim areas and North Kuskokwim Bay.

Effects of Windowed Closures on Subsistence Harvest

The proponent states that ADF&G's Kuskokwim River Salmon Management Plan requires the State to close the Chinook Salmon fishery through June 11 every year, which is implemented through a closure to the use of gillnets. The proponent notes that there should be opportunity to harvest Chinook Salmon before June 11 every year, and that this opportunity be provided between rolling closures implemented sequentially up the river in a step-wise progression consistent with Chinook Salmon run timing The

proponent is seeking to establish "pulse" protection for Chinook Salmon similar to how Chinook Salmon in the Yukon River are managed.

During the years in which the closures were implemented, skepticism about the effectiveness of windows to alter the harvest timing pattern became apparent. Chinook Salmon returns began to increase to the same levels as the early 1990s. At the time, this suggested that the increase of escapement was not due to the windows, but to an increase in the Chinook Salmon run size. Additionally, reducing fishing days did not equate to a reduction in harvest because subsistence users could increase fishing efforts during the open periods and harvest the same number of fish per week as without the scheduling. In order to look into these claims, ADF&G produced a study that evaluated the effectiveness of the window scheduling on the subsistence harvest pattern in Bethel (Hamazaki 2008).

Results from Hamazaki 2008 showed that the "windowed", or rolling closures had no effect on changing the front-loaded subsistence harvest pattern. The study stated the primary reason for the failure was that the windows were not restrictive enough to reduce subsistence fishing opportunities and harvest. Subsistence users in the study fished, on average, less than four days a week even before implementation of the scheduling, and they were able to increase harvests when they fished because of increased harvesting efforts or increased Chinook Salmon returns since 2001. The study also documented unexpected impacts of the closures on subsistence fishing. While the windows did not reduce the subsistence users fishing opportunities effectively, the closures did synchronize their fishing dates, which removed their ability to determine fishing dates based on their needs and availability of fish. This action had the unintended effects of intensifying competition for good fishing sites, as well as increasing uncertainties in harvesting sufficient numbers of fish. The study concluded, the windows failed to alter the front-load subsistence fishery harvest timing primarily because of the lack of understanding about tradition and culture of subsistence fisheries. After the closures were discontinued in 2007, the issues deriving from the front-loaded subsistence harvest timing remained: (1) the front-loaded harvest pattern causes higher exploitation of upper river stocks and (2) reduced harvest opportunities for the upper river communities. In somewhat of a prophetic statement considering current events, Hamazaki 2008 commented "Unless this harvest pattern is altered, these issues will resurface when the Chinook Salmon return declines." This issue did return starting in 2010 with declines in the return of Chinook Salmon. The "windowed" closure system appeared once more in 2012 before the passage of the renewed Kuskokwim River Salmon Management Plan in 2013. In 2016, the Alaska Board of Fisheries passed a regulation stating the Chinook Salmon fisheries be closed through June 11 each year, which has been implemented through a complete gillnet closure with limited four inch set net opportunities. The goal of this regulation was to alter the front-loaded nature of this fishery in order to provide an equitable distribution of harvest to middle and upper river communities during times of Chinook Salmon conservation.

Cultural Knowledge and Traditional Practices

Members of 40 Federally-recognized Tribes live in the Kuskokwim Fishery Management Area. The majority of people in the area are *Yup'ik* Eskimos. Yup'ik people self-recognize as belonging to a number of confederations of villages: *Qaluyaarmiut* on Nelson Island, *Nunivavaarmiut* on Nunivak Island,

Canineqmiut along the coastal area from the mouth of the Kuskokwim River to Nelson Island, and *Kusquqvagmiut* in the lower and middle Kuskokwim River drainage. *Deg Hit'an* (or Ingalik), Upper Kuskokwim, and *Dena'ina* Athabascan peoples live in the villages along the middle and upper Kuskokwim River drainage (Oswalt 1980, Fienup-Riordan 1984). The populations of Kuskokwim River region communities from 1960-2010, as provided by the U.S. Census Bureau, are included in **Table 4**.

Many forces of change have influenced people's subsistence uses of salmon. One is the increased use of motorized boats, snowmachines, and airplanes that replaced dog sleds as the primary mode of transportation. Many families no longer find it necessary to harvest wild resources in order to feed the dogs that were once owned by almost every family. In the Kuskokwim River drainage, Kuskokwim Bay, and adjacent coastal area, people fed their dogs with mainly Chum and Sockeye Salmon that were harvested later than Chinook Salmon. Dogs ate massive amounts of fish. These circumstances have changed and fewer families now own dogs, thereby greatly reducing subsistence harvests of Chum and Sockeye Salmon since the 1960s (Ikuta et al. 2013).

Most non-Natives living in the Kuskokwim Fishery Management Area reside in the regional hubs of Bethel, Aniak, and McGrath, which house Federal and State governments, transportation, trade, and services. Historically, non-Natives entered the area to mine, trade, missionize, homestead, and recreate. Some contemporary village sites were staging areas for these activities (Oswalt and VanStone 1967; Fienup-Riordan 1983, 1984; Kilbuck 1988; Oswalt 1990).

The population of the Kuskokwim Fishery Management Area almost tripled in the 50 years between 1960 and 2010 (ADCCED 2014). In 1960, the U.S. Census Bureau estimated that 6,776 people lived in the area. In 2010, an estimated 17,454 people living in 4,894 households were described as permanent residents of the villages in the Kuskokwim Fishery Management Area by the U.S. Census Bureau (**Table 4**).

Historically, in the lower and middle Kuskokwim River drainage, subsistence activities centered around fish, furbearers, and migratory birds. Moose and caribou were rarely present until recently. The fact that salmon are overwhelmingly the most important food item also influences the nature of the subsistence activities in this area (Oswalt 1959, 1990). When salmon traditionally began their ascent of the Kuskokwim River, there was no way to foretell whether the run would be strong or weak, and so from the time the run began, men fished from their boats with long gill nets for much of the afternoon and night. The yearly salmon run assured people of the availability of a predictable source of food. Usually about a week before Chinook Salmon arrived, Sheefish were caught in these nets. No fish was unutilized; in fact, the entire fish was used as food for humans or dogs. Once commercial goods became available, store-bought necessities frequently included sugar, salt, flour, milk, coffee, tea, tobacco, and cooking fats. Other foods purchased included various canned meats and fish, crackers, candy, carbonated beverages, canned fruits, potatoes, onions, and rice. The frequency with which these were consumed depended upon the cash or fur income of the family involved (Oswalt 1959).

In 2012, Ikuta et al. (2013) observed that elders in particular expressed concern about the consequences of not taking proper care of fish. Traditionally, it was said that if people keep fishing in the correct manner, there will be more fish every year. It was widely agreed upon among the people the authors talked to

that if fish were wasted or disrespected, there would not be as many fish returning in the future. Fish remains were treated with great respect, so that the fish would not tell others to avoid these people. "A traditional Yup'ik belief is that fish go away if they are not used, and taken care of" (Ikuta et al. 2013:15).

Traditionally and historically, in the Kuskokwim Area, people organized much of their lives in pursuit of wild resources in order to redistribute their surpluses during winter ceremonial seasons and during more informal sharing, such as funeral and birthday gatherings or hosting family and friends. "Status and authority accrued to the one who could afford to give" (Fienup-Riordan 1984:69). People continue to organize traditional winter ceremonies. Some are organized concurrently with American holiday celebrations or have merged with gatherings to celebrate Independence Day, Thanksgiving, Christmas, and Easter. High harvesters are also high givers, and giving to other households may be a primary motivation for high production by some households (Wolfe et al. 2007).

The Impact of Overlapping Salmon-Run Management on Subsistence Users

Management of Chinook Salmon affects management of other species of salmon because run timing overlaps considerably (**Figure 3**). In recent years, people have been restricted from salmon fishing or using effective gear types such as large-mesh gillnets even when the majority of salmon in the river was Chum and Sockeye Salmon. For example in 2017, the drainage was closed to the harvest of Chinook Salmon from May 20 through June 11. From June 12 through July 3, only four opportunities to harvest salmon with gillnets with up to 6-inch mesh were provided: three 12-hour opportunities and one 6-hour opportunity. People could harvest Chum and Sockeye Salmon while live releasing Chinook Salmon with hook and line, dipnet, fish wheels, and seines. However, this methods are not traditional and are not as efficient as the gillnets, which are traditional to the residents living in the Kuskokwim area. These methods do not allow people to harvest Chum and Sockeye Salmon in large enough numbers to fill smokehouses.

Drying and Smoking Salmon

Hiroko Ikuta and others conducted research on subsistence salmon fisheries in 2012 (Ikuta et al. 2013). In their report, they describe how people dry and smoke salmon because it is necessary for understanding some of the impacts of early salmon fishing season closures on subsistence users that dry and smoke salmon. The closures occur early in the season, when weather is more likely to be warm and dry. The authors discuss why warm and dry weather are necessary to successfully dry and smoke salmon.

> Salmon are cut into fillets and various parts of the fish (i.e., fillets, heads, bones, and roe) are processed into different final products. A portion of deboned King [Chinook] Salmon fillets are often processed into a popular product known locally as strips. These are made by slicing deboned King Salmon fillets in lengthwise strips. The strips are brined, hung to dry in covered, outdoor racks for a few days to a week, then hung in the smokehouse where wood smoke saturates the flesh with preserving compounds and they dry more completely. This method is also referred to as a cold-smoke process, so-called because drying occurs at temperatures sufficiently low to prevent cooking of the fish. Cold-smoking is a process wherein brining, drying, and smoking each contributes to the

> fish's preservation. Proper drying of fish for preservation in a cold-smoke process cannot occur at high relative humidity. Cold-smoking of strips is one of the preferred processing methods for King Salmon in many parts of the Kuskokwim River because individuals of the species tend to be very large. Large, thick fillets will often not dry thoroughly before spoiling, unless the ambient relative humidity of the fish rack is sufficiently low and the ratio of surface area to mass of the flesh is greatly increased as it is in these strips (Ikuta et al. 2013:124).
>
> Smaller species of salmon such as Chum, Sockeye, and Coho Salmon, are often processed into a product known locally as dry fish. In this process, salmon are headed, gutted, and filleted. The fillets are cross-cut through the flesh down to the internal surface of the skin. These fillets are hung on a covered fish rack for several days until dry. The cross-cutting of the fillets increases the ratio of surface to mass of the flesh, allowing quicker and more complete air-drying. It is usually unnecessary for the processors to cut smaller fish into strips, because cross-cutting the thinner fillets sufficiently increases the surface area to mass ratio and allow for drying. Large King Salmon fillets are also processed in this fashion by some fishers when weather conditions permit it. Some fishers refer to these as slabs or blankets (Ikuta et al. 2013:124).

Use and Sharing

Comprehensive household subsistence surveys can provide a glimpse of subsistence use within a given community, including the level of use of individual resources and local patterns of sharing for these resources. For the region represented by this proposal, comprehensive household subsistence surveys that include Chinook Salmon harvest were periodically conducted by ADF&G in several communities (**Table 7)**. The Chinook Salmon harvest and use represented in **Table 7** include all gear types including commercial retention. A large percentage of households in these communities used Chinook Salmon in the study years except Takotna in which only 36% of households harvested Chinook Salmon in 2011.

Within the available data, Takotna had the lowest per capita harvest (1lb. in 2011) and Stony River had the greatest (147 lb. in 2009). As a percentage of total per capita harvest of wild resources, Chinook Salmon contributed the least in Takotna in 2011 (1%) and the most in Stony River in 2009 (nearly 28%). Sharing of salmon resources as represented by giving and receipt in Table 10 was common for communities with available data. Sharing includes distribution within and outside of the community. No households in Takotna gave away Chinook Salmon in 2011. Takotna households reported that they chose to forgo fishing to take jobs during the local airport construction and, among those households that fished for Chinook Salmon, only half were successful (Ikuta et al. 2014).

Table 7. Chinook Salmon harvest, use, and sharing among communities in the Kuskokwim River drainage, based on the most recently collected ADF&G subsistence survey data (ADF&G 2018). Includes only those communities for which Chinook salmon harvest and use data is available. *Estimated harvest is reported in number of individuals for Chinook Salmon and pounds for both All Fish and All Resources. These estimates fall within a range exhibiting varying confidence intervals and are included here for reference only.

Resource	% Households Using	Estimated Harvest*	Lbs. Harvested per Capita	% Households Giving Away	% Households Receiving
South Kuskokwim Bay and Coast					
Quinhagak, 2013					
Chinook Salmon	87	3,802	57	40	44
All Fish	97	108,422	148	61	88
All Resources	100	215,950	295	78	95
Tununak, 1986					
Chinook Salmon	100	411	23	46	55
All Fish	100	254,651	777	82	100
All Resources	100	358,100	1,093	97	100
Lower Kuskokwim River Drainage					
Tuntutuliak, 2013					
Chinook Salmon	82	2,511	67	45	42
All Fish	100	97,339	236	67	84
All Resources	100	149,047	361	81	99
Eek, 2013					
Chinook Salmon	73	784	25	38	34
All Fish	97	45,908	132	70	72
All Resources	100	84,775	244	81	95
Napakiak, 2011					
Chinook Salmon	77	2,552	76	30	30
All Fish	96	26,423	383	55	70
All Resources	96	36,033	489	73	86

Table 5 (Continued).

Resource	% Households Using	Estimated Harvest*	Lbs. Harvested per Capita	% Households Giving Away	% Households Receiving
Napaskiak, 2011					
Chinook Salmon	91	4,227	83	39	45
All Fish	100	29,168	279	55	77
All Resources	100	41,197	410	80	98
Oscarville, 2010					
Chinook Salmon	100	1,097	164	42	25
All Fish	100	5,341	425	67	75
All Resources	100	6,712	521	75	100
Nunapitchuk, 1983					
Chinook Salmon	N/A	4,262	140	N/A	N/A
All Fish	N/A	298,635	653	N/A	N/A
All Resources	N/A	366,521	802	N/A	N/A
Bethel, 2012					
Chinook Salmon	37	7,846	13	20	33
All Fish	93	563,935	99	53	80
All Resources	97	940,426	166	70	92
Kwethluk, 2010					
Chinook Salmon	95	5,459	72	43	51
All Fish	98	38,715	255	58	73
All Resources	100	53,815	364	77	99
Akiachak, 1998					
Chinook Salmon	96	12,131	394	51	33
All Fish	99	469,321	897	78	74
All Resources	99	694,676	1328	91	91

Table 5 (Continued).

Resource	% Households Using	Estimated Harvest*	Lbs. Harvested per Capita	% Households Giving Away	% Households Receiving
Akiak, 2010					
Chinook Salmon	57	5,229	128	44	37
All Fish	97	46,554	501	63	67
All Resources	100	58,821	616	78	95
Tuluksak, 2010					
Chinook Salmon	76	3,798	79	38	32
All Fish	85	25,585	260	59	68
All Resources	99	43,936	359	81	91
Central Kuskokwim River Drainage					
Lower Kalskag, 2009					
Chinook Salmon	86	2,034	64	25	49
All Fish	94	39,087	131	41	83
All Resources	97	55,793	187	57	94
(Upper) Kalskag, 2009					
Chinook Salmon	79	3,576	67	30	39
All Fish	92	120,187	240	48	65
All Resources	96	147,316	294	66	84
Aniak, 2009					
Chinook Salmon	79	3,576	67	30	39
All Fish	92	120,187	240	48	65
All Resources	96	147,316	294	66	84
Chuathbaluk, 2009					
Chinook Salmon	90	875	68	23	47
All Fish	97	21,909	179	40	67
All Resources	100	29,874	244	60	87

Table 5 (Continued).

Resource	% Households Using	Estimated Harvest*	Lbs. Harvested per Capita	% Households Giving Away	% Households Receiving
Upper Kuskokwim River Drainage					
Crooked Creek, 2009					
Chinook Salmon	82	841	69	30	30
All Fish	94	23,058	200	49	64
All Resources	97	28,259	245	76	73
Red Devil, 2009					
Chinook Salmon	73	148	44	18	46
All Fish	100	8,346	262	27	82
All Resources	100	9,742	305	45	91
Sleetmute, 2009					
Chinook Salmon	88	1,041	109	41	38
All Fish	97	29,770	330	63	81
All Resources	100	36,547	405	81	91
Stony River, 2009					
Chinook Salmon	58	982	147	25	25
All Fish	100	29,033	458	83	83
All Resources	100	33,726	533	67	92
Lime Village, 2007					
Chinook Salmon	86	341	142	57	57
All Fish	100	4,125	606	86	71
All Resources	100	5,539	935	100	100

Table 5 (Continued).

Resource	% Households Using	Estimated Harvest*	Lbs. Harvested per Capita	% Households Giving Away	% Households Receiving
Headwaters					
Takotna, 2011					
Chinook Salmon	36	5	1	0	36
All Fish	57	276	10	36	50
All Resources	100	1,603	162	79	93
McGrath, 2011					
Chinook Salmon	71	1,157	31	20	54
All Fish	96	7,830	92	48	77
All Resources	99	13,859	236	77	93
Nikolai, 2011					
Chinook Salmon	79	1,143	92	35	58
All Fish	85	5,583	207	58	77
All Resources	100	8,218	499	85	92

Current Events

Proposals FP19-08, FP19-09, and FP19-10 request the Board to adopt into regulation actions that have been previously accomplished by special actions issued to manage the harvest of Chinook Salmon in Refuge waters since 2016. Proposals FP19-08 and FP19-09 deal with the timing of gillnet restrictions and how harvest opportunity will be managed during gillnet restrictions, while FP19-10 deals with what parts of Refuge waters remain open during gillnet restrictions. All of these requests deal with specifics about timing and manner of the fishery closures and harvest opportunities, and the location of harvest opportunities during closures. These are management topics that could benefit from a more coordinated and collaborative effort to develop permanent Federal regulations related to Chinook Salmon on the Kuskokwim River. Regardless of whether or not Proposal FP17-05 is approved, the adoption of any of these proposals would require the Federal in-season manager to continue to issue emergency special actions in order to adjust for in-season management in the absence of a complete plan for Federal subsistence fisheries management.

Other Alternatives Considered

If adopted, Proposal FP17-05 in combination with any of the other Kuskokwim area proposals submitted during this cycle (FP19-08, FP19-09, and FP19-10) would effect Federal subsistence management for the Kuskokwim Area. A potential alternative for consideration would be to defer all of the Kuskokwim area proposals (FP17-05, FP19-08, FP19-09, and FP19-10) and direct OSM staff to facilitate the development of a collaborative Federal subsistence management plan that would outline strategies for management Federal subsistence fisheries in the Kuskokwim Area. The approaches found in the current fisheries regulatory proposals for the Kuskokwim Area are valid approaches to fisheries management. However, it may be more effective to develop a full suite of permanent regulations through coordinated efforts with the parties identified in the Kuskokwim Area delegation of authority letter. This potential alternative would provide a mechanism to allow a larger group involved with all entities the time to submit a larger proposal that would become a Federal subsistence fisheries management plan for the Kuskokwim area.

Effects of the Proposal

If this proposal was adopted, when restrictions to gillnets were necessary, the Federal in-season manager would be required to implement rolling closures sequentially up the Federal public waters of the Kuskokwim River drainage in a step-wise progression consistent with Chinook Salmon run-timing.

Current Federal regulations for the Kuskokwim area State that Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under ADF&G emergency orders issued, unless superseded by Federal Special Action. If adopted, this proposed regulation would supersede any State emergency orders that restrict six-inch or less gillnets in Federal public waters of the Kuskokwim River drainage between June 1 and June 25. The proposed regulation would compel the in-season manager to restrict the subsistence fisheries to only Federally qualified subsistence users if restrictions to gillnets were necessary. The Federal in-season manager would then proceed to manage subsistence fishery methods via gillnet restrictions and managing time and area restrictions via rolling closures implemented sequentially up the Federal public waters of the

Kuskokwim River drainage in a step-wise progression consistent with Chinook Salmon run-timing. Effectively, any gillnet fishing that occured between June 1 and June 25 would have to be implemented by the Federal in-season manager via Federal special action, rather than through the State emergency order process.

Federal special actions issued by the Federal in-season manager for the Kuskokwim area or the Board could still restrict the use of gillnets before June 1 if in-season indicators suggests conservation of healthy populations concerns, continuation of subsistence uses concerns, or population viability issues. If adopted, the proposed changes would not prohibit the Federal in-season manager from using his or her emergency special action authority to restrict or liberalize the fishery as seen fit through delegated authority from the Board.

If adopted, the biological effects of the proposed changes would be highly dependent on the state of salmon populations in the Kuskokwim River, and how the Federal in-season manager opts to manage the fishery. Given pulses of Chinook Salmon have not been as clearly observed on the Kuskokwim River like they have been on the Yukon River and run-timing/migratory patterns are high uncertain, implementing pulse protection as intended by the proposed regulation may have consequences for tributary specific stocks if pulses were misidentified. The use of pulse protection or rolling closures would have effects on the harvest other salmon stocks (Sockeye and Chum Salmon) that co-migrate with Chinook Salmon during the majority of the time specified in the proposed regulation.

If adopted, the proposed regulation may have effects on traditional subsistence use patterns. As shown from study of past windowed closures (Hamazaki 2008), although the "windowed/rolling" closures did not reduce fishing harvests effectively, they did synchronize fishing dates. This had the effect of removing subsistence users' ability to determine fishing dates based on their needs and availability of fish. If adopted, the proposed regulation may intensify competition for good fishing sites, as well as increase subsistence user uncertainties in harvesting sufficient numbers of fish. However, if adopted, the proposed changes would provide subsistence users a good idea of when restrictions to gillnets could occur (between June 1 and June 25). The proposed changes may provide additional opportunity by clarifying that the use of eight-inch or less mesh size gillnets would not be restricted, except if necessary.

If adopted, the proposed changes would provide some clarity to the in-season manager on when gillnet restrictions could take place in absence of any in-season information. Closures to non-Federally qualified subsistence users for Chinook Salmon would be situated around June 1 date because Federally qualified subsistence users would be unaffected by the State regulation that requires Chinook Salmon subsistence fishery to close before June 11 that has been implemented from 2016 via a ban to subsistence fishing with gillnets.

Lastly, if adopted, the proposed changes directing the Federal in-season manager to use rolling closures as a conservation measure if necessary to protect the Chinook Salmon returns would limit management options; however, the Federal in-season manager could always use their delegated authority to institute other actions through an emergency special action if deemed necessary and justifiable.

If the proposed changes are not adopted, Federal subsistence fishing schedules, openings, closings, and fishing methods would be the same as those issued for the subsistence taking of fish under ADF&G emergency orders issued, unless superseded by Federal Special Action. The Federal in-season manager for the Kuskokwim area would still retain emergency order authority through the delegation of authority letter authorized by the Board.

OSM PRELIMINARY CONCLUSION

Support Proposal FP19-08 **with modification** to change the end date to July 15 and to remove language about implementing rolling closures consistent with Chinook Salmon run-timing.

The modified regulation should read:

> ***§___.27(e)(4) Kuskokwim Area***
>
> *(ii) For the Kuskokwim area, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060),* ***or specified in the sections below****, unless superseded by a Federal Special Action*
>
> * * * *
>
> ***(xvii) From June 1 through July 15, the use of six-inch or less mesh size gillnets will only be restricted unless necessary.***

Justification

The OSM preliminary conclusion for this analysis is assuming Board action taken on FP17-05 reflects the OSM preliminary recommendation provided in that analysis, to support adoption. The OSM preliminary conclusion for this proposal is advocating support with modification as it would provide a framework for management in the event that FP17-05 were adopted.

By June 25, the proportion of the Chinook Salmon run passing Bethel ranges from 14 – 90%, with most values falling between 54 – 69%, and a median of 62%. By July 15, the proportion of the Chinook Salmon run passing Bethel ranges from 87 - 99%, with most values falling between 97 – 99%, and a median of 98%. The Chinook Salmon run around the Bethel area is essentially done by July 15, while around 40% of the run is still passing through Bethel by the June 25 date proposed in this regulation. In addition, from 2015 – 2017, the Federal in-season manager has typically rescinded any Federal special actions in the Kuskokwim area by the first week of July, and this is a time period in which local users commonly stop fishing for Chinook Salmon and move on to harvesting other more abundance salmon species such as Chum, Sockeye, and Coho salmon.

Rolling closures have been shown not to work in the Kuskokwim area. Pulse protection similar to the management scheme used in the Yukon River has not been implemented in the Kuskokwim River because information on run-timing and migration patterns is not known for the entire drainage, is highly uncertain, and pulses of Chinook Salmon are not as clearly identifiable as in the Yukon River. Combined with the relatively small area of Federal public waters in the Kuskokwim River, pulse protection would more than likely be ineffective. Placing language in regulation like what is proposed in this regulatory request would limit the Federal in-season manager from using other management tools to conserve the Chinook Salmon stocks, as well as make it difficult to determine fishing opportunities during the season given uncertainty in pulses of Chinook Salmon in the Kuskokwim River.

By removing the language about implementing rolling closures consistent with Chinook Salmon run-timing, the Federal in-season manager remains flexible to control fishing schedules, opening, closings, and methods, while still giving the Federal in-season manager a directive on time periods in which restrictions to six-inch or less mesh gillnets could be issued. Management strategies for the salmon seasons would be in determined by the Federal in-season manager, in collaboration with the Kuskokwim River Inter-Tribal Fish Commission and other Federal and State management entities.

The regulations as modified would help clearly signal subsistence users what periods in which restrictions to gillnets would be likely to occur, as well as give clear indications as to who would be managing the salmon fisheries for a given year.

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APPENDIX 1

FEDERAL SPECIAL ACTIONS AND STATE EMERGENCY ORDERS 2014–2017

SALMON MANAGEMENT IN 2014

Appendix Table 1-1. Federal special actions, Kuskokwim River drainage, 2014.

2014 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-01-14	May 20–July 18, 2014	Federal public waters of the Kuskokwim drainage are closed to the harvest of Chinook salmon except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek.
SA 3-KS-02-14	May 20–July 14, 2014	Mouth upriver to Tuluksak is closed to the harvest of Chinook salmon by all users.
SA 3-KS-03-14	May 27–July 18, 2014	Tuluksak upriver to Refuge boundary at Aniak is closed to the harvest of Chinook salmon by all users
SA 3-KS-04-14	June 11–June 30, 2014	Federal public waters of the Kuskokwim drainage are closed to the harvest of Chinook salmon except by residents of communities issued Social and Cultural Permits fishing with gillnets 6-inch or less mesh size not exceeding 50-fathoms long and 45-meshes deep.
SA 3-KS-05-14 (see EO 3-S-WR-07-14)	June 20, 2014	Mouth upriver to Tuluksak is closed to the harvest of Chinook salmon except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek fishing with gillnets 6-inches or less mesh size not exceeding 50-fathoms long and 45-meshes deep, for 4 hours.
SA 3-KS-06-14	June 20–July 14, 2014	Below the southern tip of Eek Island is closed to the harvest of Chinook salmon except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek fishing with gillnets 6-inch or less mesh size not exceeding 50-fathoms long and 45-meshes deep.
SA 3-KS-07-14	June 24–July 14, 2014	For the Kuskokwim area, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060). Two Special Actions remain in effect, 3-KS-01-14 and 3-KS-04-14, unless superseded by a Federal Special Action.

Appendix Table 1-2. State emergency orders, Kuskokwim River drainage, 2014.

2014 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Orders	**Effective Date**	**Action**
Board of Fisheries (3/17/14)	Emergency regulation that was adopted into permanent regulations	Dip nets are legal gear for harvesting salmon other than Chinook salmon during times of Chinook salmon conservation. A dip net is a bag-shaped net supported on all sides by a rigid frame; the maximum distance between any two points on the net frame may not exceed 5 feet; the bag of the frame must be at least one-half the distance of the maximum frame opening; the webbing of the net may not exceed 4.5-inches stretch mesh.
Board of Fisheries (3/17/14)	Emergency regulation that was adopted into permanent regulations	Only gillnets less than 25 fathoms are legal gear during times of Chinook salmon conservation. Gillnets may be over 25-fathoms in total length, but must be tied and/or bagged in such a way that only 25-fathoms can be used to fish.
EO 3-KS-01-14 Sport fishing	May 1, 2014	All waters of the Kuskokwim–Goodnews Area are closed to sport fishing for Chinook salmon. Only one unbaited, single-hook, artificial lure may be used. All Chinook salmon caught unintentionally in the Kuskokwim-Goodnews Area while fishing for other species may not be removed from the water and must be released immediately.
EO 3-S-WR-01-14	June 1, 2014	Aniak River upriver to Holitna River, fishing for Chinook salmon is closed. Fishing for non-salmon species with gillnets is restricted to 4-inch or less mesh size not exceeding 60-feet long and 45 meshes deep.
	June 4, 2014	Holitna River upriver to headwaters, fishing for Chinook salmon is closed. Fishing for non-salmon species with gillnets is restricted to 4-inch or less mesh size not exceeding 60-feet long and 45 meshes deep.
EO 3-S-WR-02-14	June 1, 2014	Marine waters near the Kuskokwim River mouth (Ishkowik River to the northern boundary of District W-4 at Weelung Creek) are closed to salmon fishing.
EO 3-S-WR-03-14	June 3, 2014	Naskonat Peninsula to Ishkowik River (coastal waters including Nelson Island), fishing for salmon is restricted to gillnets with 6-inch or less mesh size.
	June 10, 2014	Aniak River upriver to Holitna River, fishing for Chinook salmon with a hook and line attached to a rod or pole is closed.

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Appendix Table 1-2. State emergency orders, Kuskokwim River drainage, 2014 (*continued from previous page*).

2014 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Orders	**Effective Date**	**Action**
EO 3-S-WR-05-14	June 14–30, 2014	Mouth to Tuluksak, fishing with dip nets will be allowed for 12 hours daily, from 9:00 a.m. to 9:00 p.m. Any king salmon caught in a dip net must be returned immediately to the water unharmed.
	June 17–30, 2014	Tuluksak to Refuge boundary at Aniak, fishing with dip nets will be allowed for 12 hours daily, from 9:00 a.m. to 9:00 p.m. Any king salmon caught in a dip net must be returned immediately to the water unharmed. This section does not include the slough (locally known as Utak Slough) on the northwest side of the Kuskokwim River adjacent to the Tuluksak River mouth.
EO 3-S-WR-06-14	June 19, 2014 until further notice	Aniak River to headwaters, fishing with dip nets will be allowed for 12 hours daily, from 9:00 a.m. to 9:00 p.m. Any Chinook salmon caught in a dip net must be returned immediately to the water unharmed.
	June 19, 2014 until further notice	Aniak River to headwaters, fishing with fish wheels will be allowed. Fish wheels are required to have a live box with no less than 45 cubic feet of water, must be checked at least every 6 hours, and all Chinook salmon must be returned to the water alive.
EO 3-S-WR-07-14 (see SA 3KS-05-14 and 3-KS-06-14)	June 20, 2014	Johnson River downriver to southern tip of Eek Island, fishing for chum and sockeye salmon is allowed with gillnets 6-inch or less mesh size not exceeding 50-fathoms long and 45-meshes deep, for 4 hours.
	June 20, 2014	Marine waters near the Kuskokwim River mouth (Ishkowik River to the northern boundary of District W-4 at Weelung Creek), fishing for chum and sockeye salmon is allowed with gillnets 6-inch or less mesh size not exceeding 50-fathoms long and 45-meshes deep, until further notice.
EO 3-S-WR-08-14	June 24, 2014 until further notice	Johnson River downriver to southern tip of Eek Island, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh size not exceeding 50-fathoms long and 45-meshes deep, until further notice from 8:00 a.m. until 4:00 p.m.
	June 24, 2014	Tuluksak downriver to Johnson River, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh size not exceeding 25-fathoms long and 45-meshes deep from 10:00 a.m. until 2:00 p.m. (4 hours). This section includes the slough (locally known as Utak Slough) on the northwest side of the Kuskokwim River adjacent to the Tuluksak River mouth.

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Appendix Table 1-2. State emergency orders, Kuskokwim River drainage, 2014 (*continued from previous page*).

2014 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Orders	**Effective Date**	**Action**
EO 3-S-WR-09-14	June 24, 2014 until further notice	*Aniak River downriver to southern tip of Eek Island, fishing will remain open to gillnets with 4-inch or less mesh size not exceeding 60-feet long and 45 meshes deep. Fishing for Chinook salmon with a hook and line attached to a rod or pole will remain closed until further notice* [already closed].
EO 3-S-WR-10-14	June 27, 2014 until further notice	Johnson River to southern tip of Eek Island, fishing for chum and sockeye salmon will be allowed with gillnets 6-inch or less mesh size not exceeding 50-fathoms long.
	June 27, 2014	Tuluksak downriver to Johnson River, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh not exceeding 50-fathom long from 10:00 a.m. until 6:00 p.m. (8 hours).
	June 27, 2014	Tuluksak upriver to Chuathbaluk, fishing for chum and sockeye salmon will be allowed with gillnets 6-inch or less mesh size not exceeding 50-fathoms long from 10:00 a.m. until 6:00 p.m. (8 hours).
EO 3-S-WR-11-14	June 30, 2014 until further notice.	Tuluksak downriver to Johnson River, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh size not exceeding 50-fathoms long.
	June 30, 2014 until further notice.	Tuluksak upriver to Chuathbaluk, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh size not exceeding 50-fathoms long.
	June 30, 2014	Chuathbaluk upriver to Holitna River, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh size not exceeding 50-fathoms long from 10:00 a.m. to 6:00 p.m.
EO 3-S-WR-12-14	June 30–July 12, 2014	Mouth upriver to Chuathbaluk, fishing with dip nets will be allowed, 24 hours per day, from 9:00 p.m. Monday, until 9:00 p.m. Saturday. Any king salmon caught in a dip net must be returned immediately to the water unharmed.
EO 3-S-WR-13-14	July 1, 2014 until further notice	Naskonat Peninsula to Ishkowik River (coastal waters including Nelson Island), fishing with gillnets with unrestricted mesh size will be allowed.

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Appendix Table 1-2. State emergency orders, Kuskokwim River drainage, 2014 (*continued from previous page*).

2014 KUSKOKWIM RIVER DRAINAGE		
SUBSISTENCE FISHING		
State Emergency Orders	**Effective Date**	**Action**
EO 3-S-WR-14-14	July 3, 2014 until further notice	Chuathbaluk upriver to Holitna River, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh size not exceeding 50-fathoms long.
	July 3, 2014 until further notice	Holitna River upriver to headwaters, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh size not exceeding 50-fathoms long.
	July 3, 2014 until further notice	Chinook salmon fishing with hook and line gear with a daily bag limit of 3 and no possession, season, or size limits will be allowed.

SALMON MANAGEMENT IN 2015

Appendix Table 1-3. Federal special actions, Kuskokwim River drainage, 2015.

2015 YUKON DELTA NATIONAL WILDLIFE REFUGE KUSKOKWIM RIVER DRAINAGE–SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-01-15	May 21–July 20, 2015	All waters within and adjacent to the Refuge boundary are closed to the harvest of **Chinook Salmon** except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek.
SA 3-KS-02-15	May 21–28, 2015	The mouth of the Kuskokwim River upriver to Tuluksak and its salmon tributaries within and adjacent to the Refuge boundary are closed to the harvest of **Chinook Salmon** by all users. Salmon tributaries are the Eek, Kwethluk, Kasigluk, Kisaralik, and Tuluksak rivers and their salmon tributaries. Gillnets must be set and are restricted to 4-inch or less mesh size not exceeding 60-feet long and 45-meshes deep, only 72 hours/week, 6:00 am Thur.–6:00 am Sunday.
SA 3-KS-03-15	May 28–July 20, 2015	The Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary are closed to the harvest of **Chinook Salmon** by all users (**Appendix Figure C-1**).
SA 3-KS-04-15	June 7–July 20, 2015	Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak rivers and their salmon tributaries within and adjacent to the boundaries of the Refuge are closed to the use of **gillnets** by all users (**Appendix Figure C-2**). Nonsalmon tributaries are Birch Creek, Akulikutak River, Columbia Creek, and Reindeer Slough 100-yards upstream from their confluences with salmon tributaries.
SA 3-KS-05-15 supersedes SA 3-KS-03-15	June 5–July 20, 2015	All waters within and adjacent to the Refuge boundary are closed to the harvest of **all fish** except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. The Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary are closed to the harvest of **Chinook Salmon** by all users. Gillnets must be set and are restricted to 4-inch or less mesh size not exceeding 60-feet long and 45-meshes deep, only 72 hours per week, 6:00 am Thur.–6:00 am Sunday (**Appendix Figure C-2**).

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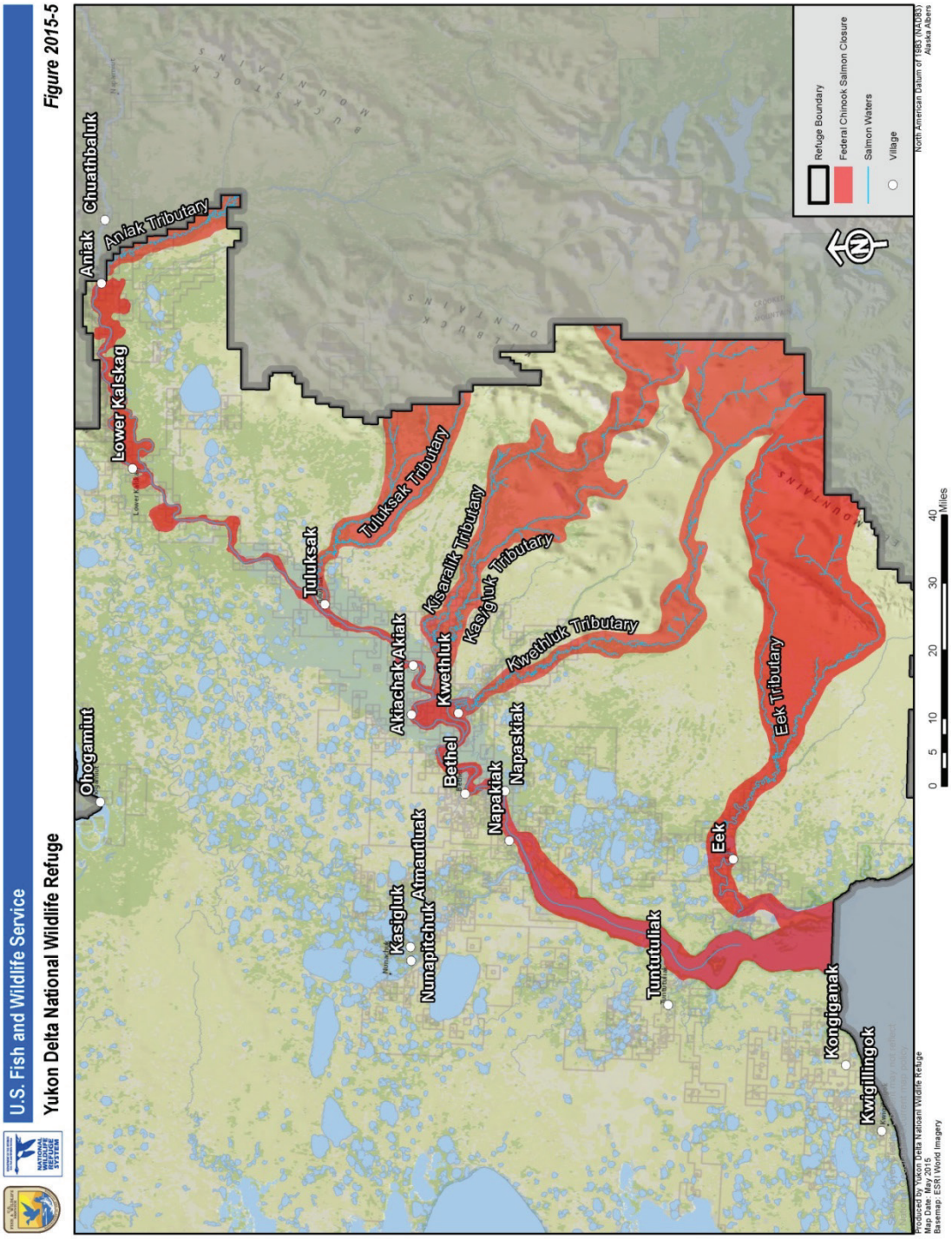
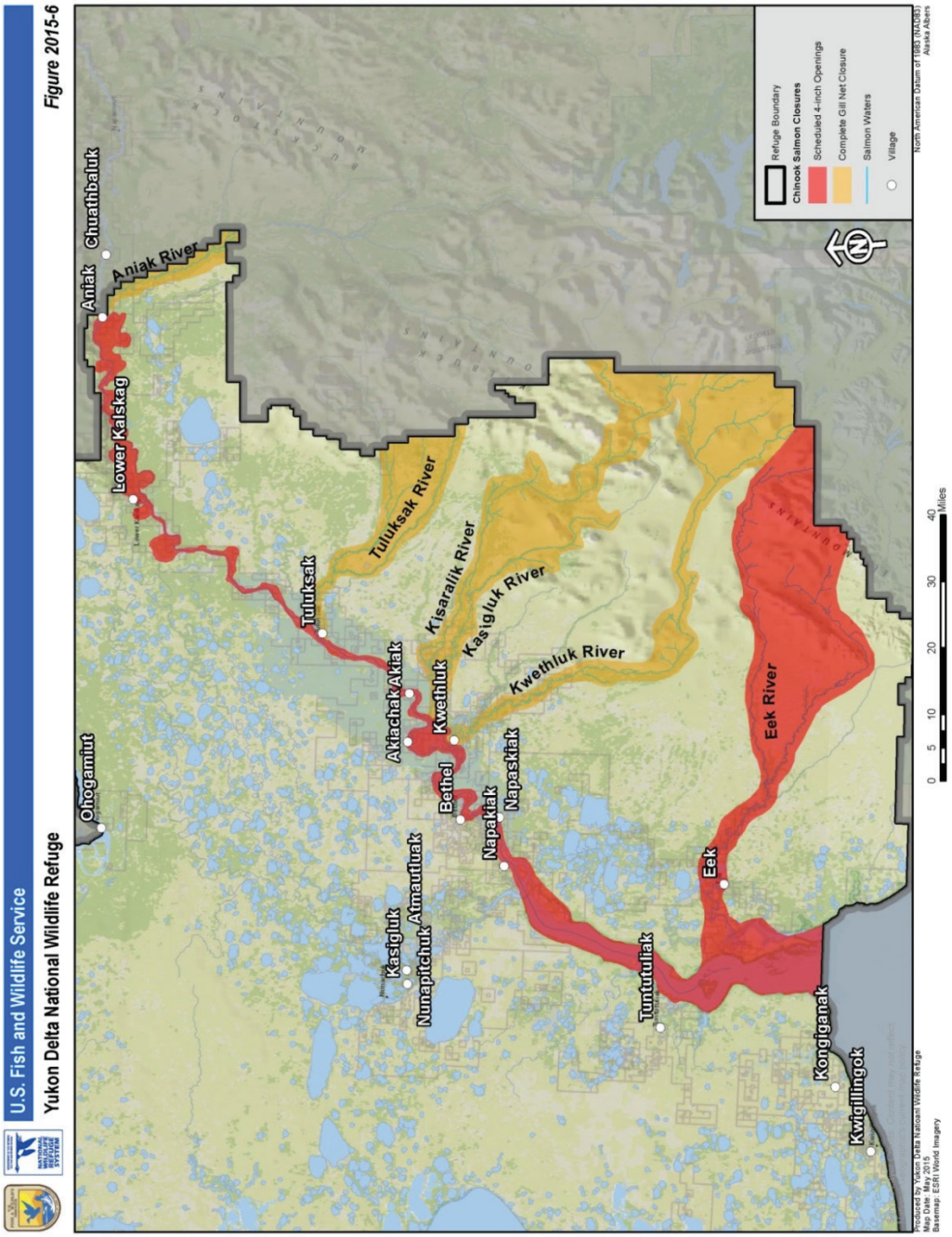


Appendix Figure 1-1. Federal Special Action SA 3-KS-03-15 closure to the harvest of Chinook Salmon by all users.



Appendix Figure 1-2. Federal Special Actions SA 3-KS-04-15 (closure to gillnets) and SA 3-KS-05-15 (scheduled openings to 4-inch mesh nets).

Appendix Table 1-3. Federal special actions, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 YUKON DELTA NATIONAL WILDLIFE REFUGE KUSKOKWIM RIVER DRAINAGE–SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-06-15	June 10–30, 2015	Unless superseded by subsequent Special Action, waters within and adjacent to the Refuge boundary are closed to the harvest of **Chinook Salmon** except by Federally qualified subsistence users in possession of a Federal Community Harvest Permit. Dates and harvest limits will be described on each permit. Chinook Salmon may be targeted using dip-nets, beach seines, fish wheels, and gillnets. Gillnets are restricted to 6-inch or less mesh, not exceeding 300-feet long, and 45-meshes deep, and shall be drift net only. Chinook Salmon fishing is only permitted in the Kuskokwim River, the Eek River, and salmon tributaries of the Eek River. This permit is not valid on the Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak rivers and their salmon tributaries.
SA 3-KS-07-15 Supersedes SA 3-KS-05-15	June 18–July 20, 2015	Waters within and adjacent to the Refuge boundary are closed to the harvest of **all fish** except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. The Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary are closed to the harvest of **Chinook Salmon** by all users. The Kuskokwim River and its salmon tributaries downstream of Tuluksak within and adjacent to the boundaries of the Refuge are closed to the use of **gillnets** by all users (**Appendix Figure 1-3**). The closure does not affect the Chinook Salmon harvest opportunity with Federal Community Harvest Permits (SA 3-KS-06-15).
SA 3-KS-08-15	June 18–21, 2015	Federal public waters of the Kuskokwim River drainage upriver from the Tuluksak River are closed to the harvest of **nonsalmon fishes** except by Federally qualified subsistence users using 4-inch or less mesh set gillnets not exceeding 60-feet long and 45-meshes deep, only 72 hours per week, 6:00 am Thur.–6:00 am Sunday (**Appendix Figure 1-3**).

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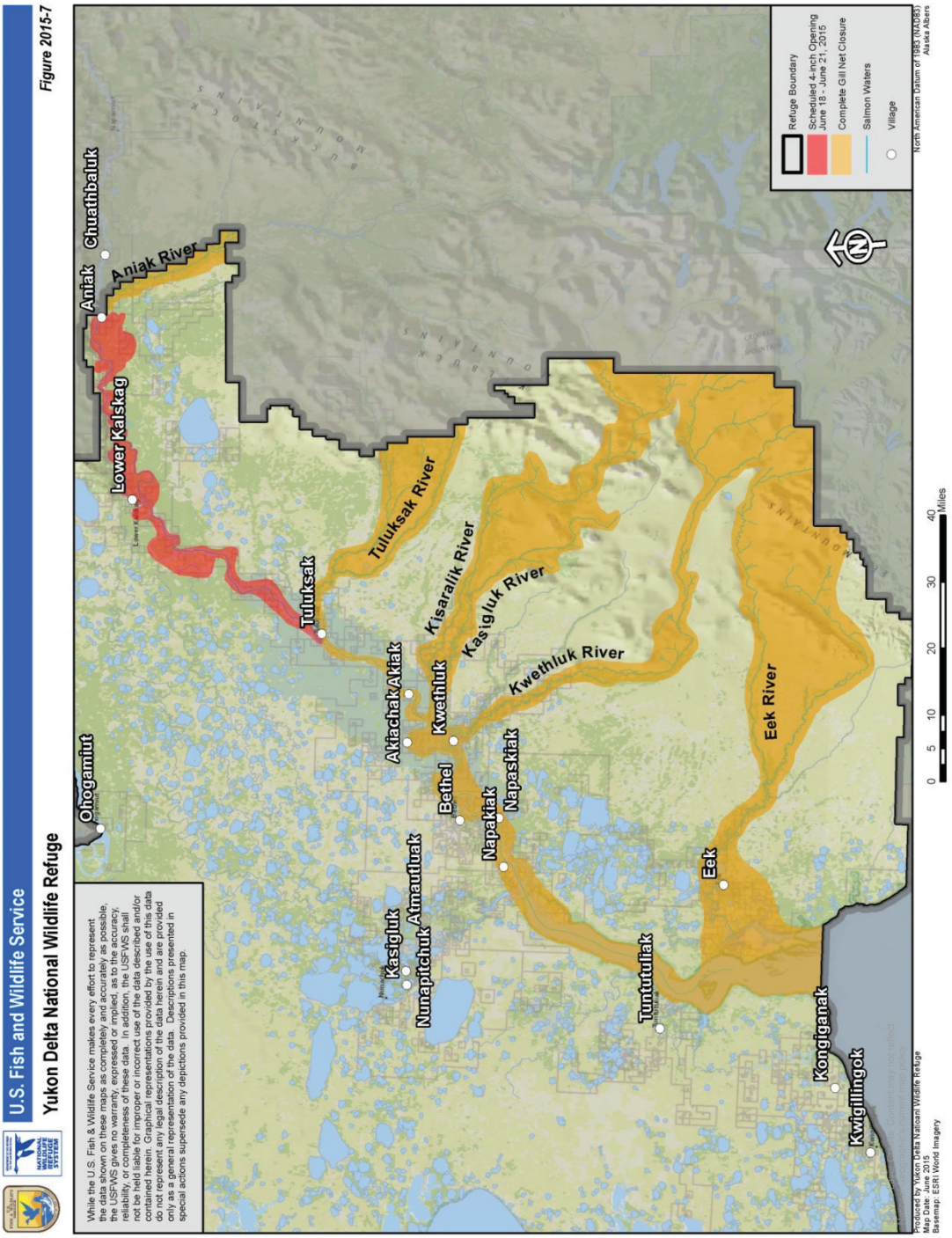

Appendix Figure 1-3. Federal Special Actions SA 3-KS-07-15 (closure to gillnets) and SA 3-KS-08-15 (scheduled opening to 4-inch mesh nets).

Appendix Table 1-3. Federal special actions, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 YUKON DELTA NATIONAL WILDLIFE REFUGE KUSKOKWIM RIVER DRAINAGE–SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-09-15 Supersedes SA 3-KS-08-15	June 22–July 20, 2015	Waters within and adjacent to the Refuge boundary are closed to the harvest of **all fish** except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. The closure does not affect the Chinook Salmon harvest opportunity with Federal Community Harvest Permits (SA 3-KS-06-15). Waters within and adjacent to the Refuge boundary are closed to the harvest of **Chinook Salmon** except by Federally qualified subsistence users on Monday June 22, 4:00 pm–8:00 pm. Only drift gillnets with 6-inch or less mesh, not exceeding 300-feet long and 45-meshes deep may be used. Fishing is only permitted in the Kuskokwim River below the mouth of the Johnson River, excluding the Eek River and its salmon tributaries, within and adjacent to the Refuge boundary (**Appendix Figure 1-4**). Except for users with a Federal Community Harvest Permit or participating in a temporary opening, all **gillnets** are prohibited in the Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary. Subsistence fishing in the Kuskokwim River and its salmon tributaries by Federally qualified subsistence users is open with all other legal subsistence gear, which are dip net, beach seine, fish wheel, or rod and reel. However, Chinook Salmon must be immediately released.

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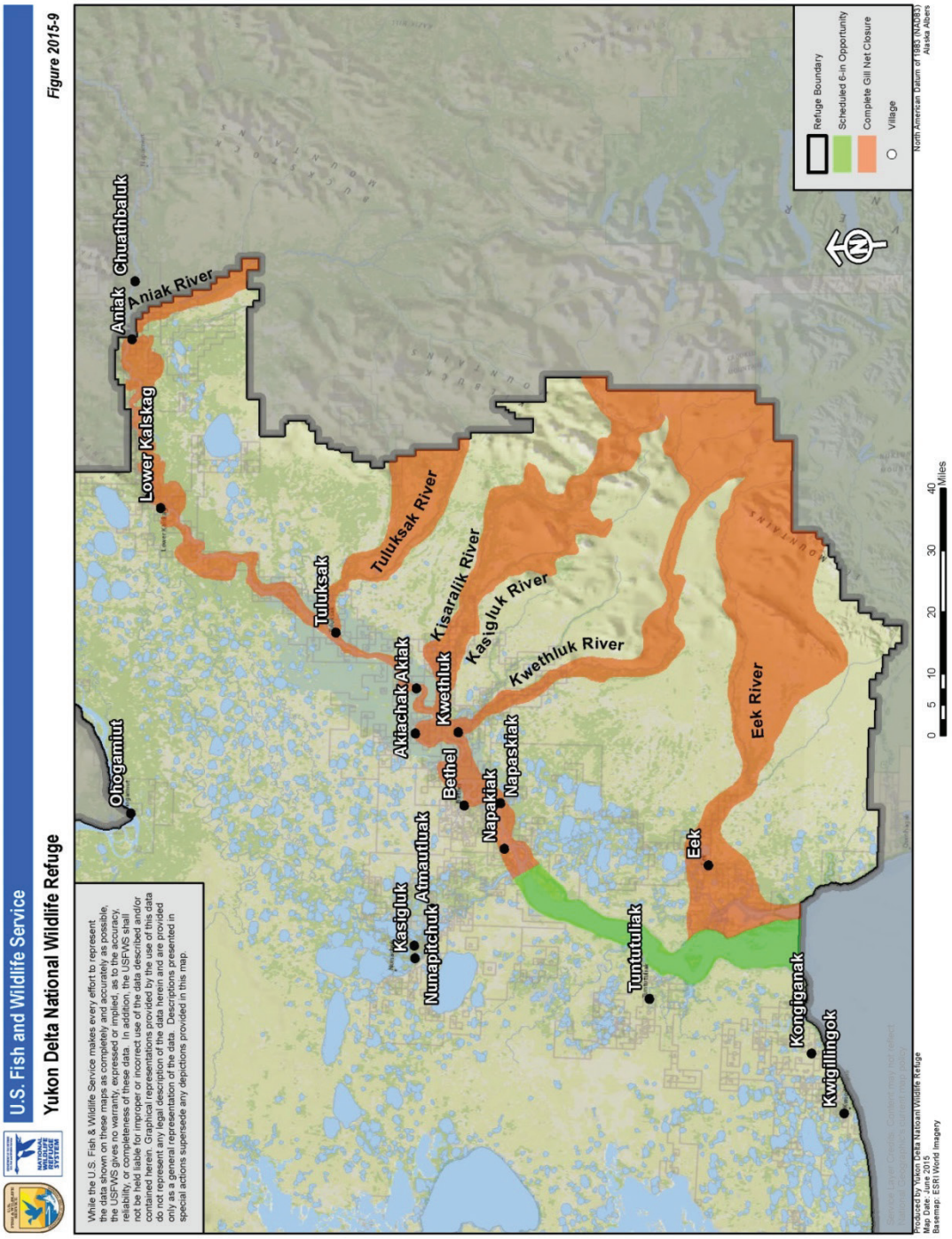

Appendix Figure 1-4. Federal Special Actions SA 3-KS-09-15 (scheduled opening to 6-inch mesh nets).

Appendix Table 1-3. Federal special actions, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 YUKON DELTA NATIONAL WILDLIFE REFUGE KUSKOKWIM RIVER DRAINAGE–SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-10-15 Supersedes SA 3-KS-09-15	June 26–July 20, 2015	Waters within and adjacent to the Refuge boundary are closed to the harvest of **all fish** except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. The Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary are closed to the harvest of **Chinook Salmon** except: The Kuskokwim River below the mouth of the Johnson River is open to the harvest of Chinook Salmon by Federally qualified subsistence users Friday June 26, 2:00 pm–10:00 pm. The Kuskokwim River between Kuskokuak Slough and the Johnson River are open to the harvest of Chinook Salmon by Federally qualified subsistence users Friday June 26, 6:00 pm–10:00 pm. Only drift gillnets with 6-inch or less mesh, not exceeding 300-feet long and 45-meshes deep may be used (**Appendix Figure 1-5**). The closures do not affect the Chinook Salmon harvest opportunity with Federal Community Harvest Permits (SA 3-KS-06-15). Except for users with a Federal Community Harvest Permit or fishing in a temporary opening, all gillnets are prohibited in the Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary. The Kuskokwim River and its salmon tributaries are closed to the harvest of all fish except Federally qualified subsistence users using all other legal subsistence gear, which are dip net, beach seine, fish wheel, or rod and reel. However, Chinook Salmon must be immediately released.

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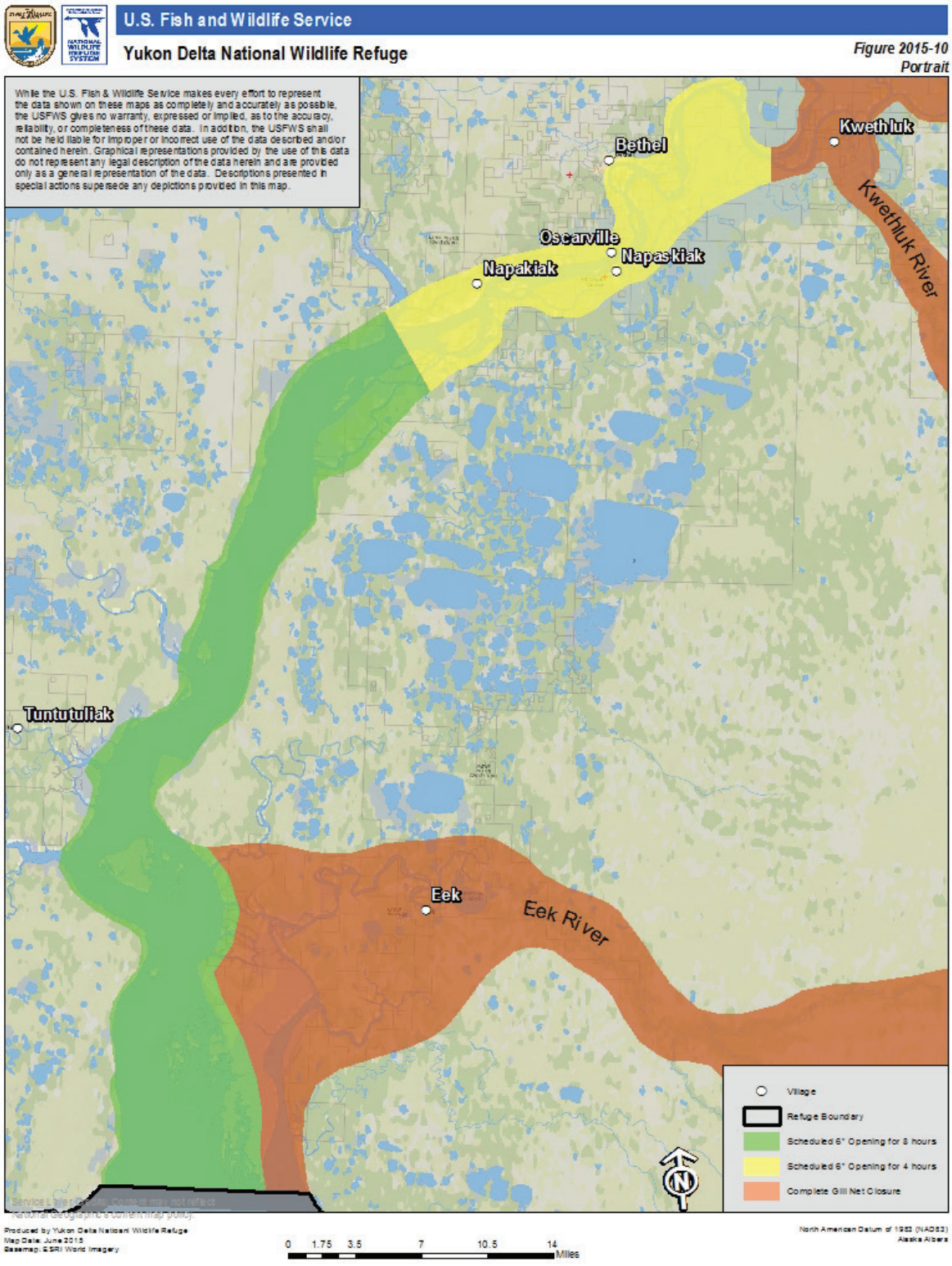

Appendix Figure 1-5. Federal Special Actions SA 3-KS-10-15 (scheduled opening to 6-inch mesh nets).

Appendix Table 1-3. Federal special actions, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 YUKON DELTA NATIONAL WILDLIFE REFUGE KUSKOKWIM RIVER DRAINAGE–SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-11-15 Supersedes SA 3-KS-10-15	June 30–July 20, 2015	The Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary are closed to the harvest of **all fish** except by Federally qualified subsistence users The Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary are closed to the harvest of **Chinook Salmon** except: The Kuskokwim River below the mouth of the Johnson River is open to the harvest of all fish by Federally qualified subsistence users Tuesday June 30, 2:00 pm–6:00 pm. The Kuskokwim River between the Johnson River and the Aniak River are open to the harvest of all fish by Federally qualified subsistence users Tuesday June 30, 6:00 pm–6:00 pm. Only drift gillnets with 6-inch or less mesh, not exceeding 300-feet long and 45-meshes deep may be used. Except for users with a Federal Community Harvest Permit or fishing in a temporary opening, all gillnets are prohibited in the Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary. The Kuskokwim River and its salmon tributaries are closed to the harvest of all fish except Federally qualified subsistence users using all other legal subsistence gear, which are dip net, beach seine, fish wheel, or rod and reel. However, Chinook Salmon must be immediately released.
SA 3-KS-12-15	July 2, 2015	For the Kuskokwim Fishery Management Area, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes.

Appendix Table 1-4. State emergency orders, Kuskokwim River drainage, 2015

2015 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-KS-01-15	April 1–July 25, 2015	The Kuskokwim River drainage and Kuskokwim Bay tributaries are closed to sport fishing for **Chinook Salmon** Wednesday, April 1 through Saturday, July 25, 2015. All Chinook Salmon caught while fishing for other species may not be removed from the water and must be released immediately. In addition, anglers may use only one unbaited, single-hook, artificial lure in the entire Kuskokwim-Goodnews Area.
EO 3-S-WR-01-15	June 4, 2015, until further notice	From the Aniak River upriver to the Holitna River fishing for **salmon** is closed. Fishing for nonsalmon species with gillnets is restricted to 4-inch or less mesh size not exceeding 60-feet long and 45-meshes deep, setnets only 6:00 a.m. Thursday, June 4 until 6:00 a.m. Sunday, June 7; 6:00 a.m. Thursday, June 11 until 6:00 a.m. Sunday, June 14; 6:00 a.m. Thursday, June 18 until 6:00 a.m. Sunday, June 21; 6:00 a.m. Thursday, June 25 until 6:00 a.m. Sunday, June 28. Subsistence fishing with hook and line for Chinook Salmon is closed; any Chinook Salmon caught must be returned alive to the water. Subsistence fishing with dip nets is allowed; any Chinook Salmon caught in a dip net must be returned immediately to the water alive. Subsistence fishing with fish wheels is allowed; fish wheels are required to have a live box with no less than 45 cubic feet of water and must be checked at least every 6 hours; fish wheels can be equipped with a chute and must be closely attended while in operation; any Chinook Salmon caught must be returned alive to the water.
EO 3-S-WR-02-15	June 7, 2015 until further notice	The Aniak River is closed to the use of all **gillnets**. All other legal subsistence fishing gear is allowed (beach seine, hook and line, handline, or fishwheel); any Chinook Salmon caught must be returned alive to the water.
EO 3-S-WR-03-15	May 28, 2015 until further	Marine waters near the Kuskokwim River mouth (Ishkowik River to the northern boundary of District W-4 at Weelung Creek), fishing for **salmon** is closed.

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Appendix Table 1-4. State emergency orders, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Action**
EO 3-S-WR-04-15	June 11–July 2, 2015	From the Holitna River mouth to the headwaters of the Kuskokwim River subsistence salmon fishing is closed. Subsistence fishing for **nonsalmon fish** is restricted to the use of set gillnets with 4-inch or less mesh size not exceeding 60-feet long and 45-meshes deep: 6:00 a.m. Thursday, June 11 until 6:00 a.m. Sunday, June 14; 6:00 a.m. Thursday, June 18 until 6:00 a.m. Sunday, June 21; 6:00 a.m. Thursday, June 25 until 6:00 a.m. Sunday, June 28; 6:00 a.m. Thursday, July 2 until 6:00 a.m. Sunday, July 5. Subsistence fishing with hook and line for **Chinook Salmon** is closed; any Chinook Salmon caught must be returned alive to the water. Subsistence fishing with dip nets is allowed; any Chinook Salmon caught in a dip net must be returned immediately to the water alive. Subsistence fishing with fish wheels is allowed; fish wheels are required to have a live box with no less than 45 cubic feet of water and must be checked at least every 6 hours; fish wheels can be equipped with a chute and must be closely attended while in operation; any Chinook Salmon caught must be returned alive to the water.
EO 3-S-WR-05-15	June 20, 2015	From the Aniak River to the headwaters of the Kuskokwim River is open to subsistence **salmon** fishing with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 10-fathoms long, for Alaska residents 60 years of age or older, Saturday June 20, 2:00 p.m.–6:00 p.m. An Alaska resident 60 years of age or older must be present while fishing activities are being conducted but may be assisted by family members within the second degree of kindred. A gillnet longer than 10 fathoms may be used as long as only 10 fathoms is in a fishable condition and the remainder of the gillnet is either tied up or secured so that it is not in the water in a fishing condition.
EO 3-S-WR-06-15	June 27, 2015	From the Aniak River to the headwaters of the Kuskokwim River is open to subsistence **salmon** fishing with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 10-fathoms long, Saturday June 27, 12:00 p.m.–6:00 p.m.
EO 3-S-WR-07-15	June 27, 2015	The Kuskokwim River and its tributaries from the Holitna River to the headwaters is open to subsistence fishing with a hook and line for **Chinook Salmon**, Saturday June 27 for 24 hours,. The Chinook Salmon harvest limit for this hook and line opportunity is 5 fish.

Appendix Table 1-4. State emergency orders, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Action**
EO 3-S-WR-08-15	July 1, 2015	The Kuskokwim River from the Aniak River to the headwaters of the Kuskokwim River is open to subsistence **salmon** fishing with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 10-fathoms long, Wednesday, July 1, 12:00 p.m.–8:00 p.m.
EO 3-S-WR-09-15	July 1, 2015	The Kuskokwim River and its tributaries, from the Holitna River to the headwaters of the Kuskokwim River, is open to subsistence fishing with a hook and line for **Chinook Salmon**, Wednesday, July 1, 12:01 a.m.–11:59 p.m. The Chinook Salmon bag limit for this hook and line opportunity is 5 fish.
EO 3-S-WR-10-15	July 1, 2015 until further notice	Subsistence fishing on the Stony River upstream of the confluence with the Stink River is unrestricted.
EO 3-S-WR-11-15	July 2, 2015 until further notice	The Kuskokwim River drainage from the mouth of the Kuskokwim River to the Aniak River subsistence fishing for **Chinook Salmon** with hook and line is closed. Any Chinook Salmon caught must be released alive to the water. Subsistence fishing with fish wheels is allowed. Fish wheels are required to have a live box with no less than 45 cubic feet of water, must be checked at least every 6 hours. Fish wheels can be equipped with a chute and must be closely attended while in operation. All Chinook salmon must be returned alive to the water. Subsistence fishing with dip nets is closed. Subsistence fishing with **gillnets** is closed in the Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak river drainages and the Kuskokwim River.
EO 3-S-WR-12-15	July 4, 2015	The Kuskokwim River from the mouth of the Kuskokwim River to the mouth of the Johnson River is open to subsistence salmon fishing with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long, Saturday, July 4, 12:00 p.m.–8:00 p.m. From the Johnson River to Tuluksak with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 25-fathoms long, Saturday, July 4, 4:00 p.m.–8:00 p.m. From the Tuluksak to the Holitna River with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 25-fathoms long, Saturday, July 4, 12:00 p.m.–8:00 p.m.
EO 3-S-WR-13-15	July 4, 2015 until further notice	The Kuskokwim River and its tributaries from the Holitna River to the headwaters of the Kuskokwim River is open to subsistence fishing with a hook and line for Chinook Salmon. The Chinook Salmon limit for this hook and line opportunity will be 3 fish per day, 6 in possession.

Appendix Table 1-4. State emergency orders, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Action**
EO 3-S-CS-01-15	July 6–August 31, 2015	The Kuskokwim River drainage is closed to sport fishing for Chum Salmon. Only unbaited, single-hook, artificial lures may be used in the Kuskokwim-Goodnews Area. All Chum Salmon caught unintentionally while fishing for other species may not be removed from the water and must be released immediately.
EO 3-S-CS-02-15 supersedes EO 3-S-CS-01-15	July 10–Aug. 31, 2015	The Kuskokwim River drainage (**excluding Kuskokwim Bay**) is closed to sport fishing for Chum Salmon. Only unbaited, single-hook, artificial lures may be used in the Kuskokwim-Goodnews Area. All Chum Salmon caught unintentionally while fishing for other species may not be removed from the water and must be released immediately.
EO 3-S-WR-14-15	July 8, 2015	The Kuskokwim River from the mouth of the Kuskokwim River to the mouth of the Johnson River is open to subsistence salmon fishing with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long, Wednesday, July 8, 9:00 a.m.–9:00 p.m. From the Johnson River to Tuluksak with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long, Wednesday, July 8, 5:00 p.m.–9:00 p.m. From Tuluksak to the headwaters of the Kuskokwim River with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long, Wednesday, July 8, 9:00 a.m.–9:00 p.m. The waters of the Kuskokwim River from Aniak downstream to a line formed between two points lat 61° 35.076' N, long 159° 32.527' W and lat 61° 35.263' N, long 159° 32.088' W is closed to subsistence fishing with gillnets Wednesday, July 8, 9:00 a.m.–9:00 p.m. (**Appendix Figure 1-6**).
EO 3-S-WR-15-15	July 8, 2015 until further notice	Subsistence fishing in the Stony River and its tributaries is unrestricted. The Chinook salmon limit for subsistence hook and line is 3 fish per day, 6 in possession.
EO 3-S-WR-16-15	July 8, 2015 until further notice	From the Holitna River to the headwaters of the Kuskokwim River (excluding the Holitna and Swift rivers), subsistence fishing is allowed with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long. The use of dip nets for subsistence salmon fishing is discontinued in the Kuskokwim River drainage from the Holitna River to the headwaters of the Kuskokwim River. The use of a live box or chute is not required while operating a fish wheel from the Holitna River to the headwaters of the Kuskokwim River.

Continued on next page.

Appendix Figure 1-6. State of Alaska Emergency Order EO 3-S-WR-14-15 (closed area in front of Aniak).

Appendix Table 1-4. State emergency orders, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Action**
EO 3-S-WR-17-15	July 11, 2015	From the Johnson River to the mouth of the Kuskokwim River subsistence salmon fishing is allowed with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long Saturday, July 11, 9:00 a.m.–9:00 p.m. From the Johnson River to Tuluksak subsistence salmon fishing is allowed with 6-inch or less mesh gillnets, 45 meshes deep, and not to exceed 50-fathoms long Saturday, July 11, 10:00 a.m.–2:00 p.m. From Tuluksak to the Holitna River subsistence salmon fishing is allowed with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50- fathoms long Saturday, July 11, 9:00 a.m.–9:00 p.m.
EO 3-S-WR-18-15	July 11, 2015	The waters of the Kuskokwim River from Aniak downstream to a line formed between two points lat 61° 35.076' N, long 159° 32.527' W and lat 61° 35.263' N, long 159° 32.088' W (**Appendix Figure 1-6**) is closed to subsistence fishing with gillnets Saturday, July 11, 9:00 a.m.–9:00 p.m.
EO 3-S-WR-19-15	July 11, 2015 until further notice	The use of dip nets for subsistence salmon fishing is discontinued in the Kuskokwim River drainage from Aniak to the Holitna River.
EO 3-S-WR-20-15	July 13 and 15, 2015	From the Johnson River to the mouth of the Kuskokwim River subsistence salmon fishing is allowed with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long Monday, July 13, 9:00 a.m.–9:00 p.m., and Wednesday, July 15, 2015, 9:00 a.m.–9:00 p.m. From the Johnson River to Tuluksak subsistence salmon fishing is allowed with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long, Monday, July 13, 1:00 p.m.–7:00 p.m., and Wednesday, July 15, 3:00 p.m.–9:00 p.m. From Tuluksak to the Holitna River subsistence salmon fishing is allowed with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long, Monday, July 13, 9:00 a.m.–9:00 p.m., and Wednesday, July 15, 9:00 a.m.–9:00 p.m.
EO 3-S-WR-21-15	July 13 and 15, 2015	The waters of the Kuskokwim River from Aniak downstream to a line formed between two points lat 61° 35.076' N, long 159° 32.527' W and lat 61° 35.263' N, long 159° 32.088'W (**Appendix Figure 1-6**) is closed to subsistence fishing with gillnets Monday, July 13, 9:00 a.m.–9:00 p.m., and Wednesday, July 15, 9:00 a.m.–9:00 p.m.

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Appendix Table 1-4. State emergency orders, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Action**
EO 3-S-WR-22-15	July 13, 2015 until further notice	Marine waters near the Kuskokwim River mouth (Ishkowik River to the northern boundary of District W-4 at Weelung Creek) are open to subsistence fishing.
EO 3-S-WR-23-15	July 15, 2015 until further notice	Subsistence salmon fishing with gillnets is allowed in the Kuskokwim River from the mouth of the Kuskokwim River to the Holitna River, with 6-inch or less mesh gillnets.
EO 3-S-WR-24-15	July 15, 2015 until further notice	The use of a live box or chute is not required while operating a fish wheel from the mouth of the Kuskokwim River to the Holitna River.
EO 3-S-WR-25-15	July 15, 2015 until further notice	The waters of the Kuskokwim River from Aniak downstream to a line formed between two points lat 61° 35.076' N, long 159° 32.527' W and lat 61° 35.263' N, long 159° 32.088' W (**Appendix Figure 1-6**) is closed to subsistence fishing with gillnets.
EO 3-S-WR-26-15	August 4, 2015	The following restrictions to the Kuskokwim River subsistence salmon fishery are rescinded: gillnet use in the Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak rivers (EO 3-S-WR-11-15); 6-inch or less mesh requirements for subsistence gillnets (EO 3-S-WR-16-15; EO 3-S-WR-23-15; EO 3-S-WR-25-15); closed waters at the mouth of the Aniak (EO 3-S-WR-25-15); and restrictions to hook and line bag and possession limits for Chinook salmon (EO 3-S-WR-01-15, 3-S-WR-02-15, EO 3-S-WR-11-15).

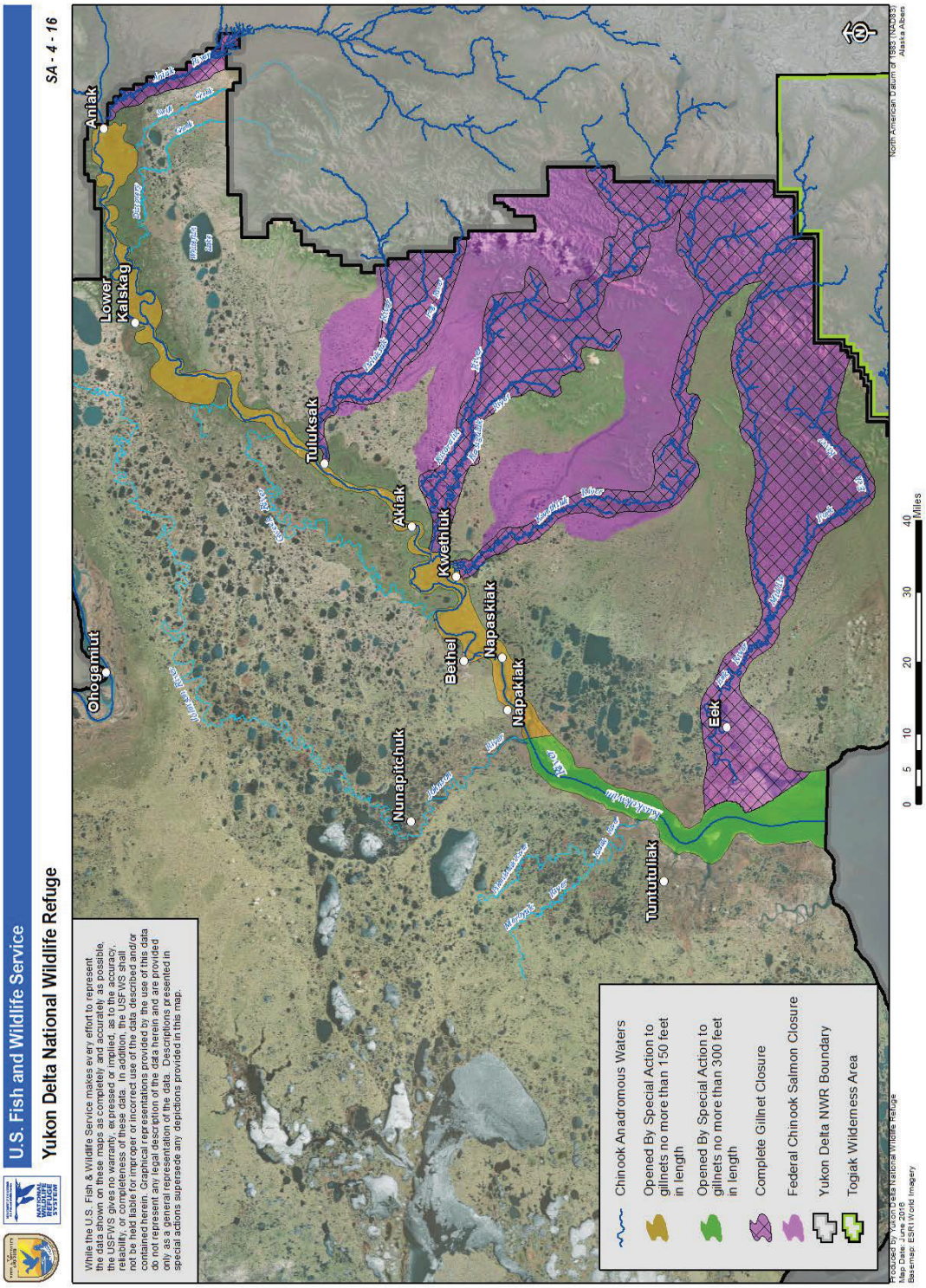
SALMON MANAGEMENT IN 2016

Appendix Table 1-5. Federal special actions, Kuskokwim River drainage, 2016.

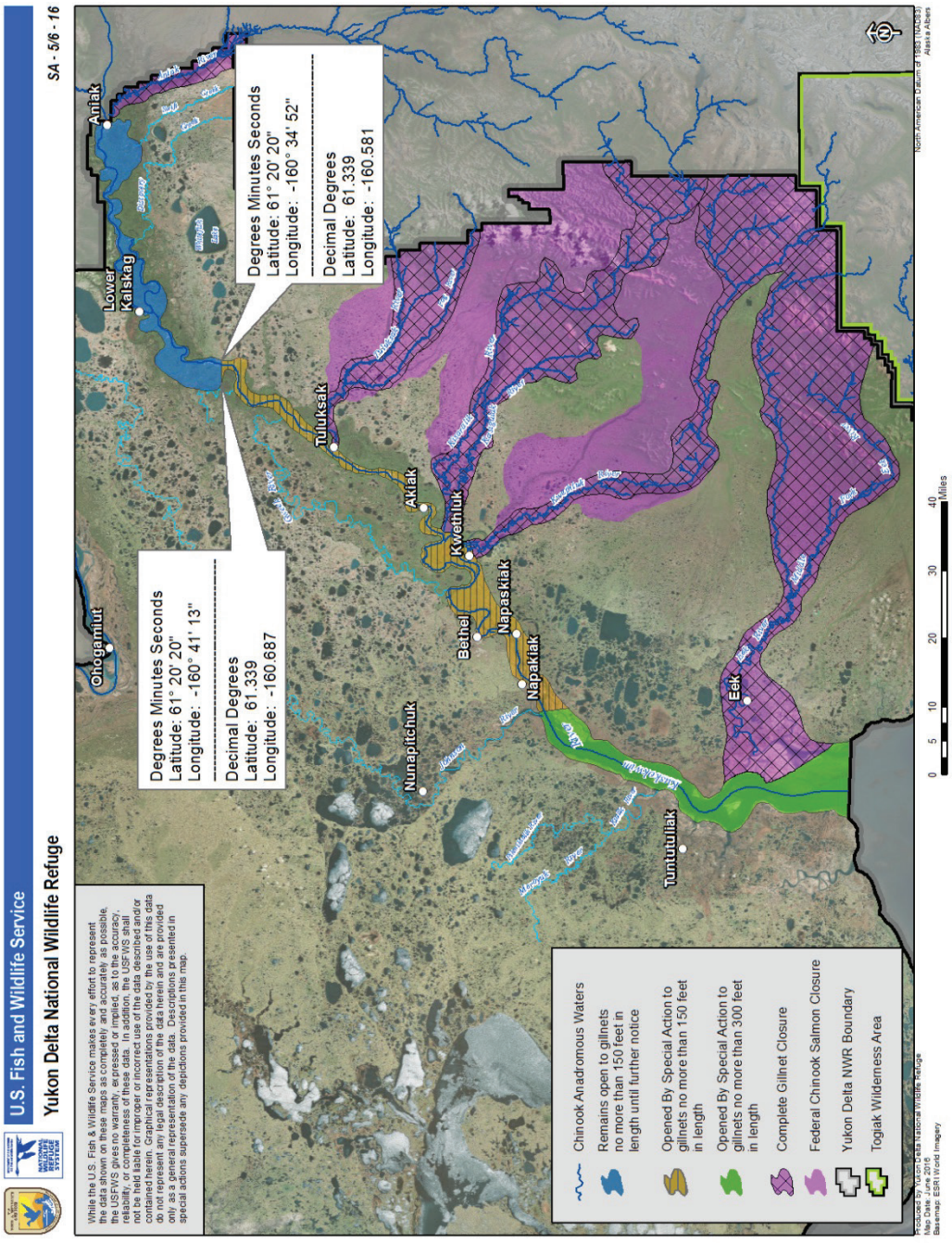
2016 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-01-16	June 1, 2016- June 12, 2016	All waters within and adjacent to the Refuge boundary are closed to the harvest of **Chinook and Chum Salmon** except by Federally qualified subsistence users that are residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek.
SA 3-KS-01a-16	June 3, 2016-July 7, 2016	Federal waters of the Kuskokwim River are closed to the harvest of **Chinook and Chum Salmon** by Federally qualified users. Fishing openings, closings, and fishing methods for Federally qualified subsistence users will be announced by subsequent Federal Special Actions.
SA 3-KS-02-16	June 12, 2016	Federal public waters of the Kuskokwim River drainage are open to the harvest of **Chinook and Chum Salmon** by Federally qualified subsistence users that are residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. Legal gear includes drift and set gillnets restricted to 6-inch or less mesh size, not exceeding 45-meshes deep, 300-feet long from the Refuge boundary at the mouth of the Kuskokwim to the Johnson River, and 150-feet long from the Johnson River to the Refuge boundary at Aniak. Harvest allowed for 12 hours only from June 12, 2016 from 12:01 pm (noon) until 11:59 pm (midnight).
SA 3-KS-03-16	June 12, 2016-July 7, 2016	The use of gillnets for fishing on the Eek, Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak Rivers as well as their salmon tributaries are closed within the boundaries of the Refuge **(Appendix Figure 1-7**).
SA 3-KS-04-16	June 16, 2016- June 17, 2016	Federal public waters of the Kuskokwim River drainage are open to the harvest of **Chinook and chum salmon** by Federally qualified subsistence users that are residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. Legal gear includes drift and set gillnets, hook and line, fish wheels, dip nets, beach seines and all other gear types identified in Federal subsistence regulations. Gillnets restricted to 6-inch or less mesh size, not exceeding 45-meshes deep, 300-feet long from the Refuge boundary at the mouth of the Kuskokwim to the Johnson River, and 150-feet long from the Johnson River to the Refuge boundary at Aniak (**Appendix 1-7**). Harvest allowed for 24 hours only from June 16, 2016 from 12:01 pm (noon) until June 17, 2016 at 11:59 am (noon).

Appendix Table 1-5. Federal special actions, Kuskokwim River drainage, 2016 (*continued from previous page.*)

2016 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-05-16	June 21, 2016-July 7, 2016	Federal public waters of the Kuskokwim River from a line downstream of Kalskag at the south edge of Uknavik Slough and then due east to the edge of the bluff line to the Refuge boundary at Aniak (**Appendix Figure 1-8**) are open to harvest of **Chinook and chum salmon** by Federally qualified subsistence users that are residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek until further notice. Legal gear includes drift and set gillnets, hook and line, fish wheels, dip nets, beach seines and all other gear types identified in Federal subsistence regulations. Gillnets restricted to 6-inch or less mesh size, not exceeding 45-meshes deep, and 150-feet long
SA 3-KS-06-16	June 21, 2016-June 24, 2016	Federal public waters of the Kuskokwim River drainage are open to the harvest of **Chinook and chum salmon** by Federally qualified subsistence users that are residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. Legal gear includes drift and set gillnets, hook and line, fish wheels, dip nets, beach seines and all other gear types identified in Federal subsistence regulations. Gillnets restricted to 6-inch or less mesh size, not exceeding 45-meshes deep, 300-feet long from the Refuge boundary at the mouth of the Kuskokwim to the Johnson River, and 150-feet long from the Johnson River to the Refuge boundary at Aniak (**Appendix Figure 1-8**). Harvest allowed for 72 hours only from June 21, 2016 from 12:01 pm (noon) until June 24, 2016 at 11:59 am (noon).
SA 3-KS-07-16	June 29, 2016-July 2, 2016	Federal public waters of the Kuskokwim River drainage are open to the harvest of **Chinook and chum salmon** by Federally qualified subsistence users that are residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. Legal gear includes drift and set gillnets, hook and line, fish wheels, dip nets, beach seines and all other gear types identified in Federal subsistence regulations. Gillnets restricted to 6-inch or less mesh size, not exceeding 45-meshes deep, 300-feet long from the Refuge boundary at the mouth of the Kuskokwim to the Johnson River, and 150-feet long from the Johnson River to the Refuge boundary at Aniak (**Appendix Figure 1-8**). Harvest allowed for 72 hours only from June 29, 2016 from 12:01 pm (noon) until July 2, 2016 at 11:59 am (noon).
SA 3-KS-08-16	July 7, 2016-present	For the Kuskokwim River drainage, all previously issued special actions were rescinded.



Appendix Figure 1-7. Federal Special Actions SA 3-KS-04-16, temporary harvest of Chinook and Chum salmon by Federally qualified subsistence users and SA-3-KS-03-16, temporary closure of rivers in Refuge boundary.



Appendix Figure 1-8. Federal Special Actions SA 3-KS-05-16, SA 3-KS-06-16, and SA 3-KS-07-16, temporary harvest of Chinook and Chum salmon by Federally qualified subsistence users.

Appendix Table 1-6. State emergency orders, Kuskokwim River drainage, 2016.

2016 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-KS-01-16	May 1, 2016- July 25, 2016	The Kuskokwim River drainage and tributaries are closed to sport fishing for **Chinook Salmon** Sunday May 1, 2016 through Monday July 25, 2016. All Chinook Salmon caught while fishing for other species may not be removed from the water and must be released immediately. In addition, anglers may use only one unbaited, single-hook, artificial lure in the entire Kuskokwim Area.
EO 3-S-WR-01-16	May 20, 2016-June 12, 2016; June 1, 2016-June 12, 2016	On May 20, subsistence fishing with gillnets is closed in the Kuskokwim River drainage from the Yukon Delta National Wildlife Refuge boundary at the mouth of the Kuskokwim River to the ADF&G markers downstream of the Holitna River mouth until further notice. Subsistence fishing with hook and line for **Chinook salmon** is closed in this area to further notice. Subsistence fishing with fish wheels, dip nets, and beach seines are allowed in this area until further notice, but all **Chinook salmon** caught must be immediately be released alive. Subsistence fishing with gillnets is closed beginning on June 1 in the Kuskokwim River upstream from the ADF&G markers near the Holitna River mouth to the headwaters of the Kuskokwim River, the Kwethluk River drainage including its confluence with Kuskokuak Slough and downstream to ADF&G regulatory markers located at the downstream mouth of the slough, the Kasigluk and Kisaralik river drainages including Old Kuskokuak Slough to ADF&G regulatory markers at the confluence of Old Kuskokuak Slough with Kuskokuak Slough, the Tuluksak River drainage including its confluence with the Kuskokwim River and downstream approximately one mile to ADF&G regulatory markers, and the Aniak River drainage to ADF&G regulatory markers at its confluence with the Kuskokwim River until further notice. Beginning on June 1, Subsistence fishing with hook and line for Chinook salmon is closed to further notice on the Kuskokwim River above the ADF&G markers downstream of the Holitna River mouth until further notice. Subsistence fishing with fish wheels, dip nets, and beach seines are allowed in this area until further notice, but all Chinook salmon caught must be immediately be released alive.

Appendix Table 1-6. State emergency orders, Kuskokwim River drainage, 2016 (*continued from previous page*).

2016 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-S-WR-02-16, EO 3-S-WR-03-16	June 12, 2016-June 14, 2016; June 12, 2016 until further notice	The area from the YDNWR border at Aniak to the mouth of the Holitna River (not including the Aniak River) is open to subsistence fishing with 6-inch or less mesh, 25-fathoms (150 ft.) long or less gillnets for 48 hours from June 12, 12:00 pm (noon)-June 14, 12:00 pm (noon). The area from the mouth of the Holitna River to the Kuskokwim River headwaters is open to subsistence fishing with 6-inch or less mesh gillnets from June 12, 2016 at 12:00 pm (noon) until further notice. Subsistence fishing is also allowed with beach seines, dip nets, and hook and line from the YDNWR boundary at Aniak to the Kuskokwim River headwaters from June 12, 2016 at 12:00 pm (noon) until further notice.
EO 3-S-WR-04-16	June 16, 2016 until further notice	The area from the YDNWR border at Aniak to the headwaters of the Kuskokwim River (not including the Aniak River) is open to subsistence fishing with 6-inch or less mesh from 12:00 pm (noon) June 16, 2016 until further notice.
EO 3-S-WR-5-16	July 7, 2016 until further notice	Subsistence fishing is allowed for qualified Alaska residents from the YDNWR boundary at the mouth of the Kuskokwim River to the headwaters of the Kuskokwim River until further notice. Gillnets must be 6-inch or less mesh. Subsistence fishing with gillnets is closed in the following areas: • The Kwethluk River drainage including its confluence with Kuskokuak Slough and downstream to ADF&G regulatory markers located at the downstream mouth of the slough. • The Kasigluk and Kisaralik river drainages including Old Kuskokuak Slough to ADF&G regulatory markers at the confluence of Old Kuskokuak Slough with Kuskokuak Slough. • The Tuluksak River drainage including its confluence with the Kuskokwim River and downstream approximately one mile to ADF&G regulatory markers. • The Aniak River drainage to ADF&G regulatory markers at its confluence with the Kuskokwim River. • The Eek River. • The waters of the Kuskokwim River from the Yukon Delta NWR boundary at Aniak downstream to a line formed between two points lat 61° 35.076' N, long 159° 32.527' W and lat 61° 35.263' N, long 159° 32.088' W (Figure 3).

Appendix Table 1-6. State emergency orders, Kuskokwim River drainage, 2016 (*continued from previous page*).

2016 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-S-WR-6-16	July 27, 2016-Until further notice	Effective 9:00 a.m. Wednesday, July 27, 2016, the following restrictions to the Kuskokwim River subsistence salmon fishery are rescinded: • Gillnet use in the Kwethluk, Kasigluk, Kisaralik, Tuluksak, Aniak and Eek Rivers; • 6-inch or less mesh requirements for subsistence gillnets; and • The closed waters at the mouth of the Aniak River.
EO 3-S-WR-7-16	July 29, 2016	Subdistrict 1-A will open to commercial **salmon** fishing for 6 hours from 2:00 p.m. until 8:00 p.m. Friday, July 29, 2016. This area is defined as that portion of District 1 upstream of regulatory markers located at Bethel to ADF&G regulatory markers at the mouth of Bogus Creek. As there are no commercial salmon processors registered in the Kuskokwim Management Area, this opportunity is being provided for those individuals registered with the department as catcher/sellers.
EO 3-S-WR-8-16	August 12, 2016	Subdistrict 1-A will open to commercial **salmon** fishing for 6 hours from 2:00 p.m. until 8:00 p.m. Friday, August 12, 2016. This area is defined as that portion of District 1 upstream of regulatory markers located at Bethel to ADF&G regulatory markers at the mouth of Bogus Creek. As there are no commercial **salmon** processors registered in the Kuskokwim Management Area, this opportunity is being provided for those individuals registered with ADF&G as catcher/sellers.

SALMON MANAGEMENT IN 2017

Appendix Table 1-7. Federal special actions, Kuskokwim River drainage, 2017

2017 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Actions**
SA 3-KS-01-17	June 12 – August 10, 2017	Waters under Federal subsistence fisheries jurisdiction of the Kuskokwim River main stem and salmon tributaries including the Eek, Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak rivers will be closed to the use of all gillnets by all users. All Chinook salmon caught with other legal methods must be immediately released.
FSA 17-03 (FSB ACTION)	June 12, 2017	Beginning on June 12, 2017, Federal public waters of the Kuskokwim River drainage were closed to the harvest of Chinook Salmon except by Federally qualified subsistence users
FSA 17-04 (FSB ACTION)	June 12, 2017	Beginning on June 12, 2017, Federal public waters of the Kuskokwim River drainage were closed to the harvest of Chinook Salmon except by Federally qualified subsistence users identified in the Section 804 subsistence users prioritization analysis. Those eligible to harvest Chinook Salmon under Federal regulations were restricted to Federally qualified subsistence users residing in the Kuskokwim River drainage and the coastal communities of Chefornak, Kongiganek, Kipnuk, and Kwigillingok.
SA 3-KS-02-17	June 12 – August 10, 2017	Waters under Federal subsistence fisheries jurisdiction of the Kuskokwim River main stem and salmon tributaries including the Eek, Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak rivers will be closed to the harvest of Chinook salmon by all Federally qualified subsistence users.
SA 3-KS-03-17	June 12, 2017	Opened a 12-hour opportunity for Federally qualified subsistence users identified in the Section 804 analysis, which included residents of the Kuskokwim River drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek, to harvest Chinook Salmon on Federal public waters of the Kuskokwim River on June 12, 2017, from 12:01 p.m. until 11:59 p.m. Drift or set gillnets were limited to 6-inch or less mesh and could not exceed 45 meshes in depth. Nets from the Yukon Delta National Wildlife Refuge (Refuge) boundary at the Kuskokwim River mouth to the Johnson River could not exceed 50 fathoms (300 feet) in length. Nets up river from the Johnson River to the Refuge boundary at Aniak could not exceed 25 fathoms (150 feet) in length. The area around the Old Kuskokuak and the Kuskokuak were closed to the harvest of Chinook Salmon.

Appendix Table 1-7. Federal special actions, Kuskokwim River drainage, 2017 (*continued from previous page*)

2017 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Actions**
SA 3-KS-04-17	June 24, 2017	Opened a 12-hour gillnet opportunity for Federally qualified subsistence users to harvest fish other than Chinook Salmon on Federal public waters of the mainstem of the Kuskokwim River on June 24, 2017, from 12:01 p.m. until 11:59 p.m. Drift or set gillnets were limited to 6-inch or less mesh and could not exceed 45 meshes in depth. Nets could not exceed 25 fathoms (150 feet) in length. Federally qualified subsistence users identified in the ANILCA Section 804 subsistence user prioritization could retain Chinook Salmon incidentally harvested in gillnets. The waters of the Kuskokwim River around the boundary of the Yukon Delta NWR near Aniak was closed to subsistence gillnet fishing. Subsistence fishing with dip nets, beach seines, fish wheels, and rod and reel were allowed to be used during this opportunity. However, there were some restrictions to fish wheel regulations. Any Chinook Salmon caught in these other gear types had to be returned to the water alive.
SA 3-KS-05-17	July 1, 2017	Opened a 6-hour gillnet opportunity for Federally qualified subsistence users to harvest fish other than Chinook Salmon on Federal public waters of the main-stem of the Kuskokwim River from the mouth of the river to approximately 10 miles upriver from Upper Kalskag on July 1, 2017, from 3:00 p.m. until 9:00 p.m. Gear restrictions and authorizations, as well as Chinook Salmon release requirements for non-gillnet gear types were the same as SA 3-KS-04-17. Federally qualified subsistence users identified in the ANILCA Section 804 subsistence user prioritization could retain Chinook Salmon incidentally harvested in gillnets.
SA 3-KS-06-17	July 3, 2017	Opened a 12-hour gillnet opportunity for Federally qualified subsistence users to harvest fish other than Chinook Salmon on Federal public waters of the main-stem of the Kuskokwim River on July 3, 2017, from 12:01 p.m. until 11:59 p.m. Gear restrictions and authorizations, as well as Chinook Salmon release requirements for non-gillnet gear types were the same as SA 3-KS-04-17. Federally qualified subsistence users identified in the ANILCA Section 804 subsistence user prioritization could retain Chinook Salmon incidentally harvested in gillnets. The waters of the Kuskokwim River around the boundary of the Yukon Delta NWR near Aniak was closed to subsistence gillnet fishing
SA 3-KS-07-17	July 7, 2017	Rescinded all previously issued special actions regarding the management of Chinook Salmon in the Kuskokwim River drainage. Federal public waters within the Yukon Delta NWR opened to the harvest of Chinook Salmon by non-Federally qualified subsistence users.

Appendix Table 1-8. State emergency orders, Kuskokwim River drainage, 2017.

2017 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-S-WR-01-17	Multiple effective dates depending on area of Kuskokwim River (May 20, 2017 – June 4, 2017)	Subsistence fishing with gillnets in the Kuskokwim River will be closed during the following times and areas: • Beginning 12:01 a.m. Saturday, May 20, 2017, the Kuskokwim River Drainage from the Yukon Delta NWR boundary at the mouth of the Kuskokwim River to ADF&G markers approximately one-half mile upstream of the Tuluksak River mouth; • Beginning 12:01 a.m. Thursday, May 25, 2017, from the ADF&G markers approximately one-half mile upstream of the Tuluksak River mouth to the Yukon Delta Refuge boundary near Aniak; • Beginning 12:01 a.m. Thursday, June 1, 2017, from the Yukon Delta Refuge boundary near Aniak to the ADF&G regulatory markers near the Holitna River mouth; and • Beginning 12:01 a.m. Sunday, June 4, 2017, upstream of the ADF&G regulatory markers located near the Holitna River mouth to the headwaters of the Kuskokwim River. The following subsistence fishing restrictions and tributary gillnet fishing closures will also go into effect beginning 12:01 a.m. Saturday, May 20, 2017, until further notice: • The Kwethluk River drainage including its confluence with Kuskokuak Slough and downstream to ADF&G regulatory markers located at the downstream mouth of the slough. • The Kasigluk and Kisaralik river drainages including Old Kuskokuak Slough to ADF&G regulatory markers at the confluence of Old Kuskokuak Slough with 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. Additionally, subsistence fishing with hook and line for Chinook Salmon will close until further notice. Subsistence fishing with fish wheels will be allowed until further notice. Subsistence fishing with dip nets and beach seines is currently allowed until further notice. Any Chinook salmon caught in a dip net or beach seine must be returned immediately to the water alive.

Appendix Table 1-8. State emergency orders, Kuskokwim River drainage, 2017 (*continued from previous page*).

2017 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-S-WR-02-17	May 27, 2017	Subsistence fishing will be allowed on the Kuskokwim River mainstem within the Yukon Delta Refuge boundaries with 4-inch or less mesh size set gillnets from 9:00 a.m. until 9:00 p.m. Saturday, May 27, 2017. Gillnets may not to exceed 60 feet in length or 45 meshes in depth and may not be operated more than 100 feet from the ordinary high water mark.
EO 3-S-WR-03-17	June 3, 2017	Subsistence fishing will be allowed within the mainstem Kuskokwim River from the Yukon Delta Refuge boundaries at the mouth of the Kuskokwim River to the ADF&G regulatory markers downstream of the mouth of the Holitna River with 4-inch or less mesh size set gillnets from 9:00 a.m. until 9:00 p.m. Saturday, June 3, 2017. Gillnets may not to exceed 60 feet in length or 45 meshes in depth and may not be operated more than 100 feet from the ordinary high water mark.
EO 3-S-WR-04-17	June 10, 2017	Subsistence fishing will be allowed within the mainstem Kuskokwim River from the Yukon Delta Refuge boundary at the mouth of the Kuskokwim River to the headwaters with 4-inch or less mesh size set gillnets from 10:00 a.m. until 10:00 p.m. Saturday, June 10, 2017. Gillnets may not exceed 60 feet in length or 45 meshes in depth and may not be operated more than 100 feet from the ordinary high water mark. Chinook salmon incidentally harvested in gillnets during this opportunity may be retained.
EO 3-S-WR-05-17	June 12, 2017	From the Yukon Delta NWR boundary at Aniak up to the Holitna River mouth: Section 4. Subsistence fishing with 6-inch or less mesh gillnets, not to exceed 25 fathoms in length, will be allowed for 24 hours from 12:00 p.m. noon, Monday, June 12 until 12:00 p.m. noon, Tuesday, June 13, 2017.
EO 3-S-WR-06-17	June 12, 2017	From the Holitna River mouth to the headwaters of the Kuskokwim River: Section 5 Subsistence fishing with 6-inch or less mesh gillnets will be allowed from 12:00 p.m. noon, Monday, June 12 until further notice.
EO 3-S-WR-07-17	June 13, 2017	From the Yukon Delta NWR boundary at Aniak up to the Holitna River mouth: Section 4. Subsistence fishing with hook and line, fish wheels equipped with live boxes or chutes, beach seines, and dip nets is currently allowed until further notice, however retention of Chinook salmon caught with these gear types will close at 12:00 p.m. noon, Tuesday, June 13, 2017. Any Chinook salmon caught with these gear types must be returned immediately to the water alive
EO 3-S-WR-08-17	June 24, 2017	From the Yukon Delta NWR boundary at Aniak up to the Holitna River mouth: Section 4. Subsistence fishing with 6-inch or less mesh gillnets, not to exceed 25 fathoms in length and 45 meshes in depth, will be allowed for approximately 12 hours from 12:01 p.m. until 11:59 p.m., Saturday, June 24, 2017.

Appendix Table 1-8. State emergency orders, Kuskokwim River drainage, 2017 (*continued from previous page*).

2017 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-S-WR-09-17	July 3, 2017	From the Yukon Delta NWR boundary at Aniak up to the Holitna River mouth: Section 4. Subsistence fishing with 6-inch or less mesh gillnets, not to exceed 25 fathoms in length and 45 meshes in depth, will be allowed for approximately 12 hours from 12:01 p.m. until 11:59 p.m., Monday, July 3, 2017. The waters of the Kuskokwim River from the Yukon Delta NWR boundary at Aniak upstream to a line formed between two points lat 61° 35.308' N, long 159° 29.167' W and lat 61° 34.731' N, long 159° 28.939'W (Figure 1) will be closed to subsistence fishing with gillnets from 12:01 p.m. until 11:59 p.m., Monday, July 3, 2017.
EO 3-S-WR-10-17	July 7, 2017	Subsistence fishing in the Kuskokwim River Drainage, from the Yukon Delta NWR boundary at the mouth of the Kuskokwim River up to the mouth of the Holitna River (Sections 1–4), will be allowed from 12:01 p.m. Saturday, July 8, 2017 until further notice. Gillnets are restricted to 6-inch or less mesh, 45 meshes deep, and 25 fathoms in length. The waters of the Kuskokwim River from a line formed between two points lat 61° 35.264' N, long 159° 33.459' W and lat 61° 35.611' N, long 159° 33.260'W upstream to a line formed between two points lat 61° 35.308' N, long 159° 29.167' W and lat 61° 34.731' N, long 159°28.939'W will be closed to subsistence fishing with gillnets from 12:01p.m.Saturday, July 8, 2017 until further notice.
EO 3-S-WR-11-17	July 13, 2017	Subsistence fishing in the Kuskokwim River Drainage, from the Yukon Delta NWR boundary at the mouth of the Kuskokwim River up to the confluence of the Johnson River (Section 1), will be allowed from 12:01 p.m. Thursday, July 13, 2017 with gillnets restricted to 6-inch or less mesh, 45 meshes deep, and 50 fathoms in length until further notice.
EO 3-S-WR-12-17	July 27, 2017	Kuskokwim River Drainage: Effective 12:01 p.m. Thursday, July 27, 2017, the following restrictions to the mainstem Kuskokwim River subsistence salmon fishery are rescinded: • 6-inch or less mesh requirements for subsistence gillnets; • 25 fathom gillnet length restrictions from the mouth of the Johnson River up to the mouth of the Holitna River (Sections 2–4); • The live release requirement of Chinook salmon caught in beach seines, fish wheels, and by hook and line; • The use of dip nets for the taking of salmon; and • The closed waters within Kuskokuak and Old Kuskokuak sloughs and around the mouth of the Aniak River. Subsistence fishing with gillnets will remain closed in the following tributaries: • The Kwethluk River drainage to its confluence with Kuskokuak Slough. • The Kasigluk and Kisaralik river drainages to their confluence with Old Kuskokuak Slough.

Appendix Table 1-8. State emergency orders, Kuskokwim River drainage, 2017 (*continued from previous page*).

2017 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-S-WR-13-17	August 23, 2017	All subsistence fishing restrictions in Kuskokwim River tributaries have been lifted.

FP19-09 Executive Summary	
General Description	Proposal FP19-09 requests that prior to June 1 the use of six-inch or less mesh size gillnets shall not be restricted in the Kuskokwim River drainage. *Submitted by: Alissa N. Rogers*.
Proposed Regulation	*§___.27(e)(4) Kuskokwim Area* *(ii) For the Kuskokwim area, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060),* ***except the use of gillnets with 6-inch or less mesh size shall not be restricted before June 1 in the Kuskokwim River drainage****, unless superseded by a Federal Special Action;*
OSM Preliminary Conclusion	**Support**
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
FP19-09

ISSUES

Proposal FP19-09, submitted by Alissa N. Rogers, requests that prior to June 1 the use of six-inch or less mesh size gillnets shall not be restricted in the Kuskokwim River drainage.

DISCUSSION

The proponent states that the Alaska Department of Fish and Game's (ADF&G) Kuskokwim Salmon Management Plan, which requires the State to close the Chinook Salmon subsistence fisheries through June 11, inhibits subsistence users from customary and traditional harvest of other species of fish with gillnets, especially whitefishes and larger Sheefish typically harvested with six-inch mesh size gillnets. The proponent says the State's closure of the Chinook Salmon fishery is implemented through a complete restriction to gillnets, which began on May 20 in 2016 and 2017. The proponent believes few Chinook Salmon migrate past the mouth of the Kuskokwim River by June 1 so any restrictions to six-inch or less mesh size should not happen until after June 1 in order to allow users to harvest fish other than Chinook Salmon.

Existing Federal Regulation

§___.27(e)(4) Kuskokwim Area

(ii) For the Kuskokwim area, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.

Proposed Federal Regulation

§___.27(e)(4) Kuskokwim Area

*(ii) For the Kuskokwim area, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060**), except the use of gillnets with 6-inch or less mesh size shall not be restricted before June 1 in the Kuskokwim River drainage**, unless superseded by a Federal Special Action;*

Existing State Regulation

Kuskokwim Area—Subsistence Fishing

5 AAC 01.255. Description of districts, subdistricts, and sections

(a) Districts and subdistricts are as described in 5 AAC 07.200.

(b) During times of king salmon conservation, the Kuskokwim River may be divided into the following sections by emergency order:

(1) Section 1: from a line at the Yukon Delta National Wildlife Refuge boundary at the mouth of the Kuskokwim River at 59_ 59.96' N. lat., 162_ 30.46' W. long. to 59_ 59.95' N. lat., 162_ 11.15' W. long. to the confluence of the Johnson River and Kuskokwim River;

(2) Section 2: from the confluence of the Johnson River and Kuskokwim River to a line between ADF&G regulatory markers located approximately one-half mile upstream of the Tuluksak River mouth;

(3) Section 3: from a line between ADF&G regulatory markers located approximately one-half mile upstream of the Tuluksak River mouth to a line between ADF&G regulatory markers at the Yukon Delta National Wildlife Refuge boundary near Aniak;

(4) Section 4: from a line between ADF&G regulatory markers at the Yukon Delta National Wildlife Refuge boundary near Aniak to a line between ADF&G regulatory markers located downstream of the Holitna River mouth;

(5) Section 5: from a line between ADF&G regulatory markers located downstream of the Holitna River mouth to the headwaters of the Kuskokwim River.

5 AAC 07.365. Kuskokwim River Salmon Management Plan

(c) In the king salmon fishery,

(1) when the projected escapement of king salmon is below the drainagewide escapement goal range, the commissioner shall close, by emergency order, the commercial, sport, and subsistence king salmon fisheries;

(2) when the projected escapement of king salmon is within the drainagewide escapement goal range, the commissioner shall open and close fishing periods, by emergency order, as follows:

(A) the commissioner shall close, by emergency order, the commercial, sport, and subsistence king salmon fisheries, and after June 11, to the extent practicable, the commissioner shall open, by emergency order, at least one

fishing period per week for a directed subsistence king salmon fishery to provide harvest opportunity on surplus king salmon in excess of escapement needs,

(B) after June 11, fishing may be opened for commercial and sport fisheries to provide harvest opportunity on surplus king salmon in excess of escapement and subsistence needs;

(C) notwithstanding (c)(2)(A) of this section, before June 12 the commissioner shall open, by emergency order, at least one subsistence fishing period per week with four-inch or smaller mesh gillnets; the gillnet may only be operated as a set gillnet and no part of the set gillnet may be more than 100 feet from the ordinary high water mark;

(3) when the projected escapement of king salmon exceeds the drainagewide escapement goal range,

(A) the commissioner shall close, by emergency order, the commercial, sport, and subsistence king salmon fisheries, and after June 11, the directed subsistence king salmon fishery will be open seven days per week; and

(B) after June 11, the commercial and sport fisheries will be managed to provide harvest opportunity on surplus king salmon in excess of escapement and subsistence needs.

(C) notwithstanding (c)(3)(A) of this section, before June 12 the commissioner shall open, by emergency order, at least one subsistence fishing period per week with four-inch or smaller mesh gillnets; the gillnet may only be operated as a set gillnet and no part of the set gillnet may be more than 100 feet from the ordinary high water mark;

(4) notwithstanding the provisions of (2) and (3) of this subsection, if the department determines there is a harvestable surplus of king salmon, the commissioner may open, by emergency order, a subsistence king salmon fishery during which

(A) king salmon may be taken only by a person 60 years of age or older; and

(B) a person authorized to take king salmon under this paragraph may not authorize a proxy to take or attempt to take king salmon under AS 16.05.405 or 5 AAC 01.011, but the participant may be assisted by family members within the second degree of kindred; in this subparagraph, "within the second degree of kindred" has the meaning given in 5 AAC 92.990(a).

(d) In the subsistence fishery, in the Kuskokwim River drainage, in the waters of the mainstem of the river and other salmon spawning tributaries, unless otherwise specified by the department,

(1) the subsistence salmon net and fish wheel fisheries will be open seven days per week, except that if the commissioner determines that it is necessary in order to achieve escapement goals, the commissioner may alter fishing periods, by emergency order, based on run abundance;

(2) the commissioner may implement one or more of the gear limitations as described in 5 AAC 01.270(n) during times the commissioner determines that it is necessary for the conservation of king salmon;

(A) the gillnet mesh size may not exceed four inches until sockeye and chum salmon abundance exceeds the king salmon abundance;

(B) a gillnet may not exceed 25 fathoms in length, except that a longer gillnet may be used if no more than 25 fathoms of the gillnet is in a fishing condition and the remainder of the gillnet is tied up or secured so that it is not in the water in a fishing condition;

(C) a person may fish for salmon with a dip net, as defined in 5 AAC 39.105, and all king salmon caught by a dip net must be returned immediately to the water unharmed;

(3) actions to conserve king salmon may be applied to the entire Kuskokwim River, its sections, or tributaries, consistent with harvest trends and variability in abundance of king salmon available for harvest as the run progresses upstream;

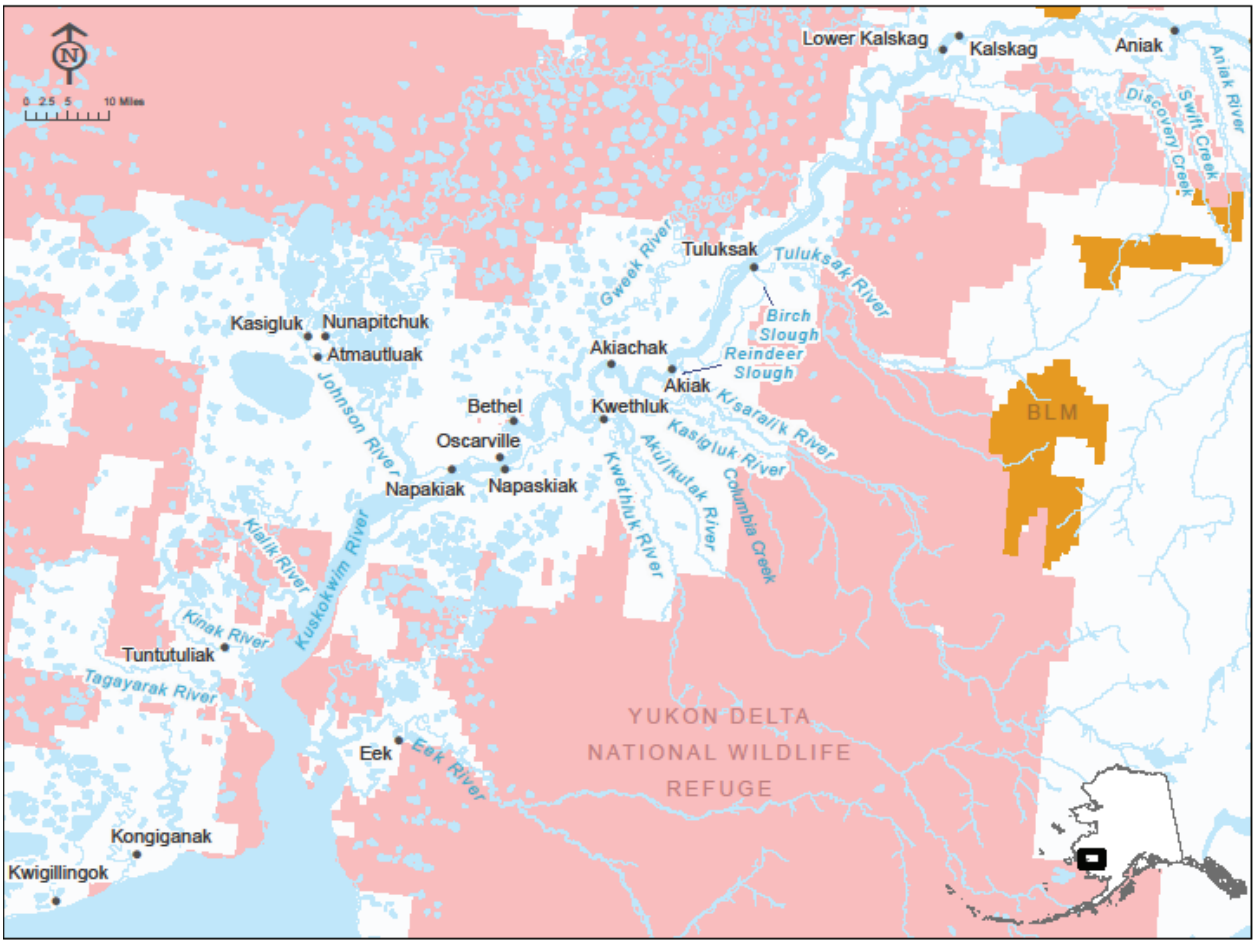
(4) the commissioner may alter the subsistence hook and line bag and possession limits specified in 5 AAC 01.295, by emergency order, if the commissioner determines that inseason information indicates it is necessary for conservation purposes.

Extent of Federal Public Lands

For purposes of this analysis, the phrase "Federal public waters" is defined as those waters described under 36 CFR §242.3 and 50 CFR §100.3. The affected area consists of those waters of the Kuskokwim River drainage that are within and adjacent to the exterior boundaries of the Yukon Delta National Wildlife Refuge (Refuge), including District 1 and portions of District 2 of the Kuskokwim Fishery Management Area. The waters are generally described as the lower Kuskokwim River drainage from the mouth upriver to and including about 30 miles of the Aniak River (**Map 1**).

Customary and Traditional Use Determinations

Residents of the Kuskokwim Area, except those persons residing on United States military installations located on Cape Newenham, Sparrevohn USAFB, and Tatalina USAFB, have a customary and traditional use determination for salmon (50 CFR 100.24 and 36 CFR 242.24).



Map 1. Yukon Delta National Wildlife Refuge

Regulatory History

Given that the proponent refers to the Kuskokwim River Salmon Management Plan, this analysis will start with the regulatory history timeline in 2013, which was the year the Alaska Board of Fisheries adopted the current plan that contains information on the front-end closure the proponent is trying to rectify in Federal regulations. For Federal special actions and State emergency orders issued 2014-2017, see **Appendix 1**. The regulatory history section below will provide information on restrictions to the Chinook Salmon subsistence fishery before or around June 1.

Another important note to mention is that deferred fisheries proposal FP17-05 will have an effect on this proposal. FP17-05 is requested that Federal subsistence management plans, strategies, fishing schedules, openings, closings and fishing methods for the Kuskokwim Area be issued independently by the Federal Subsistence Management Program in consultation with appropriate agencies and entities. The front-end closure is mandated by State regulations and is implemented through emergency orders. If FP17-05 were to be adopted, ADF&G emergency orders would not pertain to Federally qualified users located within Refuge waters; thus, the front-end closure issued through State emergency orders would not apply to Federally qualified users within Refuge waters.

Salmon Management in 2013 Prior to June 1

In 2013, the Alaska Board of Fisheries (BOF) adopted the Kuskokwim River Salmon Management Plan (5 AAC 07.365). The plan provided guidelines for managing the Kuskokwim River salmon fishery to meet escapement goals and State subsistence use priority (Tiernan and Poetter 2015). It is important to note that this subsistence priority is not the rural subsistence priority mandated in Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA), and that the State has no authority to manage that priority.

On June 1, subsistence Chinook Salmon fishing with gillnets was restricted by the State to four-inch or less mesh not to exceed 60 feet in the Kwethluk River drainage including its confluence with Kuskokuak Slough, as well as the Kasigluk, Kisaralik, Tuluksak, Aniak river drainages. This restriction was to conserve Chinook Salmon in the salmon-bearing tributaries of the Kuskokwim River, while allowing the harvest of non-salmon species such as whitefish, Northern Pike, and Burbot (Tiernan and Poetter 2015). No Federal in season management actions were taken prior to June 1.

Salmon Management in 2014 Prior to June 1

On May 20, 2014, the Federal in-season manager issued an emergency special action, through his delegation of authority provided to him by the Board, that closed Refuge waters from the mouth of the Kuskokwim River upriver to Tuluksak River to the harvest of Chinook Salmon by all users, and on May 27 continued the closure from the Tuluksak River to the Aniak River. Gillnets were restricted to 4-inch or less mesh size set nets not exceeding 60 feet in length through Federal emergency special actions issued by the Federal in-season manager. Chinook Salmon incidentally caught in gillnets could be retained by Federally qualified subsistence users.

Salmon Management in 2015 Prior to June 1

In February and March 2015, five separate Temporary Special Action Requests, FSA15-02, 03, 05, 07, and 08, were submitted by Akiak, Napakiak, Akiachak, Chuathbaluk, and Lower Kalskag Tribal Councils, respectively. All requested that the Board close Refuge waters to the harvest of all salmon by non-Federally qualified users, further reduce the pool of eligible harvesters based on the ANILCA Section 804 subsistence user prioritization analysis that was implemented in 2014, and implement an allocation strategy among eligible users. Several requested implementation of an interim Tribal co-management system for the 2015 season. At its work session on April 16, 2015, the Board deferred action on all the special action requests until such time, during the season, the Chair determined it necessary for Federal involvement (FWS 2015a).

On May 6, 2015, the Board adopted the ANILCA Section 804 subsistence user prioritization for the harvest of Chinook Salmon only, including a Bethel allocation strategy based on Section 804, and left the final decision concerning whether or not to close Refuge waters to the harvest of Chinook Salmon to the Federal in-season manager (FWS 2015b).

On May 16, 2015, the Federal in-season manager issued a special action to close Refuge waters from the Kuskokwim River mouth to its confluence with the Tuluksak River and salmon tributaries (Eek, Kwethluk, Kasigluk, Kisaralik, and Tuluksak rivers) to the harvest of Chinook Salmon from May 21 through July 20. The closure restricted everyone from harvesting Chinook Salmon except for Federally qualified subsistence users identified in the ANILCA Section 804 subsistence user prioritization analysis including the Bethel allocation strategy based on Section 804.

From May 21 – May 28, the Federal in-season manager restricted gillnets to 4-inch mesh size set nets and could be used only three days a week. Non-salmon species could be targeted with these nets and any incidentally caught Chinook Salmon could be retained. On May 28, 2015, the Federal in-season manager closed the harvest of Chinook Salmon in the Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary to all users. Subsistence fishing did not resume again until June 5.

Salmon Management in 2016 Prior to June 1

On March 31, the Akiak Tribal Council submitted Temporary Special Action Request FSA16-01. It requested the Board to close Federal public waters of the Kuskokwim River drainage to the harvest of salmon except by Federally qualified subsistence users, further reduce the pool of eligible harvesters based on the ANILCA Section 804 subsistence user prioritization analysis implemented in 2015, and employ an allocation strategy among eligible users, similar to the one implemented in 2015, for Chinook, Chum, Sockeye, and Coho Salmon.

The ADF&G closed subsistence fishing with gillnets starting on May 20 based on new regulation passed in 2016 by the BOF that closed the Kuskokwim area Chinook Salmon subsistence fishery before June 12.

On June 1, 2016, the Board approved FSA16-01 with modification, closing Federal public waters of the Kuskokwim River drainage to the harvest of Chinook and Chum salmon except by Federally qualified users identified in a Section 804 subsistence user prioritization analysis. Additionally, the Board determined the Federal in-season manager would provide harvest opportunity for Chinook and Chum Salmon subsistence fisheries with a combination of management tools including area, timing, and gear restrictions developed in consultation with the Kuskokwim River Inter-Tribal Fish Commission pursuant to the Memorandum of Understanding between the U.S. Fish and Wildlife Service and the Commission (FWS 2016).

On June 3, 2016, the Federal in-season manager closed Refuge waters to the harvest of Chinook and Chum Salmon by Federally qualified subsistence users.

Salmon Management in 2017 Prior to June 1

On March 1, 2017, Lamont Albertson, the Executive Director of the Kuskokwim River Inter-Tribal Fish Commission, submitted Temporary Special Action Request FSA17-03. It requested that the Board support a pre-season management strategy that would close Federal public waters in the Kuskokwim River drainage to the harvest of Chinook Salmon except by Federally qualified subsistence users if the forecast run size was less than a target identified by the Kuskokwim River Inter-Tribal Fish Commission.

On March 14, 2017, the Akiak Tribal Council submitted Temporary Special Action Request FSA17-04. It requested that the Board close Federal public waters of the Kuskokwim River drainage to the harvest of salmon except by Federal qualified subsistence users, further reduce the pool of eligible harvesters based on the ANILCA Section 804 subsistence user prioritization analysis that was implemented in 2016, and implement an allocation strategy among eligible users. The Akiak Tribal Council clarified at a later date that an allocation strategy was not requested and that the harvestable surplus of Chinook Salmon did not seem to require a permit system, but could rather be managed through timing and gear restrictions, as was done in 2016.

On May 3, 2017, the Federal in-season manager closed Federal public waters in the Kuskokwim River drainage to the use of all gillnets by all users, effective June 12, 2017 to August 10, 2017, to provide for escapement of Chinook Salmon.

On May 19, 2017, the Board met via teleconference (and in a subsequent email poll on May 22, 2017 to clarify the intent of the Board action) and approved Temporary Special Action Requests FSA17-03 and FSA17-04 with modification. On June 12, 2017, Federal public waters of the Kuskokwim River drainage were closed to the harvest of Chinook Salmon except by Federally qualified subsistence users identified in a Section 804 subsistence user prioritization analysis. The Board determined there was a need to restrict the harvest of Chinook Salmon for the conservation of healthy populations and to protect the continuation of subsistence uses as mandated under ANILCA Section 815. Those eligible to harvest Chinook Salmon under Federal regulations were the following: Federally qualified subsistence users residing in the Kuskokwim River drainage and the coastal communities of Chefornak, Kongiganek, Kipnuk, and Kwigillingok. Additionally, the Board determined the Federal in-season manager may provide harvest opportunity for Chinook Salmon subsistence fisheries with a combination of management tools including area, timing, and gear restrictions developed in consultation with the Kuskokwim River Inter-Tribal Fish Commission, pursuant to the Memorandum of Understanding between the U.S. Fish and Wildlife Service and the Commission. These Temporary Special Actions would expire when the Federal in-season manager re-opened Federal public waters of the Kuskokwim River drainage to the harvest of Chinook Salmon by non-Federally qualified users, or when they were superseded by subsequent special actions, or at the end of the regulatory year on March 31, 2018, whichever came first. This Board action superseded the previous special action issued by the Federal in-season manager on May 3, 2017 (FWS 2017).

The Federal in-season manager issued another special action on May 24, 2017, following the Board actions taken on the previous temporary special action requests, to close Federal public waters of the Kuskokwim River mainstem and salmon bearing tributaries (including Eek, Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak Rivers) to the harvest of Chinook Salmon by all Federally qualified subsistence users. The special action was effective from June 12 until August 10, 2017.

Refuge waters were closed to subsistence gillnet fishing starting on May 25 by ADF&G. Two days after this closure, ADF&G provided a 12 hour subsistence fishing opportunity with 4-inch or less set gillnets to harvest non-salmon species and incidentally retain any Chinook Salmon harvested. On June 1, the closure to subsistence gillnet fishing extended from the Refuge boundary near Aniak to the Holitna River mouth,

which was then followed up by a second 12 hour subsistence fishing opportunity on June 3. On June 4, the entire Kuskokwim River was closed to subsistence fishing with gillnets. On June 10, ADF&G provided the last 12-hour subsistence opportunity with 4-inch or less set gillnets. In total, three four-inch set gillnet opportunities, totaling 36 hours, were allowed during the early season Chinook Salmon fishery closure in 2017. These opportunities were provided based on a new BOF regulation passed in 2017 that allowed at least one opportunity per week for four-inch or less mesh set gillnets before June 12.

Biological Background

Whitefish Species

Six common whitefish species are present in the Kuskokwim River: Inconnu (Sheefish), Broad Whitefish, Humpback Whitefish, Least Cisco, Bering Cisco, and Round Whitefish. Biological data on distribution, migration, and life history that exist for these whitefish species come from directed sampling and radio telemetry studies in the drainage. Some age and length data are available for some of the species in the Kuskokwim River drainage, but is not adequate enough to provide a complete assessment of their populations.

Sheefish, Broad Whitefish, Humpback Whitefish, and Least Cisco are generally distributed from the Kuskokwim River mouth to the Swift Fork of the Kuskokwim River. Bering Cisco appear to have a limited distribution, which ranges from the mouth to the South Fork of the Kuskokwim River (Brown et al. 2012, Alt 1973). Based on weirs operated in several of the Kuskokwim River's salmon tributaries, it does not appear as though large whitefish migrations occur in most salmon spawning streams; however, data is limited to (~ 3 month) windows when the weirs do operate.

Sheefish are known to be seasonally migratory, moving to the marine environment during the winter then returning to the river during the summer and fall to feed and spawn (Alt 1977, Stuby 2010). Most appear to overwinter from lower Holitna River to Kuskokwim Bay (Alt 1977, Stuby 2010). Summer feeding habitats include slow flowing reaches of numerous tributaries in the lower river into the North Fork of the Kuskokwim River. Fall spawning habitats are known to exists in four primary areas in upper river tributaries: Swift Fork, Big River, Middle Fork, Slow Fork near Tonzona (Alt 1972, 1981, Stuby 2010). Spawning typically occurs between late September and mid-October. Sheefish, as well as the other riverine whitefish species, are broadcast spawners, spreading their eggs over gravel substrate in the fall and larvae emerge after a winter of developing, where they are distributed downstream by river currents to feeding areas (McPhail and Lindsey 1970, Gates et al. 2017).

Riverine populations of Broad Whitefish, Humpback Whitefish, and Least Cisco rear, feed, and overwinter in the lower drainage and in Kuskokwim Bay (Maciolek 1986; Harper et al. 2007, 2008, 2009). Beginning mid to late summer, pre-spawning individuals migrate from feeding habitats to upstream spawning habitats in gravel substrate reaches of the drainage (for example: Big River, Swift Fork, lower Holitna River, etc.). Spawning for Broad Whitefish typically occurs later than most species of whitefish, usually beginning in early November (Harper et al. 2009). Spawning for Humpback Whitefish usually begins in late September or early October (Stein et al. 1973, Alt 1979, Brown 2006). Migration data are not available for Least Cisco, Bering Cisco, or Round Whitefish populations in the Kuskokwim

River drainage. These species generally start migrating toward overwintering grounds by the end of the fall (late October, early November).

Chinook Salmon

Run-Size

Estimates of drainage-wide run size are produced by the Chinook Salmon run-reconstruction model. This model uses multiple sources of data such as weir and aerial escapement indices, commercial catch and effort, mark-recapture estimates, and harvest to estimate annual returns (Liller and Smith 2018). As of May 2018, the run-reconstruction model has been updated to include newly available mark-recapture information from 2014-2017, as well as additional model changes and data updates (Hamazaki et al. 2018).

Chinook Salmon abundance in the Kuskokwim River system has been highly variable with cyclical (~10 years) peaks around 379,000 and valleys around 120,000 fish. The last peak run-size occurred in 2004 with an estimated size of 366,725 Chinook Salmon. Run-sizes have dropped steadily from that peak until reaching an all-time low of 79,238 salmon in 2012. Since 2012, the population appeared to be on an increasing trend, with the 2017 run size estimated at 133,267 Chinook Salmon, which is a slight increase from the 2016 run-size of 128,855 Chinook Salmon. The Chinook Salmon run-size has remained effectively consistent from 2015 to 2017 (**Table 1, Figure 1**). In relation to the previously published run-size estimates (Liller and Smith 2018), run-size estimates have decreased on average by 11% across the entirety of the time series, with 2014-2017 estimates being, on average, 28% lower due to the influence of the new scalar information from mark-recapture projects conducted from 2014-2017 (Hamazaki et al. 2018).

Table 1. Published comparison of estimates for Kuskokwim River Chinook Salmon run-size, escapement, and harvest from 1976 to 2017. Estimates produced by Liller and Smith 2018 are in parentheses, revised estimates from Hamazaki et al. 2018 are not.

Kuskokwim River Drainage							
Year	Total Run	Escapement	Harvest				
			Subsistence	Commercial	Sport	Test Fish	Total
1976	187,584 (233,967)	97,037 (143,420)	58,606	30,735		1,206	90,547
1977	348,824 (295,559)	255,117 (201,852)	56,580	35,830	33	1,264	93,707
1978	241,781 (264,325)	158,309 (180,853)	36,270	45,641	116	1,445	83,472
1979	233,787 (253,970)	137,485 (157,668)	56,283	38,966	74	979	96,302
1980	357,950 (300,573)	260,982 (203,605)	59,892	35,881	162	1,033	96,968
1981	308,660 (389,791)	198,261 (279,392)	61,329	47,663	189	1,218	110,399
1982	173,072 (187,354)	66,071 (80,353)	58,018	48,234	207	542	107,001
1983	148,278 (166,333)	66,133 (84,188)	47,412	33,174	420	1,139	82,145
1984	171,853 (188,238)	82,677 (99,062)	56,930	31,742	273	231	89,176
1985	143,568 (176,292)	61,641 (94,365)	43,874	37,889	85	79	81,927
1986	123,452 (129,168)	52,840 (58,556)	51,019	19,414	49	130	70,612
1987	186,184 (193,465)	81,941 (89,222)	67,325	36,179	355	384	104,243
1988	204,824 (207,818)	77,061 (80,055)	70,943	55,716	528	576	127,763
1989	214,081 (241,857)	87,928 (115,704)	81,175	43,217	1,218	543	126,153
1990	266,353 (264,802)	102,167 (100,614)	109,778	53,502	394	512	164,186
1991	210,525 (218,705)	97,377 (105,589)	74,820	37,778	401	149	113,148
1992	259,154 (284,846)	127,881 (153,573)	82,654	46,872	367	1,380	131,273
1993	274,830 (269,305)	175,319 (169,816)	87,674	8,735	587	2,515	99,511
1994	411,724 (365,246)	289,094 (242,616)	103,343	16,211	1,139	1,937	122,630
1995	371,079 (360,513)	236,161 (225,595)	102,110	30,846	541	1,421	134,918
1996	307,072 (302,603)	201,561 (197,092)	96,413	7,419	1,432	247	105,511
1997	295,259 (303,189)	203,878 (211,247)	79,381	10,441	1,227	332	91,381
1998	184,356 (213,873)	84,140 (113,627)	81,213	17,359	1,434	210	100,216
1999	158,770 (189,939)	80,940 (112,082)	72,775	4,705	252	98	77,830
2000	129,138 (136,618)	60,905 (65,180)	67,620	444	105	64	68,233
2001	205,152 (223,707)	126,677 (145,232)	78,009	90	290	86	78,475
2002	226,106 (246,296)	144,445 (164,635)	80,982	72	319	288	81,661
2003	232,282 (248,789)	164,180 (180,687)	67,134	158	401	409	68,102
2004	366,725 (388,136)	266,084 (287,178)	96,788	2,305	857	691	100,641
2005	326,904 (366,601)	235,901 (275,598)	85,090	4,784	572	557	91,003
2006	326,067 (307,662)	232,409 (214,004)	90,085	2,777	444	352	93,658

Table 1 (Continued).

Kuskokwim River Drainage							
Year	Total Run	Escapement	Harvest				
			Subsistence	Commercial	Sport	Test Fish	Total
2007	244,754 (273,060)	146,637 (174,943)	96,155	179	1,478	305	98,117
2008	219,709 (237,074)	111,613 (128,978)	98,103	8,865	708	420	108,096
2009	189,370 (204,747)	103,101 (118,478)	78,231	6,664	904	470	86,269
2010	112,975 (118,507)	43,541 (49,073)	66,056	2,732	354	292	69,434
2011	113,749 (133,059)	49,718 (72,097)	62,368	747	579	337	64,031
2012	79,238 (99,807)	55,746 (76,074)	22,544	627	0	321	23,492
2013	84,311 (94,166)	36,823 (47,315)	47,113	174	0	201	47,488
2014	84,326 (135,749)	72,560 (123,987)	11,234	35	0	497	11,766
2015	125,058 (172,055)	108,454 (155,464)	16,124	8	0	472	16,604
2016	128,855 (176,916)	97,640 (145,718)	30,693	0	0	522	31,215
2017	133,267 (166,863)	116,579 (150,193)	16,380	0	0	290	16,670

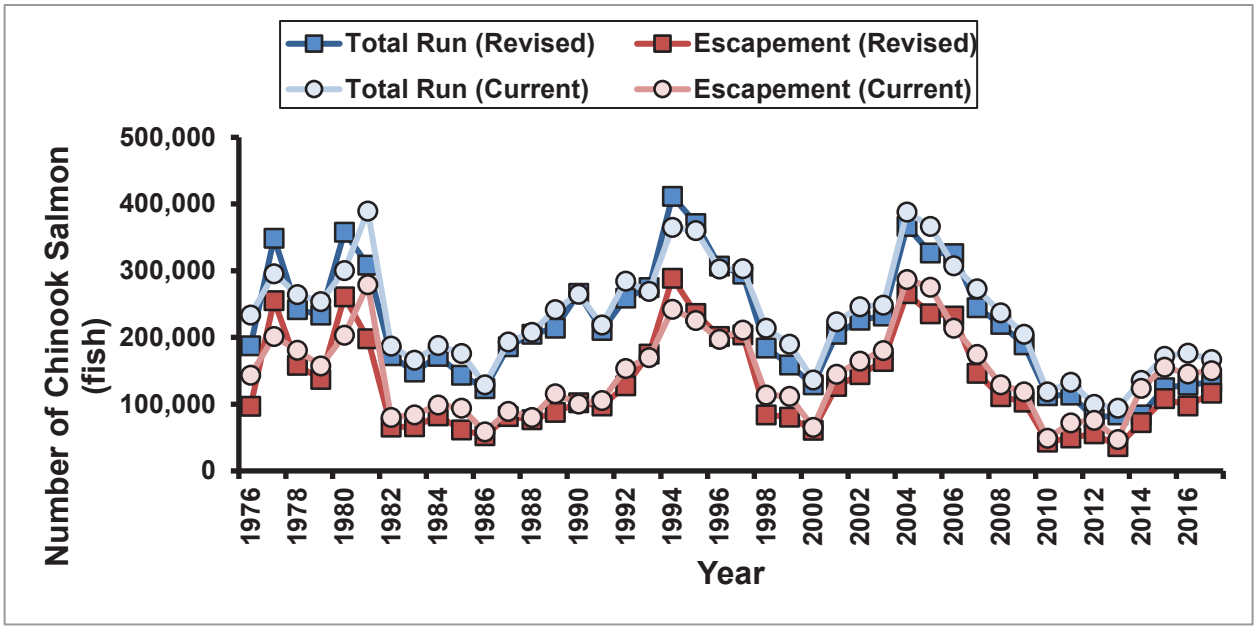


Figure 2. Comparison of Estimates for Kuskokwim River Chinook Salmon total run-sizes and escapements from 1976 to 2017. Estimates are produced from the Kuskokwim River Chinook Salmon Run-Reconstruction Model (Liller and Smith 2018) and the revised Kuskokwim River Chinook Salmon Run-Reconstruction Model (Hamazaki et al. 2018). Circles indicate estimates produced by Liller and Smith 2018, while squares indicate revised estimates produced by Hamazaki et al. 2018.

Escapement

ADF&G and U.S. Fish and Wildlife Service monitor Chinook Salmon escapement throughout the Kuskokwim River drainage with a variety of weir and aerial surveys. Six weirs are utilized as data sources in the run-reconstruction model: two in the lower river (Kwethluk, Tuluksak) and four in the upper river (George, Kogrukluk, Tatlawiksuk, and Takotna). ADF&G discontinued the Takotna weir in 2014, restarted the weir in 2017, and then discontinued the weir in 2018. Two other weirs in the drainage are not used as data inputs in the run-reconstruction model (Salmon River of the Aniak drainage, Salmon River of the Pitka Fork drainage). In addition to the weir projects, 14 aerial index surveys are utilized as inputs into the run-reconstruction model: three in the lower river (Kwethluk, Tuluksak, and Kisaralik) and 11 in the upper river (Salmon-Aniak, Kipchuk, Aniak, Holokuk, Oskawalik, Holitna, Cheeneetnuk, Gagaryah, Pitka, Bear, and Salmon-Pitka). The drainage-wide sustainable escapement goal for Chinook Salmon is 65,000 – 120,000 fish and was established in 2013. The drainage-wide escapement goal is currently under review and will be determined during the BOF Arctic-Yukon-Kuskokwim Finfish meeting in January 2019.

Total escapement estimates of Chinook Salmon follow the same general trend as total run estimates with cyclical peaks and valleys. Average high escapement years were around 268,000 fish, while average low escapements were around 77,000 fish (**Table 1, Figure 1**). The last peak was in 2004, with an escapement of around 266,084 Chinook Salmon (**Table 1, Figure 1**).After the last peak, the escapement dropped to a record low of around 36,823 fish in 2013 (**Table 1, Figure 1**). Since the record low, escapement has steadily increased although it appears as though the rate of increased escapement is slower than escapement cycles in the past despite heavy restrictions to harvest. Since 2015, conservative fisheries management has led to escapement being held between 98,000 - 117,000 (**Table 1, Figure 1**). Before revised escapement estimates were published, conservative fisheries management targeted escapement for the upper quartile of the State's drainage-wide sustainable escapement goal range (100,000 – 120,000 Chinook Salmon), which resulted in maintaining escapement around 150,000 fish under the previously estimated run-reconstruction model (Liller and Smith 2018). Due to model revisions, the evaluation of management objectives with revised numbers is complicated without a revision to the drainage-wide sustainable escapement goal.

Run-Timing and Migration Patterns

In-season run-timing heavily relies on information gathered from the Bethel Test Fishery. The Bethel Test Fishery has been operated upstream of Bethel since 1984, and provides a long term data set on species composition, relative abundances, and run-timing. There are complications with using data from the test fishery to help in-season management both because in-river abundance during the season is confounded with run-timing, as well as the test fishery being located upstream of where much of the Chinook Salmon harvest takes place. There is also a large amount of variation in historical run-timing, which complicates in-season predictions of run abundance. During in-season operations, run-timing becomes more informed as the season progresses with more data being collected from the Bethel Test Fishery, but is not well known or approximated until the end of June/beginning of July, by which time most of the run has progressed through the Bethel Test Fishery.

Chinook Salmon enter the Kuskokwim River beginning in late May and continue through early August. The Bethel Test Fishery starts operating around the end of May (latest: June 1) and continues until late August. The cumulative catch of Chinook Salmon at the test fishery can best be described by a sigmoidal shaped curve (i.e. S-shaped), and can be utilized to generalize run-strength, run-timing, and species composition (**Figure 2**).

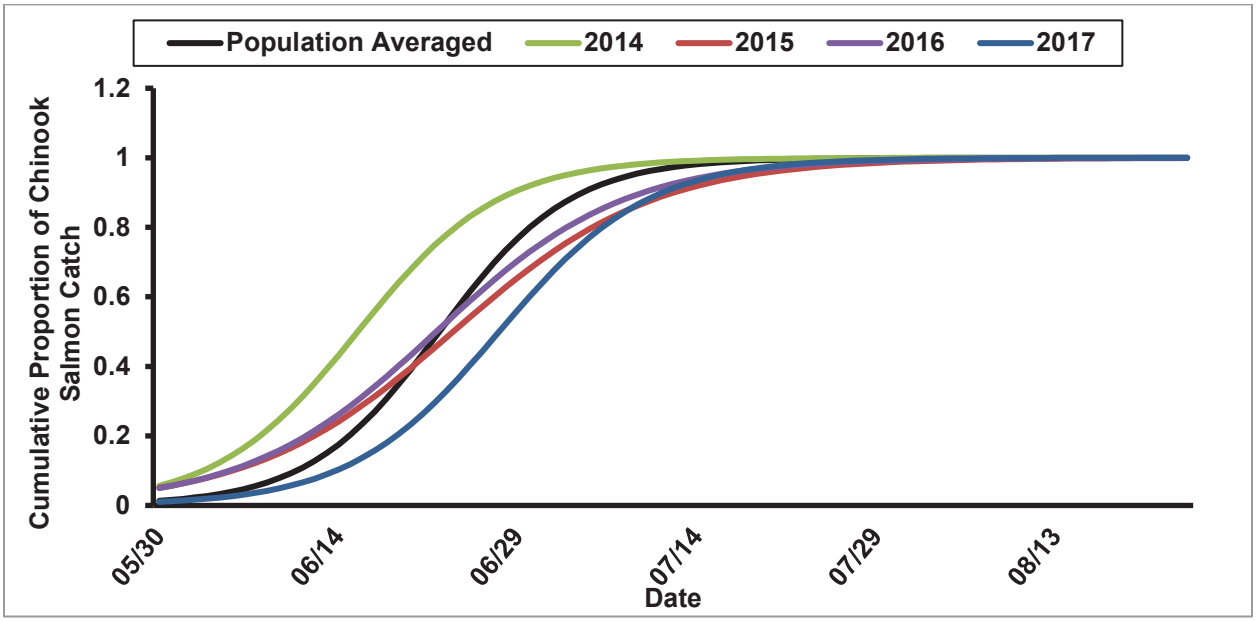


Figure 3. Estimated average of the cumulative proportion of Chinook Salmon catch collected by date at the Bethel test fishery from 1984 to 2017. The most recent three years of the cumulative proportion of catch at the Bethel test fishery is also plotted for comparison purposes. Dates were estimated using non-linear version of the logistic equation.

Across early, average, and late run-timing scenarios, the cumulative proportion of Chinook Salmon passing by the Bethel Test Fishery by June 1 is less than or equal to 1%. In average or late run-timing years, the cumulative proportion of Chinook Salmon passing the Bethel Test Fishery by June 6 increased to around 1 – 4%, while in early run-timing scenarios the cumulative proportion is much higher, around 4 – 13% (**Figure 3**).

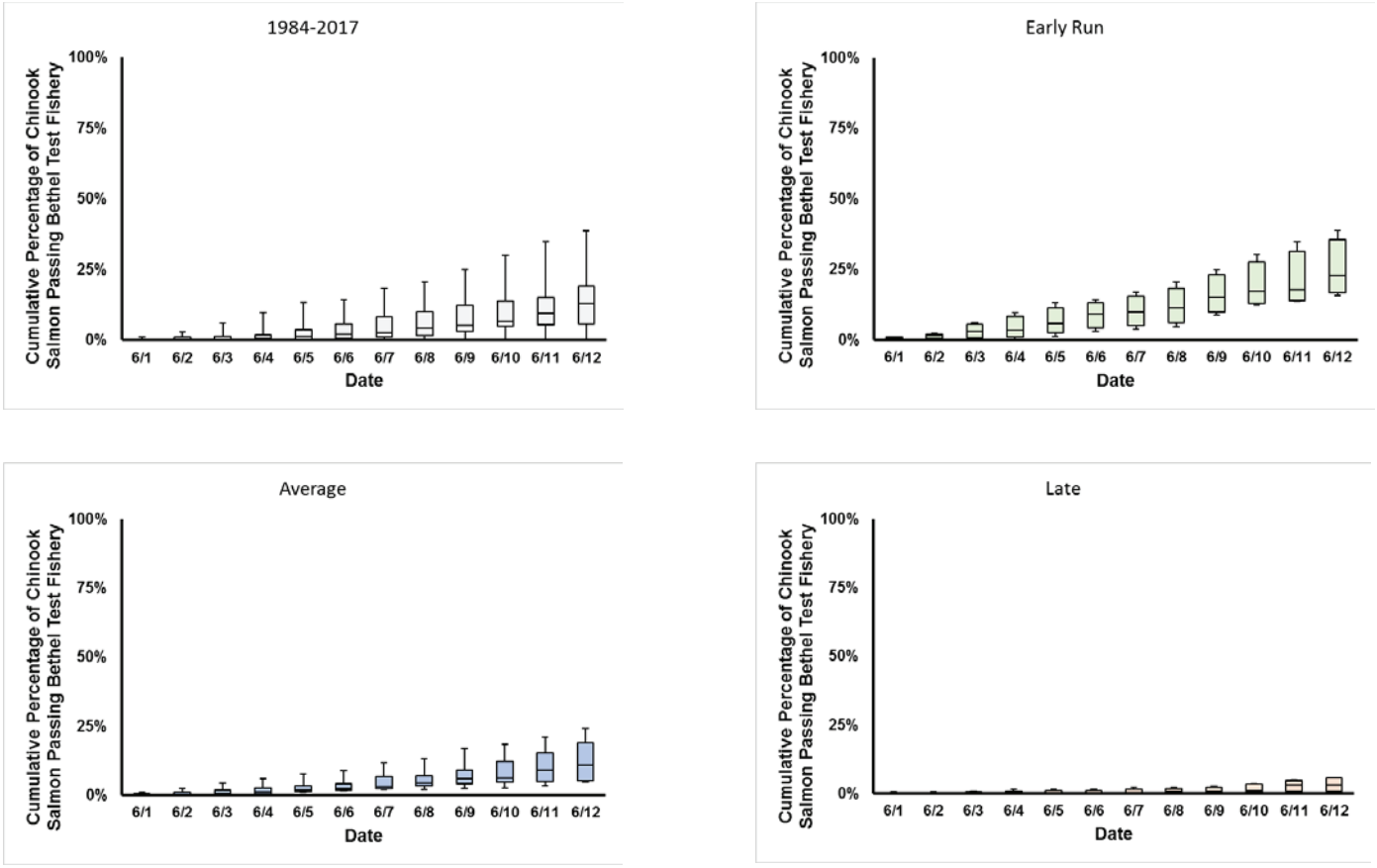


Figure 4. Box and Whisker plot for the cumulative percentage of Chinook Salmon passing through the Bethel Test Fishery from June 1 to June 12 under various run-timing scenarios.

In the earliest run-timing years, the median cumulative proportion of Chinook Salmon passing the Bethel Test Fishery by June 12 was approximately 23%, with most values falling between 17-35%. In the latest run-timing years, the median cumulative proportion of Chinook Salmon passing the Bethel Test Fishery by June 12 was approximately 3%, with most values falling between 1 – 6%. During average run-timing years, the median cumulative proportion of Chinook Salmon passing the Bethel Test Fisher by June 12 was approximately 11%, with most values falling between 5 – 19% (**Figure 3**).

From 1984 to 2017, the estimated dates at which 50% of the Chinook Salmon run has passed the Bethel Test Fishery (D50) ranges from June 14 to July 2, with an average of June 22 ± 4 days (**Figure 2**).

Past research has shown that Chinook Salmon migrating to the upriver portions of the drainage tend to migrate earlier in this range than Chinook Salmon migrating to the middle or lower portions of the drainage (Stuby 2007, Smith and Liller 2017a, 2017b). Tagging studies performed by ADF&G in 2015 and 2016 performed near the confluence of the Johnson and Kuskokwim rivers, showed headwater Chinook Salmon comprised between 50 - 67% of the studies' catches during the end of May/beginning of June, while toward the middle/end of June the same sub-stock only comprised 5% or less of the catch. Additional evidence from the Salmon Pitka Fork weir located in the headwaters of the Kuskokwim River drainage also support this pattern. The absence of a lower river Chinook Salmon subsistence fishery

before June 12 for the last three years has resulted in some of the largest Chinook Salmon escapements at the Salmon Pitka Fork weir (6,000 – 8,000 fish from 2015 – 2017). During the traditional timing of the Chinook Salmon subsistence fishery, these headwater stocks likely were harvested at a higher rate than the lower and middle river stocks given that the lower river subsistence fishery prefers harvesting in the early part of June when the headwater stocks are moving through the lower river to their final destination.

The tagging studies in 2015 and 2016 showed that all sub-stocks display similar migration rates. Between the tagging site near the confluence of the Johnson and Kuskokwim rivers to the area near Bethel (rkm 112), tagged Chinook Salmon migrated at a rate between 9 – 16 rkm/day. Chinook Salmon passing between these locations took 3 – 5 days to pass rkm 112 near Bethel. Chinook Salmon migrating pass this point proceed at a faster rate between 31 – 45 rkm/day (Smith and Liller 2017a, 2017b).

Composition

Chinook Salmon are the main salmon species moving in the Kuskokwim River at the beginning of the season; however, the composition of the run transitions to Chum and Sockeye Salmon by mid-June (**Figure 4**). From 1984 to 2017, the average date at which the proportions of Chinook Salmon is equal to that of Chum Salmon plus Sockeye Salmon at the Bethel test fishery (1:1 ratio) is June 13 (**Figure 4**). Before June 12, a majority of the salmon in the Kuskokwim River near Bethel are Chinook Salmon.

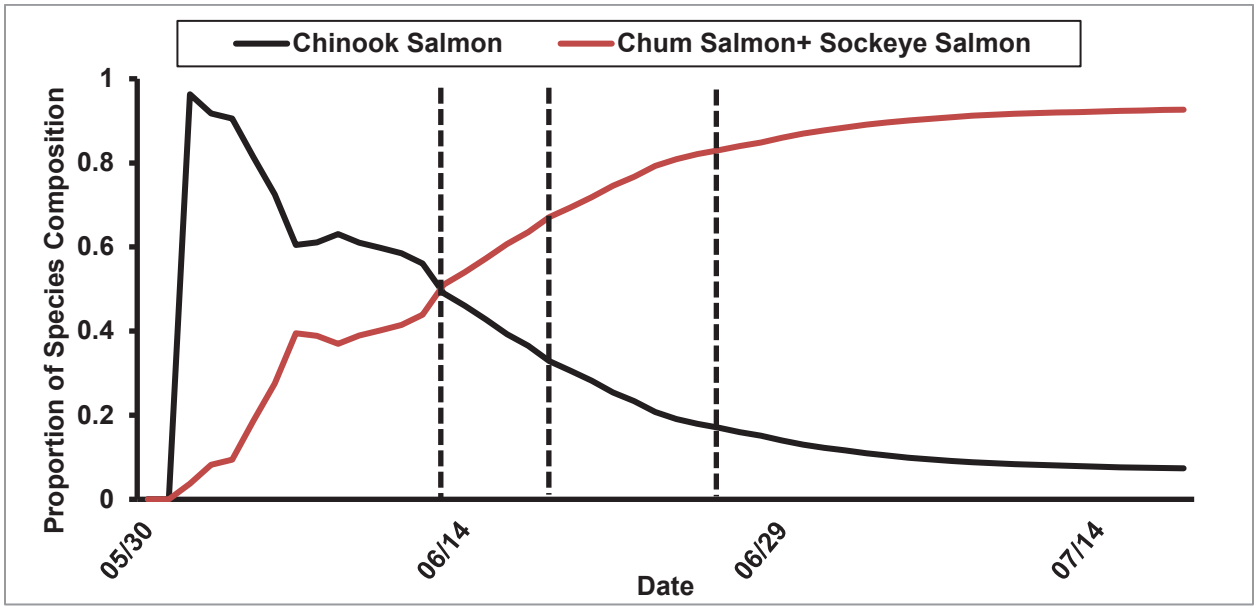


Figure 5. Average proportion of species composition by date caught at the Bethel test fishery from 1984 to 2017. Three vertical dashed lines represent three increasing ratios of Chum and Sockeye to Chinook Salmon, which occur approximately on June 13 (1:1), June 18 (2:1), and June 26 (5:1).

Harvest History

Whitefish Species

Harvest of whitefish throughout Alaska is mostly unmanaged. Federal and State subsistence regulations in the Kuskokwim River area allow for unlimited year-round harvest of all species. The only limitation is found in State sportfish regulations for Sheefish (10 per day, 10 possession, and no size limit). The primary harvest of these species occurs in the subsistence fishery, which occurs in the main-stem of the Kuskokwim River and connected tundra ponds within the Yukon Delta National Wildlife Refuge (Gates et al. 2017). Much of the harvest in the area is community or area-specific and generally lacks species specific reporting (Brown et al. 2012, Gates et al. 2017).

Commercial/Sport Fish

Limited commercial fisheries for whitefish species take place in the Kuskokwim drainage. Harvest averaged approximately 3,993 pounds of white during years for which there are harvest, which includes 1978 – 2003, excluding 1983-84, 1986, and 1998 – 2001 (Whitmore et al. 2008). These harvest estimates represents all whitefish captured and does not break out species specific harvest. Since 1992, fishers registered for this fishery were typically located in the lower Kuskokwim River (Brown et al. 2012).

Sport fishing for whitefish exist in the Kuskokwim River drainage, occur primarily in the summer months, and typically target Sheefish. Harvest data are collected through statewide, voluntary, mail-in surveys, designed to provide estimates of effort, harvest, and catch on a site-by-site basis. However, the survey for the Kuskokwim drainage generally yields low response levels. As a result precise harvest information is not available, through estimates indicate a continued low level of use. From 1996 to 2016, estimated sport fishery harvest of Sheefish in the Kuskokwim River ranged from 8 – 1,079 fish, with an average of 202 fish (**Table 6**). From 1996 to 2016, estimated sport fishery harvest of whitefish other than Sheefish in the Kuskokwim River ranged from 0 – 1,482 fish, with an average of 369 fish (**Table 6**).

Table 2. Sportfish harvest estimates of Sheefish and Whitefish from the Kuskokwim River drainage from 1996 – 2016. Results are collected from statewide post-season sportfish harvest surveys conducted by ADF&G Sportfish Division (ADF&G 2018)

Year	Sheefish	Whitefish
1996	107	0
1997	508	614
1998	119	1219
1999	268	9
2000	250	200
2001	124	0
2002	81	54
2003	45	89
2004	182	975
2005	1079	209
2006	173	58
2007	435	324
2008	191	96
2009	161	664
2010	67	54
2011	114	58
2012	60	1216
2013	74	1482
2014	93	424
2015	107	0
2016	8	0
Five-Year Average (2012 - 2016)	68	624
Ten-Year Average (2007 - 2016)	131	432
Overall Average (1996 - 2016)	202	369

Subsistence

People participate in postseason house-to-house salmon harvest surveys each year. Since 2014 they have answered questions concerning their harvests of Humpback Whitefish, Broad Whitefish, Ciscoes, Sheefish, Burbot, and Northern Pike as part of these surveys (see **Table 4**).

Subsistence harvest information is also collected through periodic comprehensive household harvest surveys. The primary purpose of comprehensive household harvest surveys is to document subsistence uses of wild resources. These studies focus on a one-year time period; however, they may not be the "typical" year. In fact, annual variation in subsistence patterns can be significant as subsistence harvesters respond, for example, to the availability of resources or environmental conditions that may vary

considerably from year to year. Additionally, some community harvest estimates from surveys are imprecise ranges. Only by observing large data sets can we begin to see trends.

Estimated harvest levels of Humpback Whitefish, Broad Whitefish, and Sheefish, are displayed in **Table 3, Table 4, Table 5, and Table 6**. These are the fishes that are available for harvest in June, and when harvested in June, are taken primarily with gillnets, which are the focus of this analysis.

Table 3. The estimated harvest of nonsalmon fishes for subsistence in lower (Eek to Tuntutuliak) and middle (Lower Kalskag to Chuathbaluk) Kuskokwim River drainage communities, based on annual post-season household surveys, 2014–2015 (Source: Shelden et al. 2016a and 2016b).

Year	Location	Humpback whitefish harvest	Broad whitefish harvest	Cisco whitefish harvest	Sheefish harvest	Burbot harvest	Pike harvest
2014	Lower	40,403 (± 5,126)	15,701 (± 2,787)	7,165 (± 2,600)	4,390 (± 1,591)	21,529 (± 7,383)	38,072 (± 4,949)
	Middle	1,638 (±426)	1,741 (± 355)	1,619 (± 699)	744 (± 221)	466 (± 250)	941 (± 437)
2015	Lower	26,618 (± 6,453)	19,437 (± 2,949)	8,495 (± 4,340)	3,279 (± 1,050)	17,114 (± 3,758)	62,845 (± 8,750)
	Middle	1,743 (±1,064)	1,928 (± 1,884)	6,257 (± 8,799)	359 (± 86)	414 (± 218)	448 (± 210)

Table 4. The harvest of Humpback Whitefish by communities in the lower and middle (Eek to Chuathbaluk) Kuskokwim River drainage, based on household harvest surveys (Source ADF&G 2018a).

Community	Study year	Humpback Whitefish estimated harvest	Lower harvest estimate	Upper harvest estimate
Akiachak	1998	7,233	5,588	8,878
Akiak	2010	7,089	981	13,197
Aniak	2009	919	762	1,413
Bethel	2012	10,427	10,423	10,430
Chuathbaluk	2009	78	65	113
Eek	2005	1,726	1,683	1,789
Eek	2013	674	672	675
Kalskag	2009	1,091	873	1,446
Kwethluk	2010	8,375	1,998	14,751
Lower Kalskag	2009	1,109	932	1,324
Napakiak	2011	2,591	2,581	2,601
Napaskiak	2011	7,269	7,188	7,350
Nunapitchuk	2005	3,373	4,157	4,157
Oscarville	2010	1,430	469	2,392
Tuluksak	2010	2,687	1,733	3,641
Tuntutuliak	2005	4,334	3,425	4,661
Tuntutuliak	2013	2,496	2,491	2,501

Table 5. The harvest of Broad Whitefish by communities in the lower and middle (Eek to Chuathbaluk) Kuskokwim River drainage, based on household harvest surveys (Source ADF&G 2018a).

Community	Study year	Broad Whitefish estimated harvest	Lower harvest-estimate	Upper harvest estimate
Akiachak	1998	4,168	3,145	5,191
Akiak	2010	1,232	722	1,742
Aniak	2009	599	497	755
Bethel	2012	5,633	5,631	5,635
Chuathbaluk	2009	125	104	187
Eek	2005	532	519	572
Eek	2013	333	332	334
Kalskag	2009	703	563	878
Kwethluk	2010	865	533	1,197
Lower Kalskag	2009	728	612	920
Napakiak	2011	1,799	1,791	1,806
Napaskiak	2011	1,505	1,493	1,517
Nunapitchuk	2005	2,321	3,026	3,026
Oscarville	2010	53	27	78
Tuluksak	2010	738	525	951
Tuntutuliak	2005	1,975	1,561	2,104
Tuntutuliak	2013	1,934	1,930	1,939

Table 6. The harvest of Sheefish by communities in the lower and middle (Eek to Chuathbaluk) Kuskokwim River drainage, based on household harvest surveys (Source ADF&G 2018a).

Community	Study year	Sheefish estimated harvest	Lower harvest estimate	Upper harvest estimate
Akiachak	1998	205	149	262
Akiak	2010	2,036	734	3,337
Aniak	2001	701	544	859
Aniak	2009	667	553	892
Bethel	2012	1,854	1,853	1,854
Chuathbaluk	2001	187	129	245
Chuathbaluk	2009	119	99	142
Eek	2005	235	230	270
Eek	2013	37	36	37
Kwethluk	1986	2,119	2,119	2,119
Kwethluk	2010	253	123	384
Lower Kalskag	2009	242	203	304
Napakiak	2011	168	167	170
Napaskiak	2011	271	269	273
Nunapitchuk	1983	12	3	27
Nunapitchuk	2005	53	75	75
Oscarville	2010	36	7	65
Tuluksak	2010	271	207	334
Tuntutuliak	2005	372	294	432
Tuntutuliak	2013	356	353	357
Upper Kalskag	2009	453	363	626

Chinook Salmon

Commercial

The beginnings of the commercial salmon fishery on the Kuskokwim occurred in the 1800s (Brown 1983, Oswalt 1990). The exportation of salmon commercially harvested from the Kuskokwim area has occurred since about 1935 (Pennoyer et al. 1965); however, the fishery did not stabilize until statehood. During the 1960s and 70s, commercial salmon fisheries management in the Kuskokwim area were considered experimental and were managed using adaptive fisheries management. The directed Chinook Salmon commercial fishery was formally closed in 1987 to insure subsistence needs were met, but incidental catch in the Chum and Sockeye Salmon fisheries was still allowed (Schindler et al. 2013). Incidental harvest of Chinook Salmon in the Chum and Sockeye fisheries is limited to 50,000 fish (Hamazaki et al. 2012).

Commercial Chinook Salmon harvest in the Kuskokwim River averaged 23,000 per year during the 1960s and peaked in the 1980s with an average annual harvest of around 39,000 fish. From the 1990s to present commercial harvest of Chinook Salmon has dropped drastically from a peak of around 53,000 fish in

1990 to 0 fish in 2017. The average harvest during this period was around 9,800 Chinook Salmon (**Table 1, Figure 5**, Liller and Smith 2018)

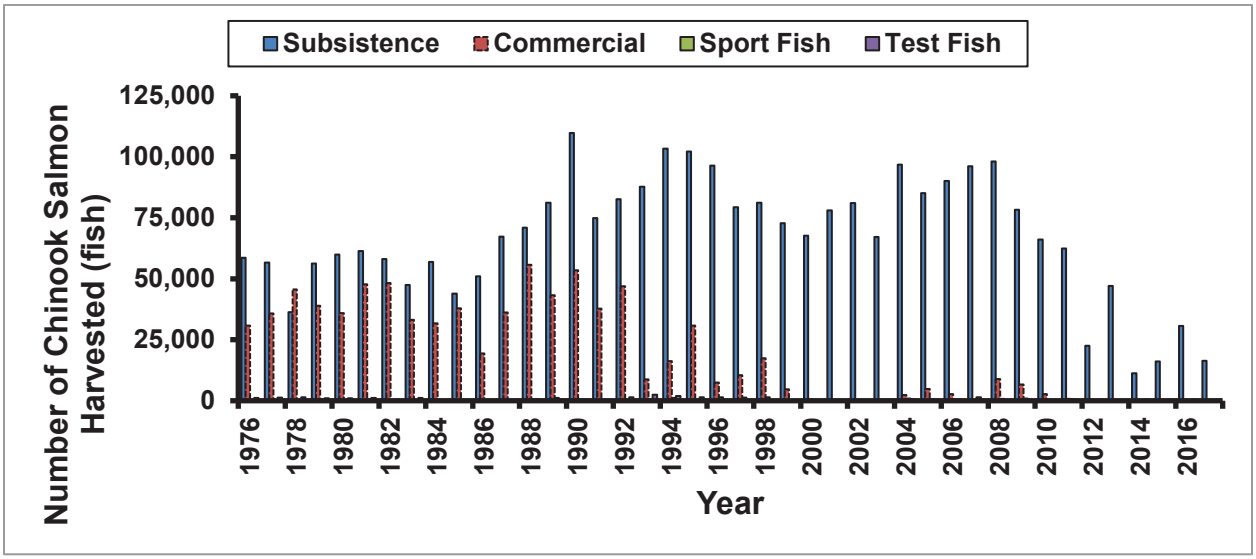


Figure 6. Number of Chinook Salmon harvested in the Kuskokwim River from 1976 to 2017 for Subsistence, Commercial, Sport Fish, and the Bethel Test Fishery (Liller and Smith 2018).

Subsistence

The Kuskokwim River Chinook Salmon subsistence fishery is the largest in Alaska. Before 1990, annual harvest surveys employed various non-standard, ad hoc methods that were not always comparable between years. In 1990, a formal statistical survey protocol was established (Walker and Coffing 1993, Simon et al. 2007). Since 2009, the harvest of Chinook Salmon has been restricted during most years. From 1990 to 2016, annual subsistence harvest averaged 73,303 fish, with a range of 67,596 fish in 2000 to 109,778 fish in 1990. Since 2009, the annual subsistence harvest has gone down, including the lowest annual harvest on record in 2014 of 11,234 fish (**Table 1, Figure 5**). The most recent five-year (2013–2017), ten-year (2008–2017), and 20-year (1998–2017) average annual subsistence harvest estimates for Chinook Salmon are: 24,305 fish, 44,883 fish, and 63,234 fish, respectively (**Table 7**, Liller and Smith 2018). The Chinook Salmon subsistence harvest for 2017 was 16,380 fish (Liller and Smith 2018). The majority of harvest occurs in the lower river, where the majority of the human population of the drainage resides (**Table 8**).

Table 7. Summary statistics (average, standard deviation, minimum, first quartile, median, third quartile, and maximum) of Chinook Salmon subsistence harvest on the Kuskokwim River by time periods (overall, five year, ten years, twenty years) in comparison to ANS range set by the Alaska Board of Fisheries in 2013.

Chinook Salmon Harvest in Kuskokwim River Subsistence Fishery							
Time Period	**Average**	**SD**	**Min**	**1st Quartile (25%)**	**Median (50%)**	**3rd Quartile (75%)**	**Max**
Overall (1976-2017)	68,052	23,319	11,234	56,432	67,620	83,872	109,778
Five Year (2013-2017)	24,305	14,675	11,234	13,679	16,380	38,895	47,113
10 Year (2008-2017)	44,883	30,141	11,234	16,316	38,895	69,100	98,103
20 Year Average (1998-2017)	63,234	28,959	11,234	34,785	70,198	84,121	98,103
ANS (set in 2013)	88,500	-	67,228	-	-	-	109,778

Cultural Knowledge and Traditional Practices

Seventeen communities are situated in the lower (Eek to Tuluksak) and middle (Lower Kalskag to Chuathbaluk) Kuskokwim River drainage (**Table 2**). The majority self-recognize as belonging to the *Kusquqvagmiut* confederation of villages and *Yup'ik* cultural tradition (Oswalt 1980, Fienup-Riordan 1984). Most non-Natives living in the area reside in Bethel and Aniak, the regional hubs of Federal and State governments, transportation, trade, and services. The population of the area almost tripled in the 50 years between 1960 and 2010. In 1960, the U.S. Census Bureau estimated that 4,023 people lived in the area. In 2010, an estimated 12,133 people living in 3,482 households were described as permanent residents of these villages.

Springtime can be difficult for people waiting for salmon runs and "feeling the pinch of dwindling food supplies" (Brown et al. 2013:36). To compensate for low salmon stores in the spring, people rely more heavily on non-salmon fishes, especially whitefishes (cf. Andrews and Peterson 1983; Brown et al 2012, 2013; Coffing 1991; Coffing et al. 2001; Ikuta et al. 2013, 2014, 2016; Krauthoefer et al. 2007; Oswalt 1959; Ray et al. 2010). Humpback whitefish, Broad Whitefish, ciscoes, Pike, smelt, Burbot (locally called lush), Alaska Blackfish, char, Arctic Grayling, and Rainbow Trout are harvested for subsistence. People use traps, hook and line, gillnets, and dip nets to harvest these fishes. Levels of harvest varies from community to community and from year to year depending on availability of fishes and environmental conditions, for example if it is safe to jig through the ice. Dip nets are generally used in the mainstem to harvest smelts and some salmon. People use traps (*taluyak*) to harvest Blackfish and some Burbot. Many fishes are harvested with hook and line by jigging through the ice and by nets set under the ice. Gillnets are used year round and catch whitefishes, Sheefish, Pike, Burbot, char, Grayling and suckers. In some communities, whitefishes are taken primarily with gillnets from open water (Coffing et al. 1991:137). Many whitefish and Sheefish are harvested with gillnets in open water following spring breakup in the mainstem and tributaries. In late spring and summer, whitefishes, Sheefish, and Pike are incidentally caught in commercial and subsistence gillnets during salmon season and are preserved by drying and

smoking along with salmon at summer fish camps and by freezing, and are eaten either fresh, boiled, or baked. Other types of fishes taken incidentally in salmon nets are generally eaten fresh.

Table 8. The population of communities in the lower and middle Kuskokwim River drainage, based on U.S. Census Bureau estimates, 1960-2010, (blank cell=0 or not available, ADCCED 2014).

Community	1960	1970	1980	1990	2000	2010	2010 number of households
Lower Kuskokwim River Drainage							
Tuntutuliak	144	158	216	300	370	408	96
Eek	200	186	228	254	280	296	91
Napakiak	190		262	318	353	354	96
Napaskiak	154	259	244	328	390	405	94
Oscarville	51	41	56	57	61	70	15
Kasigluk	244		342	425	543	569	113
Nunapitchuk	327	526	299	378	466	496	124
Atmautluak			219	258	294	277	63
Bethel	1,258	2,416	3,576	4,674	5,471	6,080	1,896
Kwethluk	325	408	454	558	713	721	192
Akiachak	229	312	438	481	585	627	183
Akiak	187	171	198	285	309	346	90
Tuluksak	137	195	236	358	428	373	92
Subtotal	**3,446**	**4,672**	**6,768**	**8,674**	**10,263**	**11,022**	**3,145**
Middle Kuskokwim River Drainage							
Lower Kalskag	122	183	246	291	267	282	75
Kalskag	147	122	129	172	230	210	60
Aniak	308	205	341	540	572	501	166
Chuathbaluk		94	105	97	119	118	36
Subtotal	**577**	**604**	**821**	**1,100**	**1,188**	**1111**	337
TOTAL	**4,023**	**5,276**	**7,589**	**9,774**	**11,451**	**12,133**	**3,482**

In research conducted between 2009 and 2013, residents of lower Kuskokwim River drainage communities (Eek to Tuluksak) harvested high levels of non-salmon fishes, 23–46% of annual harvests of all wild resources in lbs. edible weight. Harvest levels in other resource categories (large land mammals, small land mammals, birds and eggs, marine invertebrates, and berries and plants) except salmon were considerably lower. Non-salmon fishes harvested by residents of communities in the lower river included Pike and whitefishes and smaller amounts of Blackfish, Burbot, and smelt. Some char, trout, and Grayling were reported in these harvests (ADF&G 2018a). Typically, communities in the middle Kuskokwim River drainage, from Lower Kalskag to Chuathbaluk, reported harvesting non-salmon fishes at a lower rate, 5–17% of annual wild food harvests, than lower river communities. The most common non-salmon fishes harvested in middle river communities were whitefishes. Other fish included smelt, Blackfish, and Grayling (ADF&G 2018a).

People in the area rely heavily on non-salmon fishes. In household surveys between 1983 and 2013, almost all households reported using non-salmon fishes and majorities reported harvesting them. They are widely shared within and between communities, and annual harvests rates of over 200 lbs. edible weight per person have been common (see **Table 9**).

Table 9. The harvest and use of non-salmon fishes by communities situated in the lower (Eek to Tuluksak) and middle (Lower Kalskag to Chuathbaluk) Kuskokwim River drainage, based on household harvest surveys (blank cell=question not asked; source: ADF&G 2018a).

Community	Study year	Households using non-salmon fishes	Households attempting to harvest non-salmon fishes	Households harvesting non-salmon fishes	Households giving away non-salmon fishes	Households receiving non-salmon fishes	Pounds harvested per person
Akiachak	1998	99%	96%	95%	70%	73%	248
Akiak	2010	83%	73%	71%	43%	46%	209
Aniak	2001	91%	74%	65%	25%	72%	37
Aniak	2009	70%	70%	51%	27%	46%	50
Bethel	2012	76%	55%	54%	37%	60%	31
Chuathbaluk	2001	85%	65%	65%	12%	38%	175
Chuathbaluk	2009	80%	80%	57%	27%	53%	20
Eek	2005	91%	87%	87%	50%	15%	550
Eek	2013	88%	72%	67%	55%	63%	61
Kalskag	2009	90%	90%	69%	52%	63%	48
Kwethluk	1986		87%	87%	64%	72%	269
Kwethluk	2010	88%	75%	75%	41%	61%	84
Lower Kalskag	2009	89%	89%	67%	33%	70%	32
Napakiak	2011	82%	64%	64%	46%	54%	151
Napaskiak	2011	88%	68%	66%	41%	63%	105
Nunapitchuk	1983			100%			365
Nunapitchuk	2005	65%	61%	65%	39%	30%	812
Oscarville	2010	100%	100%	100%	67%	75%	169
Tuluksak	2010	91%	81%	79%	49%	60%	87
Tuntutuliak	2013	97%	78%	76%	49%	76%	98

Current Events

Proposals FP19-08, FP19-09, and FP19-10 request the Board to adopt into regulation actions that have been previously accomplished by special actions issued to manage the harvest of Chinook Salmon in Refuge waters since 2016. Proposals FP19-08 and FP19-09 deal with the timing of gillnet restrictions and how harvest opportunity will be managed during gillnet restrictions, while FP19-10 deals with what parts of Refuge waters remain open during gillnet restrictions. All of these requests deal with specifics about timing and manner of the fishery closures and harvest opportunities, and the location of harvest opportunities during closures. These are management topics that could benefit from a more coordinated and collaborative effort to develop permanent Federal regulations related to Chinook Salmon on the Kuskokwim River. Regardless of whether or not Proposal FP17-05 is approved, the adoption of any of these proposals would require the Federal in-season manager to continue to issue emergency special actions in order to adjust for in-season management in the absence of a complete plan for Federal subsistence fisheries management.

Other Alternatives Considered

If adopted, Proposal FP17-05 in combination with any of the other Kuskokwim area proposals submitted during this cycle (FP19-08, FP19-09, and FP19-10) would effect Federal subsistence management for the Kuskokwim Area. A potential alternative for consideration would be to defer all of the Kuskokwim area proposals (FP17-05, FP19-08, FP19-09, and FP19-10) and direct OSM staff to facilitate the development of a collaborative Federal subsistence management plan that would outline strategies for management Federal subsistence fisheries in the Kuskokwim Area. The approaches found in the current fisheries regulatory proposals for the Kuskokwim Area are valid approaches to fisheries management. However, it may be more effective to develop a full suite of permanent regulations through coordinated efforts with the parties identified in the Kuskokwim Area delegation of authority letter. This potential alternative would provide a mechanism to allow a larger group involved with all entities the time to submit a larger proposal that would become a Federal subsistence fisheries management plan for the Kuskokwim area.

Effects of the Proposal

If the proposal were adopted, the use of six-inch or less mesh size gillnets will not be restricted before June 1 in Federal public waters of the Kuskokwim River drainage. Current Federal regulations for the Kuskokwim area state that Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issue for the subsistence taking of fish under ADF&G emergency orders issued, unless superseded by Federal Special Action. This proposed regulation would supersede any State emergency orders that restricts six-inch or less gillnets in Federal public waters of the Kuskokwim River drainage before June 1. As such, current State regulation and recent State management actions regarding the closure of the Chinook Salmon subsistence fishery before June 11 via implementation of a gillnet restriction would not apply to Federally qualified subsistence users until June 1.

The Federal in-season manager for the Kuskokwim area or the Federal Subsistence Board could still issue Federal special actions to restrict the use of six-inch or less mesh size gillnets before June 1 if pre-season data suggests conservation of healthy populations concerns, continuation of subsistence uses concerns, population viability issues, or for public safety.

If adopted, it is unknown what biological effects the proposed changes will have on whitefish and other non-salmon species. However, more whitefish would likely be harvested in the Kuskokwim River by Federally qualified subsistence users because this new regulation would supersede any front-end gillnet closure implemented by the State before June 1.

If adopted, the effect on Chinook Salmon conservation may differ depending on run-timing and area. Chinook Salmon are widely known to be migrating into the mouth of the Kuskokwim River by the end of May through early June. Given this, and the data on run timing from the Bethel Test Fishery, fishing below the Johnson River before June 1 would result in some Chinook Salmon harvest, while fishing above Bethel would not likely result in any Chinook Salmon harvest. There would be more harvest on years with early run timing and less harvest on years with late run timing. Those Chinook Salmon harvested prior to June 1 would likely be headed for spawning locations in the headwaters. Depending

on harvest totals, this could negatively affect headwater stocks. Alternatively, early harvest may provide some relief to lower- and middle-river stocks by spreading take over the entire run.

If adopted, the proposed changes will provide more traditional, early fishing opportunities for non-salmon species than are currently provided under recent State actions. Federally qualified users above Bethel would likely see more benefit than users below Bethel in terms of non-salmon fishing. Federally qualified subsistence users below/around Bethel would likely have opportunity for more traditional salmon fishing.

If adopted, the proposed changes would provide some clarity to the in-season manager on when gillnet restrictions can take place in absence of any in-season information or uncertain pre-season information. Closures to non-Federally qualified users for Chinook Salmon would be situated around June 1 because Federally qualified subsistence users would be unaffected by current State regulation that requires Chinook Salmon subsistence fishery to close before June 11.

If the proposed changes are not adopted, Federal subsistence fishing schedules, openings, closings, and fishing methods would be the same as those issued for the subsistence taking of fish under ADF&G emergency orders issued, unless superseded by Federal Special Action. The Federal in-season manager for the Kuskokwim area would still retain emergency order authority through the delegation of authority letter authorized by the Board.

OSM PRELIMINARY CONCLUSION

Support Proposal FP19-09.

Justification

The OSM preliminary conclusion for this analysis is assuming Board action taken on FP17-05 reflects the OSM preliminary recommendation provided in that analysis, to support adoption. The OSM preliminary conclusion for this proposal is advocating support with modification as it would provide a framework for management in the event that FP17-05 were adopted.

Since 2013, the Chinook Salmon subsistence fishery has been restricted in some manner before June 1 by either Federal and/or State management agencies. Since 2016, restrictions before June 1 have become ingrained in management of the Kuskokwim River due to State of Alaska regulations that require the closing of the Chinook Salmon fisheries in the Kuskokwim River drainage before June 12. These closures have been implemented through a complete restriction of subsistence fishing with gillnets, which have occurred within Refuge waters from 2016 – 2018 before June 1, between May 20 and May 30. During this closure, limited opportunities have been provided to target non-salmon species with four-inch or less mesh size set gillnets.

Although the intent of the early season closures are to protect the front-end of the Chinook Salmon run (known to return to the upper Kuskokwim River drainage) in order to equitably distribute Chinook Salmon harvest to the middle and upper communities within the drainage, the initial timing of the closures have severely limited gillnet opportunities for nonsalmon species, such as whitefish and Sheefish,

by Federally qualified subsistence users. Limited opportunities have been provided by the State since 2017, but have only consisted of one opportunity a week with four-inch or less mesh set gillnets.

Supporting this proposal would provide a clear priority to Federally qualified subsistence users prior to June 1 given State regulations require ADF&G to close the Chinook Salmon subsistence fishery before June 11, which is implemented via a complete restriction to gillnets that occurs within Federal public waters of the Refuge generally before June 1. Federally qualified subsistence users would be allowed to harvest fish with six-inch or less mesh gillnets before June 1, which has not been allowed since the new State regulation was put into place in 2016. However, the Federal in-season manager for the Kuskokwim area, as well as the Board, could still restrict the use of six-inch or less mesh gillnets through Federal special action if pre-season data suggests conservation of healthy population concerns, population viability issues, or for public safety. Because of this, the proposed regulation provides a priority for Federally qualified subsistence users, while still allowing management flexibility during the in-season process.

The date of June 1 in the proposed regulation will provide additional opportunities for Federal qualified subsistence users, especially for Federally qualified subsistence users above the Bethel area. Long-term data collected at the Bethel Test Fishery suggests that Chinook Salmon are unlikely to be in that portion of the river in large numbers before June 1. On the other hand, the Bethel Test Fishery data, as well as telemetry data, suggests that Chinook Salmon are present in some magnitude below the Bethel area by June 1. Federally qualified users residing in the area near or below Bethel would have greater opportunity to harvest Chinook Salmon migrating from the lower portions of the Kuskokwim River drainage, in addition to targeted non-salmon species. However, during conservation concerns for Chinook Salmon, the Federal in-season manager can still mitigate the risk of Chinook Salmon harvest by issuing an emergency Federal special action restricting the use of six-inch or less mesh gillnets if initial data suggests too much Chinook Salmon harvest is occurring in these portions of the Kuskokwim River before June 1. This proposed regulation would help clarify and guide management, as well as subsistence users as to the date in which stakeholders could reasonably expect to see restrictions to subsistence fishing with gillnets.

Ultimately, this proposal would help continue traditional subsistence uses for non-salmon species such as whitefish and Sheefish in the lower parts of the river, while also benefitting the users located above Bethel by providing users more time to fish for larger whitefish and Sheefish than what has otherwise been provided through more recent State regulatory actions. This would also help continue traditional subsistence uses for Chinook Salmon in the lower river by providing a chance for subsistence users in that area to fish for Chinook Salmon that might be in the lower river before June 1, as well as providing a chance for subsistence users in that area to fish for larger whitefish and Sheefish. If conservations concerns continue into the future, the Federal in-season manager would still retain the authority to restrict six-inch or less mesh gillnet usage.

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APPENDIX 1

FEDERAL SPECIAL ACTIONS AND STATE EMERGENCY ORDERS 2014–2017

Appendix Table 1-1. Federal special actions, Kuskokwim River drainage, 2014.

2014 KUSKOKWIM RIVER DRAINAGE		
SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-01-14	May 20–July 18, 2014	Federal public waters of the Kuskokwim drainage are closed to the harvest of Chinook salmon except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek.
SA 3-KS-02-14	May 20–July 14, 2014	Mouth upriver to Tuluksak is closed to the harvest of Chinook salmon by all users.
SA 3-KS-03-14	May 27–July 18, 2014	Tuluksak upriver to Refuge boundary at Aniak is closed to the harvest of Chinook salmon by all users
SA 3-KS-04-14	June 11–June 30, 2014	Federal public waters of the Kuskokwim drainage are closed to the harvest of Chinook salmon except by residents of communities issued Social and Cultural Permits fishing with gillnets 6-inch or less mesh size not exceeding 50-fathoms long and 45-meshes deep.
SA 3-KS-05-14 (see EO 3-S-WR-07-14)	June 20, 2014	Mouth upriver to Tuluksak is closed to the harvest of Chinook salmon except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek fishing with gillnets 6-inches or less mesh size not exceeding 50-fathoms long and 45-meshes deep, for 4 hours.
SA 3-KS-06-14	June 20–July 14, 2014	Below the southern tip of Eek Island is closed to the harvest of Chinook salmon except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek fishing with gillnets 6-inch or less mesh size not exceeding 50-fathoms long and 45-meshes deep.
SA 3-KS-07-14	June 24–July 14, 2014	For the Kuskokwim area, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060). Two Special Actions remain in effect, 3-KS-01-14 and 3-KS-04-14, unless superseded by a Federal Special Action.

SALMON MANAGEMENT IN 2014

Appendix Table 1-2. State emergency orders, Kuskokwim River drainage, 2014.

2014 KUSKOKWIM RIVER DRAINAGE		
SUBSISTENCE FISHING		
State Emergency Orders	**Effective Date**	**Action**
Board of Fisheries (3/17/14)	Emergency regulation that was adopted into permanent regulations	Dip nets are legal gear for harvesting salmon other than Chinook salmon during times of Chinook salmon conservation. A dip net is a bag-shaped net supported on all sides by a rigid frame; the maximum distance between any two points on the net frame may not exceed 5 feet; the bag of the frame must be at least one-half the distance of the maximum frame opening; the webbing of the net may not exceed 4.5-inches stretch mesh.
Board of Fisheries (3/17/14)	Emergency regulation that was adopted into permanent regulations	Only gillnets less than 25 fathoms are legal gear during times of Chinook salmon conservation. Gillnets may be over 25-fathoms in total length, but must be tied and/or bagged in such a way that only 25-fathoms can be used to fish.
EO 3-KS-01-14 Sport fishing	May 1, 2014	All waters of the Kuskokwim–Goodnews Area are closed to sport fishing for Chinook salmon. Only one unbaited, single-hook, artificial lure may be used. All Chinook salmon caught unintentionally in the Kuskokwim-Goodnews Area while fishing for other species may not be removed from the water and must be released immediately.
EO 3-S-WR-01-14	June 1, 2014	Aniak River upriver to Holitna River, fishing for Chinook salmon is closed. Fishing for non-salmon species with gillnets is restricted to 4-inch or less mesh size not exceeding 60-feet long and 45 meshes deep.
	June 4, 2014	Holitna River upriver to headwaters, fishing for Chinook salmon is closed. Fishing for non-salmon species with gillnets is restricted to 4-inch or less mesh size not exceeding 60-feet long and 45 meshes deep.
EO 3-S-WR-02-14	June 1, 2014	Marine waters near the Kuskokwim River mouth (Ishkowik River to the northern boundary of District W-4 at Weelung Creek) are closed to salmon fishing.
EO 3-S-WR-03-14	June 3, 2014	Naskonat Peninsula to Ishkowik River (coastal waters including Nelson Island), fishing for salmon is restricted to gillnets with 6-inch or less mesh size.
	June 10, 2014	Aniak River upriver to Holitna River, fishing for Chinook salmon with a hook and line attached to a rod or pole is closed.

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Appendix Table 1-2. State emergency orders, Kuskokwim River drainage, 2014 (*continued from previous page*).

2014 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Orders	**Effective Date**	**Action**
EO 3-S-WR-05-14	June 14–30, 2014	Mouth to Tuluksak, fishing with dip nets will be allowed for 12 hours daily, from 9:00 a.m. to 9:00 p.m. Any king salmon caught in a dip net must be returned immediately to the water unharmed.
	June 17–30, 2014	Tuluksak to Refuge boundary at Aniak, fishing with dip nets will be allowed for 12 hours daily, from 9:00 a.m. to 9:00 p.m. Any king salmon caught in a dip net must be returned immediately to the water unharmed. This section does not include the slough (locally known as Utak Slough) on the northwest side of the Kuskokwim River adjacent to the Tuluksak River mouth.
EO 3-S-WR-06-14	June 19, 2014 until further notice	Aniak River to headwaters, fishing with dip nets will be allowed for 12 hours daily, from 9:00 a.m. to 9:00 p.m. Any Chinook salmon caught in a dip net must be returned immediately to the water unharmed.
	June 19, 2014 until further notice	Aniak River to headwaters, fishing with fish wheels will be allowed. Fish wheels are required to have a live box with no less than 45 cubic feet of water, must be checked at least every 6 hours, and all Chinook salmon must be returned to the water alive.
EO 3-S-WR-07-14 (see SA 3KS-05-14 and 3-KS-06-14)	June 20, 2014	Johnson River downriver to southern tip of Eek Island, fishing for chum and sockeye salmon is allowed with gillnets 6-inch or less mesh size not exceeding 50-fathoms long and 45-meshes deep, for 4 hours.
	June 20, 2014	Marine waters near the Kuskokwim River mouth (Ishkowik River to the northern boundary of District W-4 at Weelung Creek), fishing for chum and sockeye salmon is allowed with gillnets 6-inch or less mesh size not exceeding 50-fathoms long and 45-meshes deep, until further notice.
EO 3-S-WR-08-14	June 24, 2014 until further notice	Johnson River downriver to southern tip of Eek Island, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh size not exceeding 50-fathoms long and 45-meshes deep, until further notice from 8:00 a.m. until 4:00 p.m.
	June 24, 2014	Tuluksak downriver to Johnson River, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh size not exceeding 25-fathoms long and 45-meshes deep from 10:00 a.m. until 2:00 p.m. (4 hours). This section includes the slough (locally known as Utak Slough) on the northwest side of the Kuskokwim River adjacent to the Tuluksak River mouth.

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Appendix Table 1-2. State emergency orders, Kuskokwim River drainage, 2014 (*continued from previous page*).

2014 KUSKOKWIM RIVER DRAINAGE		
SUBSISTENCE FISHING		
State Emergency Orders	**Effective Date**	**Action**
EO 3-S-WR-09-14	June 24, 2014 until further notice	Aniak River downriver to southern tip of Eek Island, fishing will remain open to gillnets with 4-inch or less mesh size not exceeding 60-feet long and 45 meshes deep. Fishing for Chinook salmon with a hook and line attached to a rod or pole will remain closed until further notice [already closed].
EO 3-S-WR-10-14	June 27, 2014 until further notice	Johnson River to southern tip of Eek Island, fishing for chum and sockeye salmon will be allowed with gillnets 6-inch or less mesh size not exceeding 50-fathoms long.
	June 27, 2014	Tuluksak downriver to Johnson River, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh not exceeding 50-fathom long from 10:00 a.m. until 6:00 p.m. (8 hours).
	June 27, 2014	Tuluksak upriver to Chuathbaluk, fishing for chum and sockeye salmon will be allowed with gillnets 6-inch or less mesh size not exceeding 50-fathoms long from 10:00 a.m. until 6:00 p.m. (8 hours).
EO 3-S-WR-11-14	June 30, 2014 until further notice.	Tuluksak downriver to Johnson River, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh size not exceeding 50-fathoms long.
	June 30, 2014 until further notice.	Tuluksak upriver to Chuathbaluk, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh size not exceeding 50-fathoms long.
	June 30, 2014	Chuathbaluk upriver to Holitna River, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh size not exceeding 50-fathoms long from 10:00 a.m. to 6:00 p.m.
EO 3-S-WR-12-14	June 30–July 12, 2014	Mouth upriver to Chuathbaluk, fishing with dip nets will be allowed, 24 hours per day, from 9:00 p.m. Monday, until 9:00 p.m. Saturday. Any king salmon caught in a dip net must be returned immediately to the water unharmed.
EO 3-S-WR-13-14	July 1, 2014 until further notice	Naskonat Peninsula to Ishkowik River (coastal waters including Nelson Island), fishing with gillnets with unrestricted mesh size will be allowed.

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Appendix Table 1-2. State emergency orders, Kuskokwim River drainage, 2014 (*continued from previous page*).

2014 KUSKOKWIM RIVER DRAINAGE		
SUBSISTENCE FISHING		
State Emergency Orders	**Effective Date**	**Action**
EO 3-S-WR-14-14	July 3, 2014 until further notice	Chuathbaluk upriver to Holitna River, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh size not exceeding 50-fathoms long.
	July 3, 2014 until further notice	Holitna River upriver to headwaters, fishing for chum and sockeye salmon will be allowed with gillnets with 6-inch or less mesh size not exceeding 50-fathoms long.
	July 3, 2014 until further notice	Chinook salmon fishing with hook and line gear with a daily bag limit of 3 and no possession, season, or size limits will be allowed.

SALMON MANAGEMENT IN 2015

Appendix Table 1-3. Federal special actions, Kuskokwim River drainage, 2015.

2015 YUKON DELTA NATIONAL WILDLIFE REFUGE KUSKOKWIM RIVER DRAINAGE–SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-01-15	May 21–July 20, 2015	All waters within and adjacent to the Refuge boundary are closed to the harvest of Chinook Salmon except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek.
SA 3-KS-02-15	May 21–28, 2015	The mouth of the Kuskokwim River upriver to Tuluksak and its salmon tributaries within and adjacent to the Refuge boundary are closed to the harvest of Chinook Salmon by all users. Salmon tributaries are the Eek, Kwethluk, Kasigluk, Kisaralik, and Tuluksak rivers and their salmon tributaries. Gillnets must be set and are restricted to 4-inch or less mesh size not exceeding 60-feet long and 45-meshes deep, only 72 hours/week, 6:00 am Thur.–6:00 am Sunday.
SA 3-KS-03-15	May 28–July 20, 2015	The Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary are closed to the harvest of Chinook Salmon by all users (Appendix Figure C-1).
SA 3-KS-04-15	June 7–July 20, 2015	Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak rivers and their salmon tributaries within and adjacent to the boundaries of the Refuge are closed to the use of gillnets by all users (Appendix Figure C-2). Nonsalmon tributaries are Birch Creek, Akulikutak River, Columbia Creek, and Reindeer Slough 100-yards upstream from their confluences with salmon tributaries.
SA 3-KS-05-15 supersedes SA 3-KS-03-15	June 5–July 20, 2015	All waters within and adjacent to the Refuge boundary are closed to the harvest of all fish except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. The Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary are closed to the harvest of Chinook Salmon by all users. Gillnets must be set and are restricted to 4-inch or less mesh size not exceeding 60-feet long and 45-meshes deep, only 72 hours per week, 6:00 am Thur.–6:00 am Sunday (Appendix Figure C-2).

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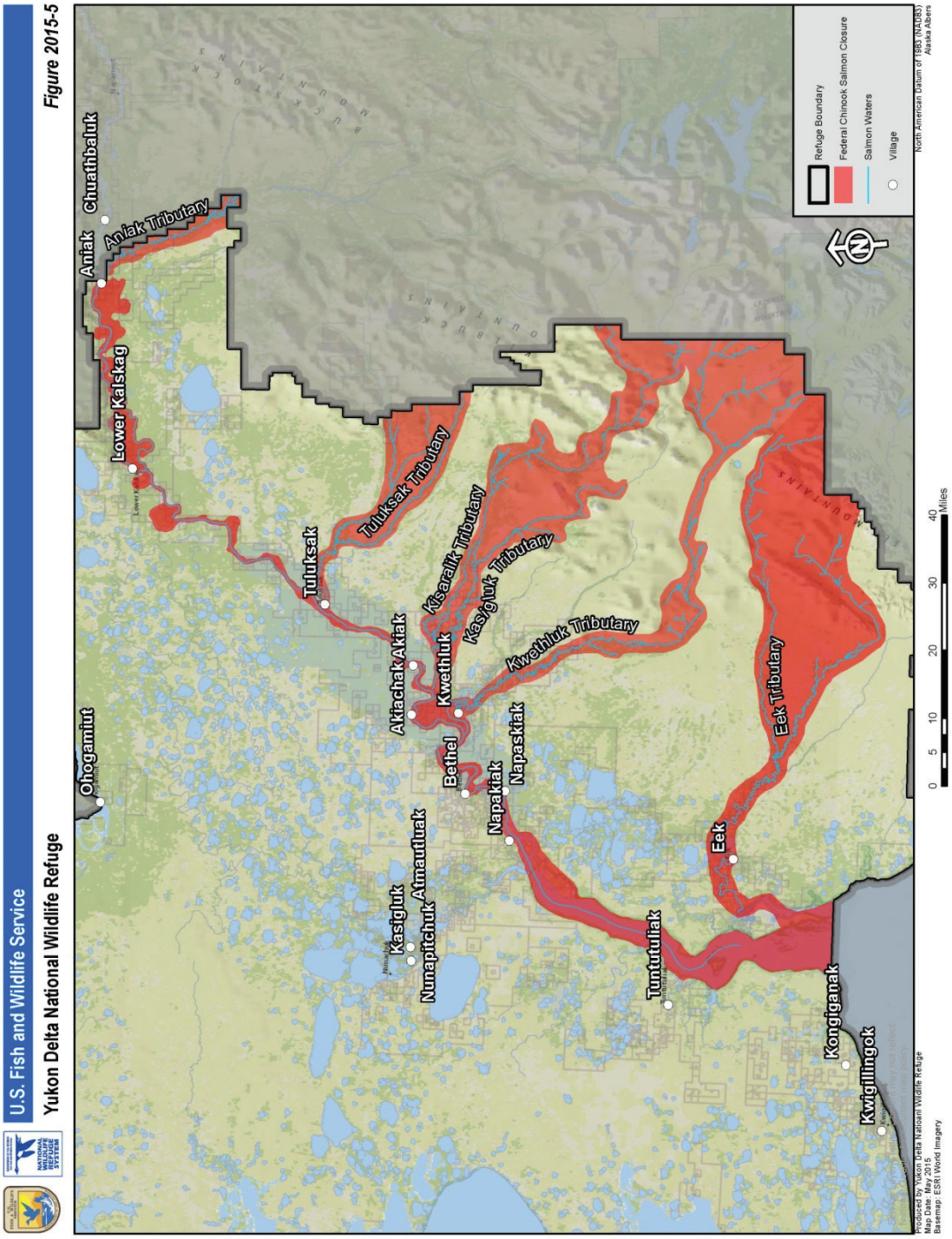
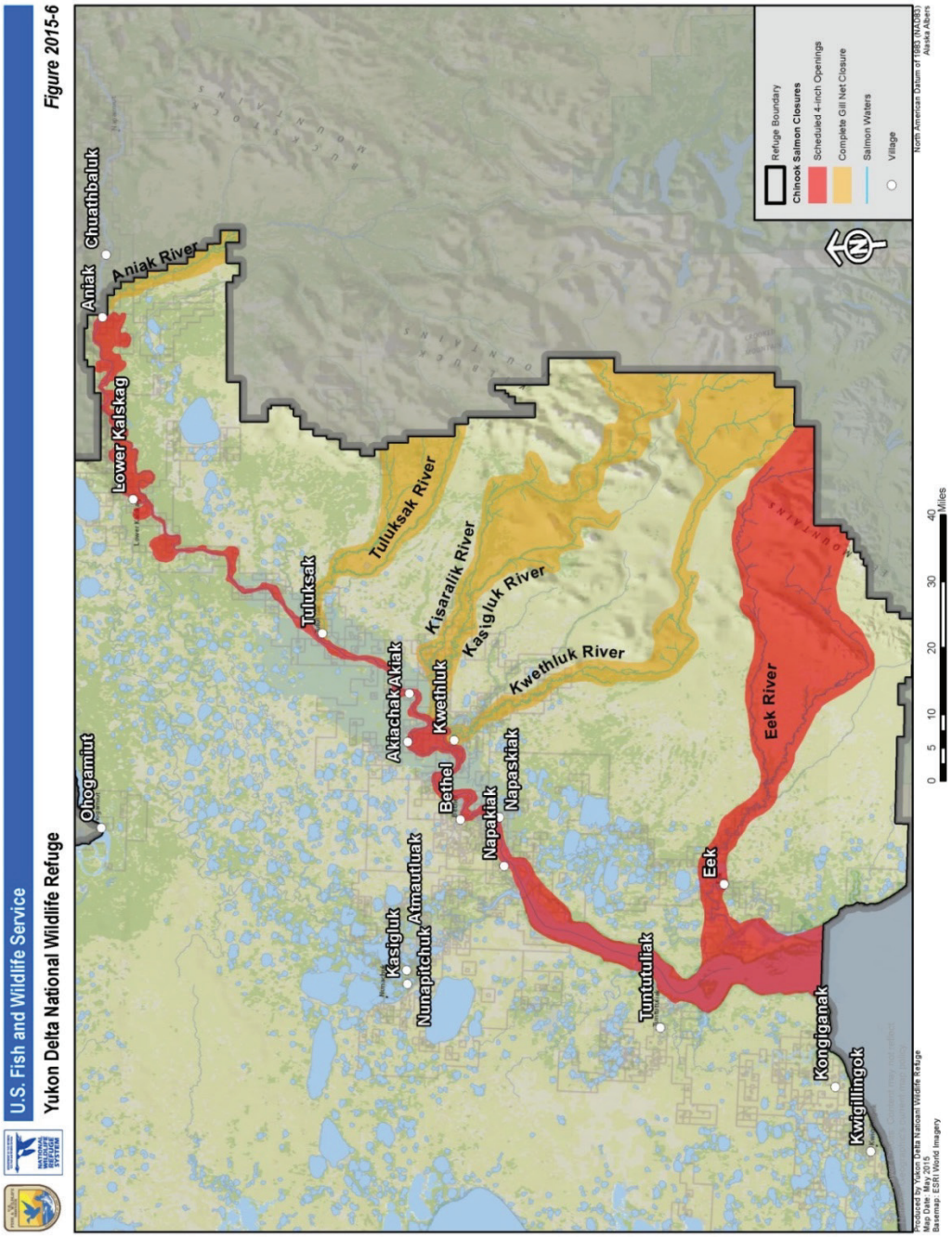


Appendix Figure 1-1. Federal Special Action SA 3-KS-03-15 closure to the harvest of Chinook Salmon by all users.



Appendix Figure 1-2. Federal Special Actions SA 3-KS-04-15 (closure to gillnets) and SA 3-KS-05-15 (scheduled openings to 4-inch mesh nets).

Appendix Table 1-3. Federal special actions, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 YUKON DELTA NATIONAL WILDLIFE REFUGE KUSKOKWIM RIVER DRAINAGE–SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-06-15	June 10–30, 2015	Unless superseded by subsequent Special Action, waters within and adjacent to the Refuge boundary are closed to the harvest of Chinook Salmon except by Federally qualified subsistence users in possession of a Federal Community Harvest Permit. Dates and harvest limits will be described on each permit. Chinook Salmon may be targeted using dip-nets, beach seines, fish wheels, and gillnets. Gillnets are restricted to 6-inch or less mesh, not exceeding 300-feet long, and 45-meshes deep, and shall be drift net only. Chinook Salmon fishing is only permitted in the Kuskokwim River, the Eek River, and salmon tributaries of the Eek River. This permit is not valid on the Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak rivers and their salmon tributaries.
SA 3-KS-07-15 Supersedes SA 3-KS-05-15	June 18–July 20, 2015	Waters within and adjacent to the Refuge boundary are closed to the harvest of all fish except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. The Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary are closed to the harvest of Chinook Salmon by all users. The Kuskokwim River and its salmon tributaries downstream of Tuluksak within and adjacent to the boundaries of the Refuge are closed to the use of gillnets by all users (Appendix Figure 1-3). The closure does not affect the Chinook Salmon harvest opportunity with Federal Community Harvest Permits (SA 3-KS-06-15).
SA 3-KS-08-15	June 18–21, 2015	Federal public waters of the Kuskokwim River drainage upriver from the Tuluksak River are closed to the harvest of nonsalmon fishes except by Federally qualified subsistence users using 4-inch or less mesh set gillnets not exceeding 60-feet long and 45-meshes deep, only 72 hours per week, 6:00 am Thur.–6:00 am Sunday (Appendix Figure 1-3).

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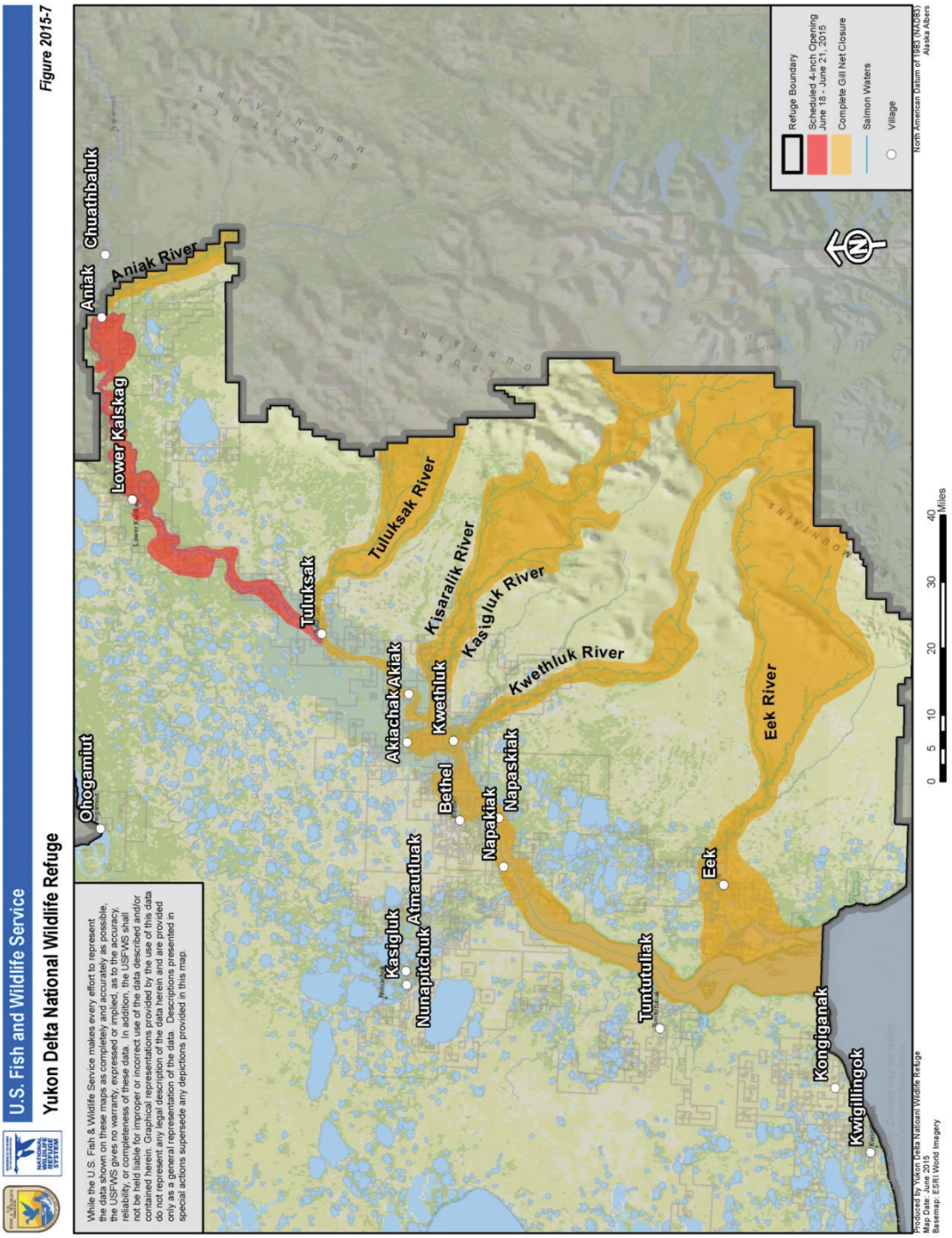

Appendix Figure 1-3. Federal Special Actions SA 3-KS-07-15 (closure to gillnets) and SA 3-KS-08-15 (scheduled opening to 4-inch mesh nets).

Appendix Table 1-3. Federal special actions, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 YUKON DELTA NATIONAL WILDLIFE REFUGE KUSKOKWIM RIVER DRAINAGE–SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-09-15 Supersedes SA 3-KS-08-15	June 22–July 20, 2015	Waters within and adjacent to the Refuge boundary are closed to the harvest of all fish except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. The closure does not affect the Chinook Salmon harvest opportunity with Federal Community Harvest Permits (SA 3-KS-06-15). Waters within and adjacent to the Refuge boundary are closed to the harvest of Chinook Salmon except by Federally qualified subsistence users on Monday June 22, 4:00 pm–8:00 pm. Only drift gillnets with 6-inch or less mesh, not exceeding 300-feet long and 45-meshes deep may be used. Fishing is only permitted in the Kuskokwim River below the mouth of the Johnson River, excluding the Eek River and its salmon tributaries, within and adjacent to the Refuge boundary (Appendix Figure 1-4). Except for users with a Federal Community Harvest Permit or participating in a temporary opening, all gillnets are prohibited in the Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary. Subsistence fishing in the Kuskokwim River and its salmon tributaries by Federally qualified subsistence users is open with all other legal subsistence gear, which are dip net, beach seine, fish wheel, or rod and reel. However, Chinook Salmon must be immediately released.

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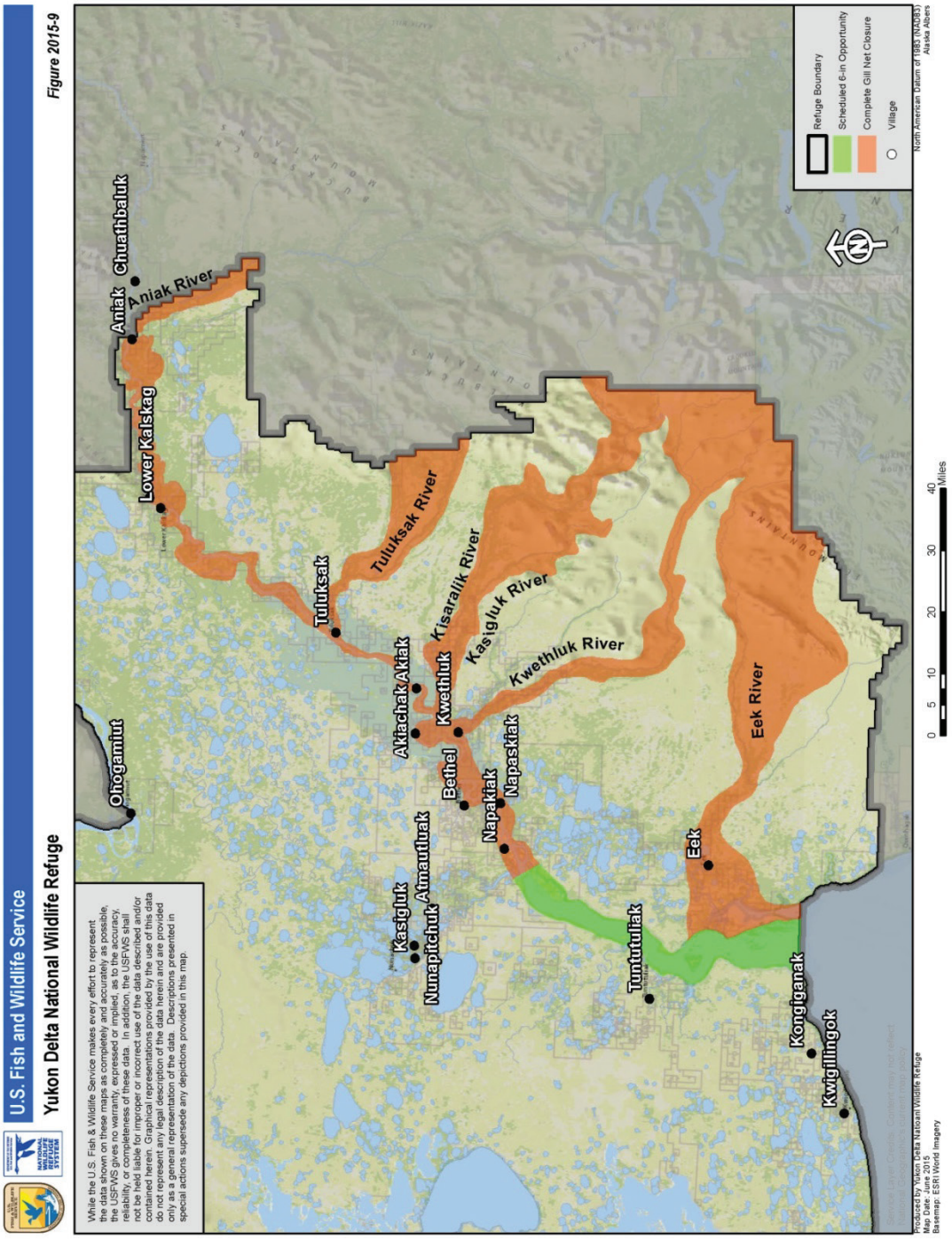

Appendix Figure 1-4. Federal Special Actions SA 3-KS-09-15 (scheduled opening to 6-inch mesh nets).

Appendix Table 1-3. Federal special actions, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 YUKON DELTA NATIONAL WILDLIFE REFUGE KUSKOKWIM RIVER DRAINAGE–SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-10-15 Supersedes SA 3-KS-09-15	June 26–July 20, 2015	Waters within and adjacent to the Refuge boundary are closed to the harvest of all fish except by residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. The Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary are closed to the harvest of Chinook Salmon except: The Kuskokwim River below the mouth of the Johnson River is open to the harvest of Chinook Salmon by Federally qualified subsistence users Friday June 26, 2:00 pm–10:00 pm. The Kuskokwim River between Kuskokuak Slough and the Johnson River are open to the harvest of Chinook Salmon by Federally qualified subsistence users Friday June 26, 6:00 pm–10:00 pm. Only drift gillnets with 6-inch or less mesh, not exceeding 300-feet long and 45-meshes deep may be used (Appendix Figure 1-5). The closures do not affect the Chinook Salmon harvest opportunity with Federal Community Harvest Permits (SA 3-KS-06-15). Except for users with a Federal Community Harvest Permit or fishing in a temporary opening, all gillnets are prohibited in the Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary. The Kuskokwim River and its salmon tributaries are closed to the harvest of all fish except Federally qualified subsistence users using all other legal subsistence gear, which are dip net, beach seine, fish wheel, or rod and reel. However, Chinook Salmon must be immediately released.

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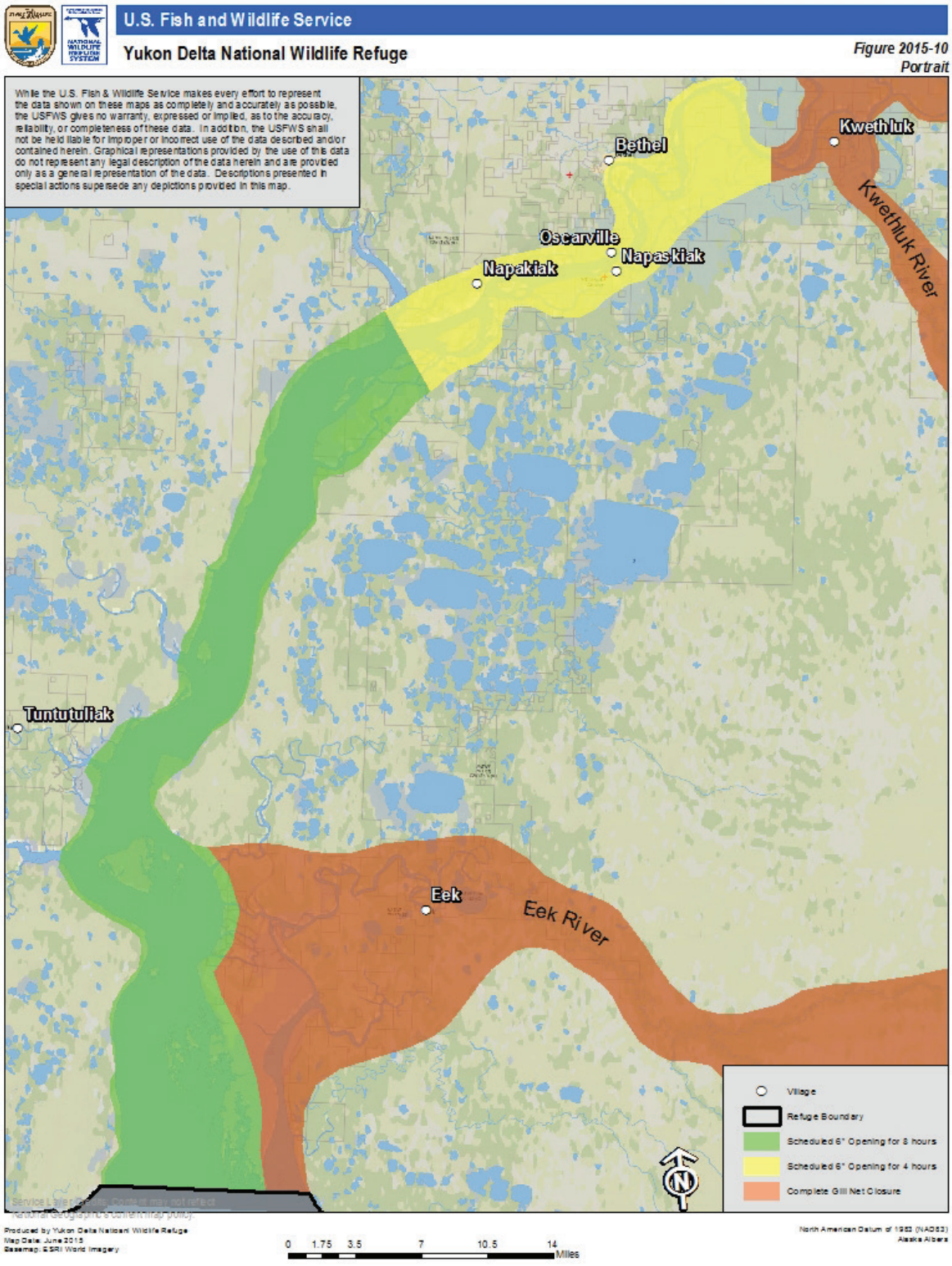

Appendix Figure 1-5. Federal Special Actions SA 3-KS-10-15 (scheduled opening to 6-inch mesh nets).

Appendix Table 1-3. Federal special actions, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 YUKON DELTA NATIONAL WILDLIFE REFUGE KUSKOKWIM RIVER DRAINAGE–SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-11-15 Supersedes SA 3-KS-10-15	June 30–July 20, 2015	The Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary are closed to the harvest of all fish except by Federally qualified subsistence users The Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary are closed to the harvest of Chinook Salmon except: The Kuskokwim River below the mouth of the Johnson River is open to the harvest of all fish by Federally qualified subsistence users Tuesday June 30, 2:00 pm–6:00 pm. The Kuskokwim River between the Johnson River and the Aniak River are open to the harvest of all fish by Federally qualified subsistence users Tuesday June 30, 6:00 pm–6:00 pm. Only drift gillnets with 6-inch or less mesh, not exceeding 300-feet long and 45-meshes deep may be used. Except for users with a Federal Community Harvest Permit or fishing in a temporary opening, all gillnets are prohibited in the Kuskokwim River and its salmon tributaries within and adjacent to the Refuge boundary. The Kuskokwim River and its salmon tributaries are closed to the harvest of all fish except Federally qualified subsistence users using all other legal subsistence gear, which are dip net, beach seine, fish wheel, or rod and reel. However, Chinook Salmon must be immediately released.
SA 3-KS-12-15	July 2, 2015	For the Kuskokwim Fishery Management Area, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes.

Appendix Table 1-4. State emergency orders, Kuskokwim River drainage, 2015

2015 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-KS-01-15	April 1–July 25, 2015	The Kuskokwim River drainage and Kuskokwim Bay tributaries are closed to sport fishing for Chinook Salmon Wednesday, April 1 through Saturday, July 25, 2015. All Chinook Salmon caught while fishing for other species may not be removed from the water and must be released immediately. In addition, anglers may use only one unbaited, single-hook, artificial lure in the entire Kuskokwim-Goodnews Area.
EO 3-S-WR-01-15	June 4, 2015, until further notice	From the Aniak River upriver to the Holitna River fishing for salmon is closed. Fishing for nonsalmon species with gillnets is restricted to 4-inch or less mesh size not exceeding 60-feet long and 45-meshes deep, setnets only 6:00 a.m. Thursday, June 4 until 6:00 a.m. Sunday, June 7; 6:00 a.m. Thursday, June 11 until 6:00 a.m. Sunday, June 14; 6:00 a.m. Thursday, June 18 until 6:00 a.m. Sunday, June 21; 6:00 a.m. Thursday, June 25 until 6:00 a.m. Sunday, June 28. Subsistence fishing with hook and line for Chinook Salmon is closed; any Chinook Salmon caught must be returned alive to the water. Subsistence fishing with dip nets is allowed; any Chinook Salmon caught in a dip net must be returned immediately to the water alive. Subsistence fishing with fish wheels is allowed; fish wheels are required to have a live box with no less than 45 cubic feet of water and must be checked at least every 6 hours; fish wheels can be equipped with a chute and must be closely attended while in operation; any Chinook Salmon caught must be returned alive to the water.
EO 3-S-WR-02-15	June 7, 2015 until further notice	The Aniak River is closed to the use of all gillnets. All other legal subsistence fishing gear is allowed (beach seine, hook and line, handline, or fishwheel); any Chinook Salmon caught must be returned alive to the water.
EO 3-S-WR-03-15	May 28, 2015 until further	Marine waters near the Kuskokwim River mouth (Ishkowik River to the northern boundary of District W-4 at Weelung Creek), fishing for salmon is closed.

Continued on next page.

Appendix Table 1-4. State emergency orders, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Action**
EO 3-S-WR-04-15	June 11–July 2, 2015	From the Holitna River mouth to the headwaters of the Kuskokwim River subsistence salmon fishing is closed. Subsistence fishing for nonsalmon fish is restricted to the use of set gillnets with 4-inch or less mesh size not exceeding 60-feet long and 45-meshes deep: 6:00 a.m. Thursday, June 11 until 6:00 a.m. Sunday, June 14; 6:00 a.m. Thursday, June 18 until 6:00 a.m. Sunday, June 21; 6:00 a.m. Thursday, June 25 until 6:00 a.m. Sunday, June 28; 6:00 a.m. Thursday, July 2 until 6:00 a.m. Sunday, July 5. Subsistence fishing with hook and line for Chinook Salmon is closed; any Chinook Salmon caught must be returned alive to the water. Subsistence fishing with dip nets is allowed; any Chinook Salmon caught in a dip net must be returned immediately to the water alive. Subsistence fishing with fish wheels is allowed; fish wheels are required to have a live box with no less than 45 cubic feet of water and must be checked at least every 6 hours; fish wheels can be equipped with a chute and must be closely attended while in operation; any Chinook Salmon caught must be returned alive to the water.
EO 3-S-WR-05-15	June 20, 2015	From the Aniak River to the headwaters of the Kuskokwim River is open to subsistence salmon fishing with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 10-fathoms long, for Alaska residents 60 years of age or older, Saturday June 20, 2:00 p.m.–6:00 p.m. An Alaska resident 60 years of age or older must be present while fishing activities are being conducted but may be assisted by family members within the second degree of kindred. A gillnet longer than 10 fathoms may be used as long as only 10 fathoms is in a fishable condition and the remainder of the gillnet is either tied up or secured so that it is not in the water in a fishing condition.
EO 3-S-WR-06-15	June 27, 2015	From the Aniak River to the headwaters of the Kuskokwim River is open to subsistence salmon fishing with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 10-fathoms long, Saturday June 27, 12:00 p.m.–6:00 p.m.
EO 3-S-WR-07-15	June 27, 2015	The Kuskokwim River and its tributaries from the Holitna River to the headwaters is open to subsistence fishing with a hook and line for Chinook Salmon, Saturday June 27 for 24 hours,. The Chinook Salmon harvest limit for this hook and line opportunity is 5 fish.

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Appendix Table 1-4. State emergency orders, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Action**
EO 3-S-WR-08-15	July 1, 2015	The Kuskokwim River from the Aniak River to the headwaters of the Kuskokwim River is open to subsistence salmon fishing with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 10-fathoms long, Wednesday, July 1, 12:00 p.m.–8:00 p.m.
EO 3-S-WR-09-15	July 1, 2015	The Kuskokwim River and its tributaries, from the Holitna River to the headwaters of the Kuskokwim River, is open to subsistence fishing with a hook and line for Chinook Salmon, Wednesday, July 1, 12:01 a.m.–11:59 p.m. The Chinook Salmon bag limit for this hook and line opportunity is 5 fish.
EO 3-S-WR-10-15	July 1, 2015 until further notice	Subsistence fishing on the Stony River upstream of the confluence with the Stink River is unrestricted.
EO 3-S-WR-11-15	July 2, 2015 until further notice	The Kuskokwim River drainage from the mouth of the Kuskokwim River to the Aniak River subsistence fishing for Chinook Salmon with hook and line is closed. Any Chinook Salmon caught must be released alive to the water. Subsistence fishing with fish wheels is allowed. Fish wheels are required to have a live box with no less than 45 cubic feet of water, must be checked at least every 6 hours. Fish wheels can be equipped with a chute and must be closely attended while in operation. All Chinook salmon must be returned alive to the water. Subsistence fishing with dip nets is closed. Subsistence fishing with gillnets is closed in the Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak river drainages and the Kuskokwim River.
EO 3-S-WR-12-15	July 4, 2015	The Kuskokwim River from the mouth of the Kuskokwim River to the mouth of the Johnson River is open to subsistence salmon fishing with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long, Saturday, July 4, 12:00 p.m.–8:00 p.m. From the Johnson River to Tuluksak with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 25-fathoms long, Saturday, July 4, 4:00 p.m.–8:00 p.m. From the Tuluksak to the Holitna River with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 25-fathoms long, Saturday, July 4, 12:00 p.m.–8:00 p.m.
EO 3-S-WR-13-15	July 4, 2015 until further notice	The Kuskokwim River and its tributaries from the Holitna River to the headwaters of the Kuskokwim River is open to subsistence fishing with a hook and line for Chinook Salmon. The Chinook Salmon limit for this hook and line opportunity will be 3 fish per day, 6 in possession.

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Appendix Table 1-4. State emergency orders, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Action**
EO 3-S-CS-01-15	July 6–August 31, 2015	The Kuskokwim River drainage is closed to sport fishing for Chum Salmon. Only unbaited, single-hook, artificial lures may be used in the Kuskokwim-Goodnews Area. All Chum Salmon caught unintentionally while fishing for other species may not be removed from the water and must be released immediately.
EO 3-S-CS-02-15 supersedes EO 3-S-CS-01-15	July 10–Aug. 31, 2015	The Kuskokwim River drainage (excluding Kuskokwim Bay) is closed to sport fishing for Chum Salmon. Only unbaited, single-hook, artificial lures may be used in the Kuskokwim-Goodnews Area. All Chum Salmon caught unintentionally while fishing for other species may not be removed from the water and must be released immediately.
EO 3-S-WR-14-15	July 8, 2015	The Kuskokwim River from the mouth of the Kuskokwim River to the mouth of the Johnson River is open to subsistence salmon fishing with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long, Wednesday, July 8, 9:00 a.m.–9:00 p.m. From the Johnson River to Tuluksak with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long, Wednesday, July 8, 5:00 p.m.–9:00 p.m. From Tuluksak to the headwaters of the Kuskokwim River with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long, Wednesday, July 8, 9:00 a.m.–9:00 p.m. The waters of the Kuskokwim River from Aniak downstream to a line formed between two points lat 61° 35.076' N, long 159° 32.527' W and lat 61° 35.263' N, long 159° 32.088' W is closed to subsistence fishing with gillnets Wednesday, July 8, 9:00 a.m.–9:00 p.m. (Appendix Figure 1-6).
EO 3-S-WR-15-15	July 8, 2015 until further notice	Subsistence fishing in the Stony River and its tributaries is unrestricted. The Chinook salmon limit for subsistence hook and line is 3 fish per day, 6 in possession.
EO 3-S-WR-16-15	July 8, 2015 until further notice	From the Holitna River to the headwaters of the Kuskokwim River (excluding the Holitna and Swift rivers), subsistence fishing is allowed with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long. The use of dip nets for subsistence salmon fishing is discontinued in the Kuskokwim River drainage from the Holitna River to the headwaters of the Kuskokwim River. The use of a live box or chute is not required while operating a fish wheel from the Holitna River to the headwaters of the Kuskokwim River.

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Appendix Figure 1-6. State of Alaska Emergency Order EO 3-S-WR-14-15 (closed area in front of Aniak).

Appendix Table 1-4. State emergency orders, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Action**
EO 3-S-WR-17-15	July 11, 2015	From the Johnson River to the mouth of the Kuskokwim River subsistence salmon fishing is allowed with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long Saturday, July 11, 9:00 a.m.–9:00 p.m. From the Johnson River to Tuluksak subsistence salmon fishing is allowed with 6-inch or less mesh gillnets, 45 meshes deep, and not to exceed 50-fathoms long Saturday, July 11, 10:00 a.m.–2:00 p.m. From Tuluksak to the Holitna River subsistence salmon fishing is allowed with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50- fathoms long Saturday, July 11, 9:00 a.m.–9:00 p.m.
EO 3-S-WR-18-15	July 11, 2015	The waters of the Kuskokwim River from Aniak downstream to a line formed between two points lat 61° 35.076' N, long 159° 32.527' W and lat 61° 35.263' N, long 159° 32.088' W (Appendix Figure 1-6) is closed to subsistence fishing with gillnets Saturday, July 11, 9:00 a.m.–9:00 p.m.
EO 3-S-WR-19-15	July 11, 2015 until further notice	The use of dip nets for subsistence salmon fishing is discontinued in the Kuskokwim River drainage from Aniak to the Holitna River.
EO 3-S-WR-20-15	July 13 and 15, 2015	From the Johnson River to the mouth of the Kuskokwim River subsistence salmon fishing is allowed with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long Monday, July 13, 9:00 a.m.–9:00 p.m., and Wednesday, July 15, 2015, 9:00 a.m.–9:00 p.m. From the Johnson River to Tuluksak subsistence salmon fishing is allowed with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long, Monday, July 13, 1:00 p.m.–7:00 p.m., and Wednesday, July 15, 3:00 p.m.–9:00 p.m. From Tuluksak to the Holitna River subsistence salmon fishing is allowed with 6-inch or less mesh gillnets, 45-meshes deep, and not to exceed 50-fathoms long, Monday, July 13, 9:00 a.m.–9:00 p.m., and Wednesday, July 15, 9:00 a.m.–9:00 p.m.
EO 3-S-WR-21-15	July 13 and 15, 2015	The waters of the Kuskokwim River from Aniak downstream to a line formed between two points lat 61° 35.076' N, long 159° 32.527' W and lat 61° 35.263' N, long 159° 32.088'W (Appendix Figure 1-6) is closed to subsistence fishing with gillnets Monday, July 13, 9:00 a.m.–9:00 p.m., and Wednesday, July 15, 9:00 a.m.–9:00 p.m.

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Appendix Table 1-4. State emergency orders, Kuskokwim River drainage, 2015 (*continued from previous page*).

2015 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Action**
EO 3-S-WR-22-15	July 13, 2015 until further notice	Marine waters near the Kuskokwim River mouth (Ishkowik River to the northern boundary of District W-4 at Weelung Creek) are open to subsistence fishing.
EO 3-S-WR-23-15	July 15, 2015 until further notice	Subsistence salmon fishing with gillnets is allowed in the Kuskokwim River from the mouth of the Kuskokwim River to the Holitna River, with 6-inch or less mesh gillnets.
EO 3-S-WR-24-15	July 15, 2015 until further notice	The use of a live box or chute is not required while operating a fish wheel from the mouth of the Kuskokwim River to the Holitna River.
EO 3-S-WR-25-15	July 15, 2015 until further notice	The waters of the Kuskokwim River from Aniak downstream to a line formed between two points lat 61° 35.076' N, long 159° 32.527' W and lat 61° 35.263' N, long 159° 32.088' W (Appendix Figure 1-6) is closed to subsistence fishing with gillnets.
EO 3-S-WR-26-15	August 4, 2015	The following restrictions to the Kuskokwim River subsistence salmon fishery are rescinded: gillnet use in the Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak rivers (EO 3-S-WR-11-15); 6-inch or less mesh requirements for subsistence gillnets (EO 3-S-WR-16-15; EO 3-S-WR-23-15; EO 3-S-WR-25-15); closed waters at the mouth of the Aniak (EO 3-S-WR-25-15); and restrictions to hook and line bag and possession limits for Chinook salmon (EO 3-S-WR-01-15, 3-S-WR-02-15, EO 3-S-WR-11-15).

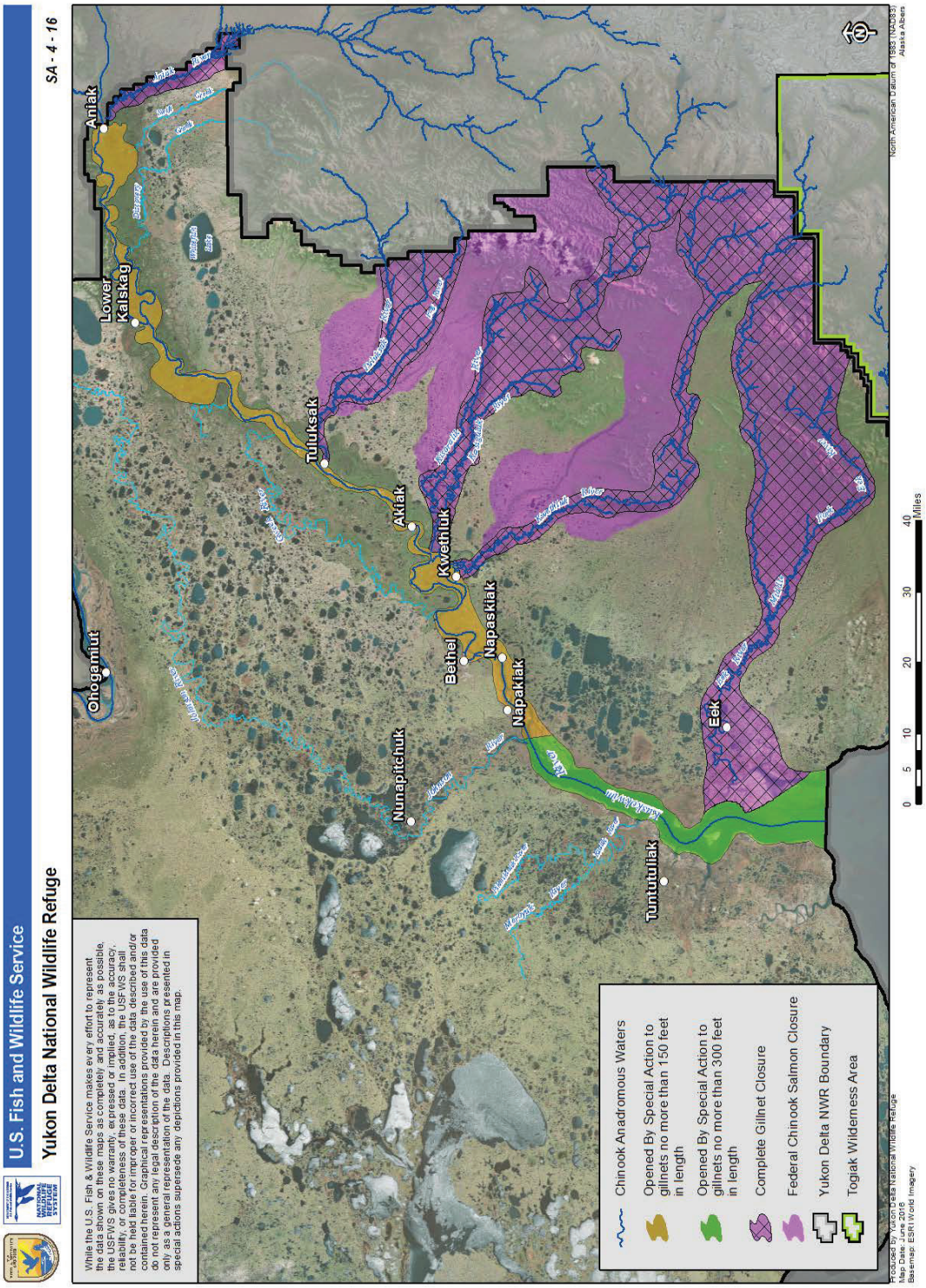
SALMON MANAGEMENT IN 2016

Appendix Table 1-5. Federal special actions, Kuskokwim River drainage, 2016.

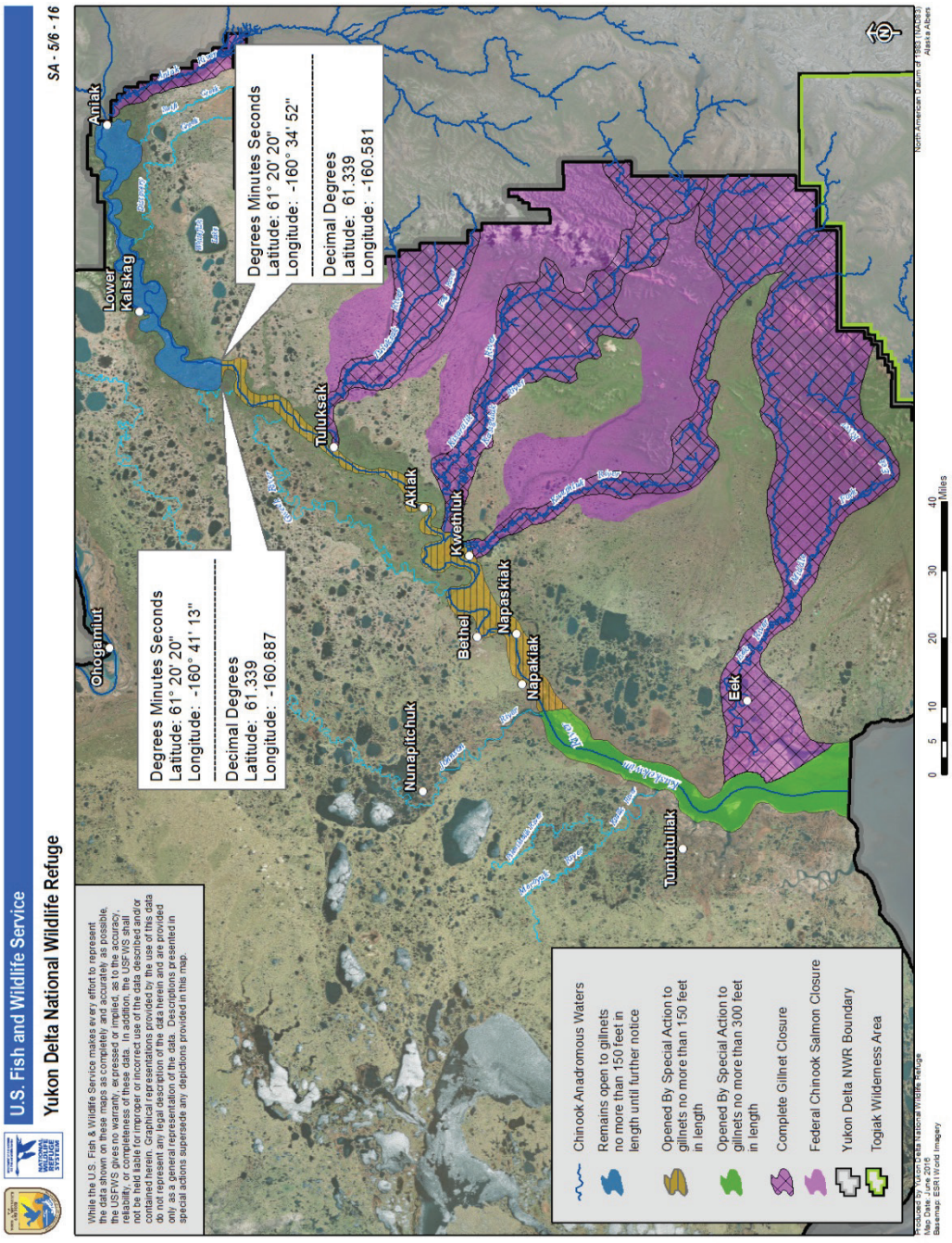
2016 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-01-16	June 1, 2016- June 12, 2016	All waters within and adjacent to the Refuge boundary are closed to the harvest of **Chinook and Chum Salmon** except by Federally qualified subsistence users that are residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek.
SA 3-KS-01a-16	June 3, 2016-July 7, 2016	Federal waters of the Kuskokwim River are closed to the harvest of **Chinook and Chum Salmon** by Federally qualified users. Fishing openings, closings, and fishing methods for Federally qualified subsistence users will be announced by subsequent Federal Special Actions.
SA 3-KS-02-16	June 12, 2016	Federal public waters of the Kuskokwim River drainage are open to the harvest of **Chinook and Chum Salmon** by Federally qualified subsistence users that are residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. Legal gear includes drift and set gillnets restricted to 6-inch or less mesh size, not exceeding 45-meshes deep, 300-feet long from the Refuge boundary at the mouth of the Kuskokwim to the Johnson River, and 150-feet long from the Johnson River to the Refuge boundary at Aniak. Harvest allowed for 12 hours only from June 12, 2016 from 12:01 pm (noon) until 11:59 pm (midnight).
SA 3-KS-03-16	June 12, 2016-July 7, 2016	The use of gillnets for fishing on the Eek, Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak Rivers as well as their salmon tributaries are closed within the boundaries of the Refuge **(Appendix Figure 1-7**).
SA 3-KS-04-16	June 16, 2016- June 17, 2016	Federal public waters of the Kuskokwim River drainage are open to the harvest of **Chinook and chum salmon** by Federally qualified subsistence users that are residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. Legal gear includes drift and set gillnets, hook and line, fish wheels, dip nets, beach seines and all other gear types identified in Federal subsistence regulations. Gillnets restricted to 6-inch or less mesh size, not exceeding 45-meshes deep, 300-feet long from the Refuge boundary at the mouth of the Kuskokwim to the Johnson River, and 150-feet long from the Johnson River to the Refuge boundary at Aniak (**Appendix 1-7**). Harvest allowed for 24 hours only from June 16, 2016 from 12:01 pm (noon) until June 17, 2016 at 11:59 am (noon).

Appendix Table 1-5. Federal special actions, Kuskokwim River drainage, 2016 (*continued from previous page.*)

2016 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Action**
SA 3-KS-05-16	June 21, 2016-July 7, 2016	Federal public waters of the Kuskokwim River from a line downstream of Kalskag at the south edge of Uknavik Slough and then due east to the edge of the bluff line to the Refuge boundary at Aniak (**Appendix Figure 1-8**) are open to harvest of **Chinook and chum salmon** by Federally qualified subsistence users that are residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek until further notice. Legal gear includes drift and set gillnets, hook and line, fish wheels, dip nets, beach seines and all other gear types identified in Federal subsistence regulations. Gillnets restricted to 6-inch or less mesh size, not exceeding 45-meshes deep, and 150-feet long
SA 3-KS-06-16	June 21, 2016-June 24, 2016	Federal public waters of the Kuskokwim River drainage are open to the harvest of **Chinook and chum salmon** by Federally qualified subsistence users that are residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. Legal gear includes drift and set gillnets, hook and line, fish wheels, dip nets, beach seines and all other gear types identified in Federal subsistence regulations. Gillnets restricted to 6-inch or less mesh size, not exceeding 45-meshes deep, 300-feet long from the Refuge boundary at the mouth of the Kuskokwim to the Johnson River, and 150-feet long from the Johnson River to the Refuge boundary at Aniak (**Appendix Figure 1-8**). Harvest allowed for 72 hours only from June 21, 2016 from 12:01 pm (noon) until June 24, 2016 at 11:59 am (noon).
SA 3-KS-07-16	June 29, 2016-July 2, 2016	Federal public waters of the Kuskokwim River drainage are open to the harvest of **Chinook and chum salmon** by Federally qualified subsistence users that are residents of the Kuskokwim drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek. Legal gear includes drift and set gillnets, hook and line, fish wheels, dip nets, beach seines and all other gear types identified in Federal subsistence regulations. Gillnets restricted to 6-inch or less mesh size, not exceeding 45-meshes deep, 300-feet long from the Refuge boundary at the mouth of the Kuskokwim to the Johnson River, and 150-feet long from the Johnson River to the Refuge boundary at Aniak (**Appendix Figure 1-8**). Harvest allowed for 72 hours only from June 29, 2016 from 12:01 pm (noon) until July 2, 2016 at 11:59 am (noon).
SA 3-KS-08-16	July 7, 2016-present	For the Kuskokwim River drainage, all previously issued special actions were rescinded.



Appendix Figure 1-7. Federal Special Actions SA 3-KS-04-16, temporary harvest of Chinook and Chum salmon by Federally qualified subsistence users and SA-3-KS-03-16, temporary closure of rivers in Refuge boundary.



Appendix Figure 1-8. Federal Special Actions SA 3-KS-05-16, SA 3-KS-06-16, and SA 3-KS-07-16, temporary harvest of Chinook and Chum salmon by Federally qualified subsistence users.

Appendix Table 1-6. State emergency orders, Kuskokwim River drainage, 2016.

2016 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-KS-01-16	May 1, 2016- July 25, 2016	The Kuskokwim River drainage and tributaries are closed to sport fishing for **Chinook Salmon** Sunday May 1, 2016 through Monday July 25, 2016. All Chinook Salmon caught while fishing for other species may not be removed from the water and must be released immediately. In addition, anglers may use only one unbaited, single-hook, artificial lure in the entire Kuskokwim Area.
EO 3-S-WR-01-16	May 20, 2016-June 12, 2016; June 1, 2016-June 12, 2016	On May 20, subsistence fishing with gillnets is closed in the Kuskokwim River drainage from the Yukon Delta National Wildlife Refuge boundary at the mouth of the Kuskokwim River to the ADF&G markers downstream of the Holitna River mouth until further notice. Subsistence fishing with hook and line for **Chinook salmon** is closed in this area to further notice. Subsistence fishing with fish wheels, dip nets, and beach seines are allowed in this area until further notice, but all **Chinook salmon** caught must be immediately be released alive. Subsistence fishing with gillnets is closed beginning on June 1 in the Kuskokwim River upstream from the ADF&G markers near the Holitna River mouth to the headwaters of the Kuskokwim River, the Kwethluk River drainage including its confluence with Kuskokuak Slough and downstream to ADF&G regulatory markers located at the downstream mouth of the slough, the Kasigluk and Kisaralik river drainages including Old Kuskokuak Slough to ADF&G regulatory markers at the confluence of Old Kuskokuak Slough with Kuskokuak Slough, the Tuluksak River drainage including its confluence with the Kuskokwim River and downstream approximately one mile to ADF&G regulatory markers, and the Aniak River drainage to ADF&G regulatory markers at its confluence with the Kuskokwim River until further notice. Beginning on June 1, Subsistence fishing with hook and line for Chinook salmon is closed to further notice on the Kuskokwim River above the ADF&G markers downstream of the Holitna River mouth until further notice. Subsistence fishing with fish wheels, dip nets, and beach seines are allowed in this area until further notice, but all Chinook salmon caught must be immediately be released alive.

Appendix Table 1-6. State emergency orders, Kuskokwim River drainage, 2016 (*continued from previous page*).

2016 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-S-WR-02-16, EO 3-S-WR-03-16	June 12, 2016-June 14, 2016; June 12, 2016 until further notice	The area from the YDNWR border at Aniak to the mouth of the Holitna River (not including the Aniak River) is open to subsistence fishing with 6-inch or less mesh, 25-fathoms (150 ft.) long or less gillnets for 48 hours from June 12, 12:00 pm (noon)-June 14, 12:00 pm (noon). The area from the mouth of the Holitna River to the Kuskokwim River headwaters is open to subsistence fishing with 6-inch or less mesh gillnets from June 12, 2016 at 12:00 pm (noon) until further notice. Subsistence fishing is also allowed with beach seines, dip nets, and hook and line from the YDNWR boundary at Aniak to the Kuskokwim River headwaters from June 12, 2016 at 12:00 pm (noon) until further notice.
EO 3-S-WR-04-16	June 16, 2016 until further notice	The area from the YDNWR border at Aniak to the headwaters of the Kuskokwim River (not including the Aniak River) is open to subsistence fishing with 6-inch or less mesh from 12:00 pm (noon) June 16, 2016 until further notice.
EO 3-S-WR-5-16	July 7, 2016 until further notice	Subsistence fishing is allowed for qualified Alaska residents from the YDNWR boundary at the mouth of the Kuskokwim River to the headwaters of the Kuskokwim River until further notice. Gillnets must be 6-inch or less mesh. Subsistence fishing with gillnets is closed in the following areas: • The Kwethluk River drainage including its confluence with Kuskokuak Slough and downstream to ADF&G regulatory markers located at the downstream mouth of the slough. • The Kasigluk and Kisaralik river drainages including Old Kuskokuak Slough to ADF&G regulatory markers at the confluence of Old Kuskokuak Slough with Kuskokuak Slough. • The Tuluksak River drainage including its confluence with the Kuskokwim River and downstream approximately one mile to ADF&G regulatory markers. • The Aniak River drainage to ADF&G regulatory markers at its confluence with the Kuskokwim River. • The Eek River. • The waters of the Kuskokwim River from the Yukon Delta NWR boundary at Aniak downstream to a line formed between two points lat 61° 35.076' N, long 159° 32.527' W and lat 61° 35.263' N, long 159° 32.088' W (Figure 3).

Appendix Table 1-6. State emergency orders, Kuskokwim River drainage, 2016 (*continued from previous page*).

2016 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-S-WR-6-16	July 27, 2016-Until further notice	Effective 9:00 a.m. Wednesday, July 27, 2016, the following restrictions to the Kuskokwim River subsistence salmon fishery are rescinded: • Gillnet use in the Kwethluk, Kasigluk, Kisaralik, Tuluksak, Aniak and Eek Rivers; • 6-inch or less mesh requirements for subsistence gillnets; and • The closed waters at the mouth of the Aniak River.
EO 3-S-WR-7-16	July 29, 2016	Subdistrict 1-A will open to commercial **salmon** fishing for 6 hours from 2:00 p.m. until 8:00 p.m. Friday, July 29, 2016. This area is defined as that portion of District 1 upstream of regulatory markers located at Bethel to ADF&G regulatory markers at the mouth of Bogus Creek. As there are no commercial salmon processors registered in the Kuskokwim Management Area, this opportunity is being provided for those individuals registered with the department as catcher/sellers.
EO 3-S-WR-8-16	August 12, 2016	Subdistrict 1-A will open to commercial **salmon** fishing for 6 hours from 2:00 p.m. until 8:00 p.m. Friday, August 12, 2016. This area is defined as that portion of District 1 upstream of regulatory markers located at Bethel to ADF&G regulatory markers at the mouth of Bogus Creek. As there are no commercial **salmon** processors registered in the Kuskokwim Management Area, this opportunity is being provided for those individuals registered with ADF&G as catcher/sellers.

SALMON MANAGEMENT IN 2017

Appendix Table 1-7. Federal special actions, Kuskokwim River drainage, 2017

2017 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Actions**
SA 3-KS-01-17	June 12 – August 10, 2017	Waters under Federal subsistence fisheries jurisdiction of the Kuskokwim River main stem and salmon tributaries including the Eek, Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak rivers will be closed to the use of all gillnets by all users. All Chinook salmon caught with other legal methods must be immediately released.
FSA 17-03 (FSB ACTION)	June 12, 2017	Beginning on June 12, 2017, Federal public waters of the Kuskokwim River drainage were closed to the harvest of Chinook Salmon except by Federally qualified subsistence users
FSA 17-04 (FSB ACTION)	June 12, 2017	Beginning on June 12, 2017, Federal public waters of the Kuskokwim River drainage were closed to the harvest of Chinook Salmon except by Federally qualified subsistence users identified in the Section 804 subsistence users prioritization analysis. Those eligible to harvest Chinook Salmon under Federal regulations were restricted to Federally qualified subsistence users residing in the Kuskokwim River drainage and the coastal communities of Chefornak, Kongiganek, Kipnuk, and Kwigillingok.
SA 3-KS-02-17	June 12 – August 10, 2017	Waters under Federal subsistence fisheries jurisdiction of the Kuskokwim River main stem and salmon tributaries including the Eek, Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak rivers will be closed to the harvest of Chinook salmon by all Federally qualified subsistence users.
SA 3-KS-03-17	June 12, 2017	Opened a 12-hour opportunity for Federally qualified subsistence users identified in the Section 804 analysis, which included residents of the Kuskokwim River drainage and the villages of Chefornak, Kipnuk, Kwigillingok, and Kongiganek, to harvest Chinook Salmon on Federal public waters of the Kuskokwim River on June 12, 2017, from 12:01 p.m. until 11:59 p.m. Drift or set gillnets were limited to 6-inch or less mesh and could not exceed 45 meshes in depth. Nets from the Yukon Delta National Wildlife Refuge (Refuge) boundary at the Kuskokwim River mouth to the Johnson River could not exceed 50 fathoms (300 feet) in length. Nets up river from the Johnson River to the Refuge boundary at Aniak could not exceed 25 fathoms (150 feet) in length. The area around the Old Kuskokuak and the Kuskokuak were closed to the harvest of Chinook Salmon.

Appendix Table 1-7. Federal special actions, Kuskokwim River drainage, 2017 (*continued from previous page*)

2017 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
Federal Special Actions	**Effective Date**	**Actions**
SA 3-KS-04-17	June 24, 2017	Opened a 12-hour gillnet opportunity for Federally qualified subsistence users to harvest fish other than Chinook Salmon on Federal public waters of the mainstem of the Kuskokwim River on June 24, 2017, from 12:01 p.m. until 11:59 p.m. Drift or set gillnets were limited to 6-inch or less mesh and could not exceed 45 meshes in depth. Nets could not exceed 25 fathoms (150 feet) in length. Federally qualified subsistence users identified in the ANILCA Section 804 subsistence user prioritization could retain Chinook Salmon incidentally harvested in gillnets. The waters of the Kuskokwim River around the boundary of the Yukon Delta NWR near Aniak was closed to subsistence gillnet fishing. Subsistence fishing with dip nets, beach seines, fish wheels, and rod and reel were allowed to be used during this opportunity. However, there were some restrictions to fish wheel regulations. Any Chinook Salmon caught in these other gear types had to be returned to the water alive.
SA 3-KS-05-17	July 1, 2017	Opened a 6-hour gillnet opportunity for Federally qualified subsistence users to harvest fish other than Chinook Salmon on Federal public waters of the main-stem of the Kuskokwim River from the mouth of the river to approximately 10 miles upriver from Upper Kalskag on July 1, 2017, from 3:00 p.m. until 9:00 p.m. Gear restrictions and authorizations, as well as Chinook Salmon release requirements for non-gillnet gear types were the same as SA 3-KS-04-17. Federally qualified subsistence users identified in the ANILCA Section 804 subsistence user prioritization could retain Chinook Salmon incidentally harvested in gillnets.
SA 3-KS-06-17	July 3, 2017	Opened a 12-hour gillnet opportunity for Federally qualified subsistence users to harvest fish other than Chinook Salmon on Federal public waters of the main-stem of the Kuskokwim River on July 3, 2017, from 12:01 p.m. until 11:59 p.m. Gear restrictions and authorizations, as well as Chinook Salmon release requirements for non-gillnet gear types were the same as SA 3-KS-04-17. Federally qualified subsistence users identified in the ANILCA Section 804 subsistence user prioritization could retain Chinook Salmon incidentally harvested in gillnets. The waters of the Kuskokwim River around the boundary of the Yukon Delta NWR near Aniak was closed to subsistence gillnet fishing
SA 3-KS-07-17	July 7, 2017	Rescinded all previously issued special actions regarding the management of Chinook Salmon in the Kuskokwim River drainage. Federal public waters within the Yukon Delta NWR opened to the harvest of Chinook Salmon by non-Federally qualified subsistence users.

Appendix Table 1-8. State emergency orders, Kuskokwim River drainage, 2017.

2017 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-S-WR-01-17	Multiple effective dates depending on area of Kuskokwim River (May 20, 2017 – June 4, 2017)	Subsistence fishing with gillnets in the Kuskokwim River will be closed during the following times and areas: • Beginning 12:01 a.m. Saturday, May 20, 2017, the Kuskokwim River Drainage from the Yukon Delta NWR boundary at the mouth of the Kuskokwim River to ADF&G markers approximately one-half mile upstream of the Tuluksak River mouth; • Beginning 12:01 a.m. Thursday, May 25, 2017, from the ADF&G markers approximately one-half mile upstream of the Tuluksak River mouth to the Yukon Delta Refuge boundary near Aniak; • Beginning 12:01 a.m. Thursday, June 1, 2017, from the Yukon Delta Refuge boundary near Aniak to the ADF&G regulatory markers near the Holitna River mouth; and • Beginning 12:01 a.m. Sunday, June 4, 2017, upstream of the ADF&G regulatory markers located near the Holitna River mouth to the headwaters of the Kuskokwim River. The following subsistence fishing restrictions and tributary gillnet fishing closures will also go into effect beginning 12:01 a.m. Saturday, May 20, 2017, until further notice: • The Kwethluk River drainage including its confluence with Kuskokuak Slough and downstream to ADF&G regulatory markers located at the downstream mouth of the slough. • The Kasigluk and Kisaralik river drainages including Old Kuskokuak Slough to ADF&G regulatory markers at the confluence of Old Kuskokuak Slough with 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. Additionally, subsistence fishing with hook and line for Chinook Salmon will close until further notice. Subsistence fishing with fish wheels will be allowed until further notice. Subsistence fishing with dip nets and beach seines is currently allowed until further notice. Any Chinook salmon caught in a dip net or beach seine must be returned immediately to the water alive.

Appendix Table 1-8. State emergency orders, Kuskokwim River drainage, 2017 (*continued from previous page*).

2017 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-S-WR-02-17	May 27, 2017	Subsistence fishing will be allowed on the Kuskokwim River mainstem within the Yukon Delta Refuge boundaries with 4-inch or less mesh size set gillnets from 9:00 a.m. until 9:00 p.m. Saturday, May 27, 2017. Gillnets may not to exceed 60 feet in length or 45 meshes in depth and may not be operated more than 100 feet from the ordinary high water mark.
EO 3-S-WR-03-17	June 3, 2017	Subsistence fishing will be allowed within the mainstem Kuskokwim River from the Yukon Delta Refuge boundaries at the mouth of the Kuskokwim River to the ADF&G regulatory markers downstream of the mouth of the Holitna River with 4-inch or less mesh size set gillnets from 9:00 a.m. until 9:00 p.m. Saturday, June 3, 2017. Gillnets may not to exceed 60 feet in length or 45 meshes in depth and may not be operated more than 100 feet from the ordinary high water mark.
EO 3-S-WR-04-17	June 10, 2017	Subsistence fishing will be allowed within the mainstem Kuskokwim River from the Yukon Delta Refuge boundary at the mouth of the Kuskokwim River to the headwaters with 4-inch or less mesh size set gillnets from 10:00 a.m. until 10:00 p.m. Saturday, June 10, 2017. Gillnets may not exceed 60 feet in length or 45 meshes in depth and may not be operated more than 100 feet from the ordinary high water mark. Chinook salmon incidentally harvested in gillnets during this opportunity may be retained.
EO 3-S-WR-05-17	June 12, 2017	From the Yukon Delta NWR boundary at Aniak up to the Holitna River mouth: Section 4. Subsistence fishing with 6-inch or less mesh gillnets, not to exceed 25 fathoms in length, will be allowed for 24 hours from 12:00 p.m. noon, Monday, June 12 until 12:00 p.m. noon, Tuesday, June 13, 2017.
EO 3-S-WR-06-17	June 12, 2017	From the Holitna River mouth to the headwaters of the Kuskokwim River: Section 5 Subsistence fishing with 6-inch or less mesh gillnets will be allowed from 12:00 p.m. noon, Monday, June 12 until further notice.
EO 3-S-WR-07-17	June 13, 2017	From the Yukon Delta NWR boundary at Aniak up to the Holitna River mouth: Section 4. Subsistence fishing with hook and line, fish wheels equipped with live boxes or chutes, beach seines, and dip nets is currently allowed until further notice, however retention of Chinook salmon caught with these gear types will close at 12:00 p.m. noon, Tuesday, June 13, 2017. Any Chinook salmon caught with these gear types must be returned immediately to the water alive
EO 3-S-WR-08-17	June 24, 2017	From the Yukon Delta NWR boundary at Aniak up to the Holitna River mouth: Section 4. Subsistence fishing with 6-inch or less mesh gillnets, not to exceed 25 fathoms in length and 45 meshes in depth, will be allowed for approximately 12 hours from 12:01 p.m. until 11:59 p.m., Saturday, June 24, 2017.

Appendix Table 1-8. State emergency orders, Kuskokwim River drainage, 2017 (*continued from previous page*).

2017 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-S-WR-09-17	July 3, 2017	From the Yukon Delta NWR boundary at Aniak up to the Holitna River mouth: Section 4. Subsistence fishing with 6-inch or less mesh gillnets, not to exceed 25 fathoms in length and 45 meshes in depth, will be allowed for approximately 12 hours from 12:01 p.m. until 11:59 p.m., Monday, July 3, 2017. The waters of the Kuskokwim River from the Yukon Delta NWR boundary at Aniak upstream to a line formed between two points lat 61° 35.308' N, long 159° 29.167' W and lat 61° 34.731' N, long 159° 28.939'W (Figure 1) will be closed to subsistence fishing with gillnets from 12:01 p.m. until 11:59 p.m., Monday, July 3, 2017.
EO 3-S-WR-10-17	July 7, 2017	Subsistence fishing in the Kuskokwim River Drainage, from the Yukon Delta NWR boundary at the mouth of the Kuskokwim River up to the mouth of the Holitna River (Sections 1–4), will be allowed from 12:01 p.m. Saturday, July 8, 2017 until further notice. Gillnets are restricted to 6-inch or less mesh, 45 meshes deep, and 25 fathoms in length. The waters of the Kuskokwim River from a line formed between two points lat 61° 35.264' N, long 159° 33.459' W and lat 61° 35.611' N, long 159° 33.260'W upstream to a line formed between two points lat 61° 35.308' N, long 159° 29.167' W and lat 61° 34.731' N, long 159°28.939'W will be closed to subsistence fishing with gillnets from 12:01p.m.Saturday, July 8, 2017 until further notice.
EO 3-S-WR-11-17	July 13, 2017	Subsistence fishing in the Kuskokwim River Drainage, from the Yukon Delta NWR boundary at the mouth of the Kuskokwim River up to the confluence of the Johnson River (Section 1), will be allowed from 12:01 p.m. Thursday, July 13, 2017 with gillnets restricted to 6-inch or less mesh, 45 meshes deep, and 50 fathoms in length until further notice.
EO 3-S-WR-12-17	July 27, 2017	Kuskokwim River Drainage: Effective 12:01 p.m. Thursday, July 27, 2017, the following restrictions to the mainstem Kuskokwim River subsistence salmon fishery are rescinded: • 6-inch or less mesh requirements for subsistence gillnets; • 25 fathom gillnet length restrictions from the mouth of the Johnson River up to the mouth of the Holitna River (Sections 2–4); • The live release requirement of Chinook salmon caught in beach seines, fish wheels, and by hook and line; • The use of dip nets for the taking of salmon; and • The closed waters within Kuskokuak and Old Kuskokuak sloughs and around the mouth of the Aniak River. Subsistence fishing with gillnets will remain closed in the following tributaries: • The Kwethluk River drainage to its confluence with Kuskokuak Slough. • The Kasigluk and Kisaralik river drainages to their confluence with Old Kuskokuak Slough.

Appendix Table 1-8. State emergency orders, Kuskokwim River drainage, 2017 (*continued from previous page*).

2017 KUSKOKWIM RIVER DRAINAGE SUBSISTENCE FISHING		
State Emergency Order	**Effective Date**	**Actions**
EO 3-S-WR-13-17	August 23, 2017	All subsistence fishing restrictions in Kuskokwim River tributaries have been lifted.

FP19-10 Executive Summary	
General Description	Proposal FP19-10 requests that during times of salmon fishing closures, any tributary of the Kuskokwim River in which salmon do not spawn remain open to the use of gillnets more than 100 yards upstream of its confluence with the Kuskokwim River. *Submitted by James Charles.*
Proposed Regulation	**§___.27(e)(4) Kuskokwim Area** ***(xvii) Tributaries of the Kuskokwim River in which salmon do not spawn remain open to the use of gillnets. Gillnets can be used more than 100 yards upriver from the confluence of each tributary in which salmon do not spawn and the Kuskokwim River in times of restriction for salmon conservation.***
OSM Preliminary Conclusion	**Support** Proposal FP19-10 with **modification** to clarify that nonsalmon tributaries would be identified by the Federal in-season manager in special actions.
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
FP19-10

ISSUES

Proposal FP19-10, submitted by James Charles of Tuntutuliak, requests that during times of salmon fishing closures, any tributary of the Kuskokwim River in which salmon do not spawn remain open to the use of gillnets more than 100 yards upstream of its confluence with the Kuskokwim River.

DISCUSSION

The proponent states that in recent years, the Federal in-season manager has closed the Kuskokwim River drainage, except in areas more than 100 yards upstream of the mouth of any tributary in which salmon do not spawn, to the use of gillnets in order to protect Chinook Salmon from harvest. He states that these tributaries are important to residents of Tuntutuliak and other villages because they can use gillnets to harvest nonsalmon fishes even when the rest of the drainage is closed to the use of gillnets. The proponent specifically identifies the Kialik, Tagayarak, Kinak, and Tuntutuliak rivers as the most important tributaries near Tuntutuliak for harvesting fish (see **Figure 1**). These tributaries are preferred over the main-stem Kuskokwim River because heavy tidal influences and winds negatively impact harvesting fish in the wide channel of the lower Kuskokwim River near Tuntutuliak. The proponent states Chinook Salmon have been known to get "lost" in, or to stray into, these tributaries, but a majority of residents harvest important nonsalmon fishes, such as whitefish, Northern Pike, and Burbot in these tributaries, too. Keeping these tributaries in which salmon do not spawn open to the use of gillnets more than 100 yards upstream of their mouths helps Tuntutuliak residents meet subsistence harvest goals for fish, especially when other areas of the drainage have been closed to the use of gillnets in order to protect Chinook Salmon from harvest. The proponent states the community of Tuntutuliak seeks this permanent regulation because nonsalmon fish harvesting is vitally important to the community and the regulation will have no impact on salmon conservation.

The proponent is seeking this regulation because he does not want the closure to the use of gillnets to increase beyond 100 yards of the mouths of these tributaries. He is also planning to submit a similar proposal to the Alaska Board of Fisheries.

Federal public waters of the Kuskokwim River drainage are hereafter referred to as Refuge waters.

Existing Federal Regulation

No regulation.

Proposed Federal Regulation

§___.27(e)(4) Kuskokwim Area

(xvii) Tributaries of the Kuskokwim River in which salmon do not spawn will remain open to the use of gillnets. Gillnets can be used more than 100 yards upriver from the confluence of each tributary in which salmon do not spawn and the Kuskokwim River in times of restriction for salmon conservation.

Existing State Regulation

No regulation.

Extent of Federal Public Lands

For purposes of this analysis, the phrase "Federal public waters" is defined as those waters described under 36 CFR §242.3 and 50 CFR §100.3. The affected area consists of those waters of the Kuskokwim River drainage that are within and adjacent to the exterior boundaries of the Yukon Delta National Wildlife Refuge (Refuge), including District 1 and portions of District 2 of the Kuskokwim Fishery Management Area. The waters are generally described as the lower Kuskokwim River drainage from the mouth upriver to and including about 30 miles of the Aniak River (**Figure 1**).

Customary and Traditional Use Determinations

Residents of the Kuskokwim Area have a customary and traditional use determination for fish other than Rainbow Trout in the Kuskokwim River drainage (50 CFR 100.24 and 36 CFR 242.24).

Regulatory History

The 2012 Kuskokwim Chinook Salmon run was the smallest on record, and because of a continuous 12-day closure to subsistence fishing during the peak of the run, it resulted in the lowest subsistence harvest on record. The Federal government declared an economic disaster due to low commercial income and very small Chinook Salmon subsistence harvest (Elison et al. 2015). The 2013 Kuskokwim Chinook Salmon escapement was the smallest on record and below the sustainable escapement goal range of 65,000–120,000 fish (Tiernan and Poetter 2015).

In 2014 the Federal in-season manager (hereafter referred to as the Refuge manager) closed Refuge waters, except those waters more than 100 yards upstream from the mouths of some tributaries in which salmon do not spawn (specifically, the Kinak, Kialik, Tagayarak, Johnson, and Gweek rivers), to the harvest of Chinook Salmon by all users because of low run-size indicators (see **Figure 1**). In 2014 the Refuge manager implemented this closure by only allowing the use of gear types in which Chinook Salmon could be live released, and any Chinook Salmon caught had to be immediately released back to the water. However, all subsistence users could use up to 4-inch mesh gillnets in all Refuge waters to target

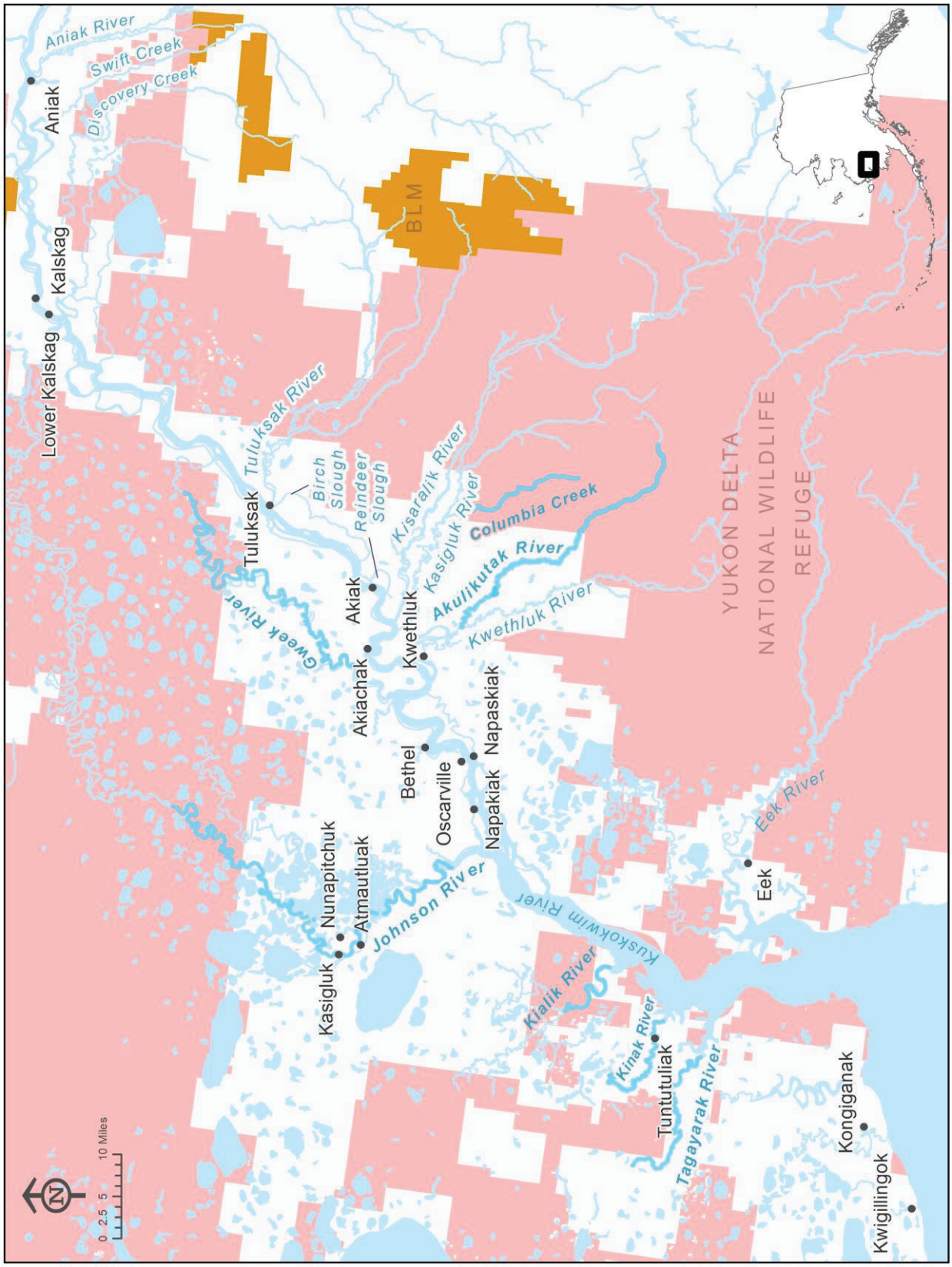


Figure 1. Map of the lower Kuskokwim River drainage.

nonsalmon fishes, but for the first time in the Kuskokwim River drainage, they had to be set and could not be drifted. Additionally, all subsistence users could use any size mesh gillnets in the Kinak, Kialik, Tagayarak, Johnson, and Gweek rivers, but not within 100 yards upstream from their confluences with the Kuskokwim River (Federal Special Action 3-KS-02-14). These restrictions were implemented in order to reduce incidental harvests of Chinook Salmon.

The year 2014 was the first year that the Refuge manager prohibited most gillnets in the first 100 yards of tributaries in which salmon do not spawn. This was intended to prevent the harvest of Chinook Salmon straying past the mouths of these tributaries. This was necessary because the goal of management was to prevent the harvest of any Chinook Salmon in Refuge waters except through extremely limited opportunities. Prior to 2014, through ADF&G emergency orders, closures to the use of gillnets occurred on a schedule of three days a week in order to allow passage of Chinook Salmon to middle and upper river tributaries and subsistence users. In contrast, since 2014 extremely limited opportunity to harvest Chinook Salmon has been provided. During closures, restrictions on the use of most nets in the first 100 yards of tributaries in which salmon do not spawn have been necessary to prevent harvest of Chinook Salmon that may have strayed past mouths of these tributaries.In 2015, 2016, and 2017 the Refuge manager closed the mainstem Kuskokwim River and salmon spawning tributaries, specifically the Eek, Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak rivers and their salmon spawning tributaries (tributaries to these rivers in which salmon *do not* spawn and that remained open were specifically Birch Creek, Akulikutak River, Columbia Creek, and Reindeer Slough) to the use of all gillnets in order to protect Chinook Salmon from harvest because of low run-size indicators (see **Figure 1**). In 2015 up to 4-inch mesh gillnets had to be set, and in contrast to previous years when there were no time restrictions, they could be used only three days per week in 2015 (ADF&G Emergency Order 3-S-WR-04-15). In 2016 and 2017, no opportunity to use up to 4-inch mesh gillnets was provided in these waters. Up to 6-inch mesh gillnets were allowed 100 yards upstream from the mouths of tributaries other than the Eek, Kwethluk, Kasigluk, Kisaralik, Tuluksak, and Aniak rivers and their salmon spawning tributaries (Federal Special Actions 3-KS-04-15, 3-KS-01a-16, 3KS-12-16, 3-KS-03-16, 3-KS-01-17, **Table 1**).

Table 1. The effect of Federal special actions closing triubtaries in which salmon do not spawn, to the use of gillnets within 100 yeards upstream of their convluences with the Kuskokwim River.

Year	Length of closure to the harvest of Chinook Salmon	Federally qualified subsistence users' opportunity to use gillnets within 100 yards upstream of the mouths of tributaries in which salmon do not spawn
2015	May 28–July 2 (36 days)	9 days (up to 4-inch mesh gillnets)
2016	June 3–July 7 (36 days)	8.5 days (up to 6-inch mesh gillnets)
2017	June 12–July 7 (26 days)	1.75 days (up to 6-inch mesh gillnets)

Biological Background

Whitefish Species

Six common whitefish species are present in the Kuskokwim River: Inconnu (Sheefish), Broad Whitefish, Humpback Whitefish, Least Cisco, Bering Cisco, and Round Whitefish. Biological data on distribution,

migration, and life history that exist for these whitefish species come from directed sampling and radio telemetry studies in the drainage. Some age and length data are available for some of the species in the Kuskokwim River drainage, but is not adequate enough to provide a complete assessment of their populations.

Sheefish, Broad Whitefish, Humpback Whitefish, and Least Cisco are generally distributed from the Kuskokwim River mouth to the Swift Fork of the Kuskokwim River. Bering Cisco appear to have a much more limited distribution, which ranges from the mouth to the South Fork of the Kuskokwim River (Alt 1973, Brown et al. 2012). Based on weirs operated in several of the Kuskokwim River's salmon tributaries, it does not appear as though large whitefish migrations occur in the most salmon spawning streams; however, data is limited to (~ 3 month) windows when the weirs operate.

Sheefish are known to be seasonally migratory, moving towards the marine environment during the winter then returning to the river during the summer and fall to feed and spawn (Alt 1977, Stuby 2010). Most appear to overwinter from lower Holitna River to Kuskokwim Bay (Alt 1977, Stuby 2010). Summer feeding habitats include slow flowing reaches of numerous tributaries in the lower river into the North Fork of the Kuskokwim River. Fall spawning habitats include four primary areas in upper river tributaries: Swift Fork, Big River, Middle Fork, Slow Fork near Tonzona (Alt 1972, 1981, Stuby 2010). Spawning typically occurs between late September and mid-October. Sheefish, as well as the other riverine whitefish species, are broadcast spawners, spreading their eggs over gravel substrate in the fall and larvae emerge after a winter of developing, where they are distributed downstream by river currents to feeding areas (Gates et al. 2017, McPhail and Lindsey 1970).

Riverine populations of Broad Whitefish, Humpback Whitefish, and Least Cisco rear, feed, and overwinter in the lower drainage and in Kuskokwim Bay (Maciolek 1986, Harper et al. 2007, 2008, 2009). Beginning mid to late summer, pre-spawning individuals migrate to feeding habitats to upstream spawning habitats in the gravel substrate reaches of the drainage (for example: Big River, Swift Fork, lower Holitna River, etc.). Spawning for Broad Whitefish typically occurs later than most species of whitefish, usually beginning in early November (Harper et al. 2009). Spawning for Humpback Whitefish usually begins in late September or early October (Stein et al. 1973, Alt 1979, Brown 2006). Migration data are not available for Least Cisco, Bering Cisco, or Round Whitefish populations in the Kuskokwim River drainage. These species generally start migrating toward overwintering grounds by the end of the fall (late October, early November).

Northern Pike

Northern Pike are native to northern and western Alaska, including the Kuskokwim River drainage. The vast majority of Northern Pike fisheries are well off the road system and far from human settlements. Most populations are considered stable, but localized depletion of abundance can occur (e.g., Harding and Volkmar Lakes in Interior Alaska) (ADF&G 2018a)

Northern Pike spawn in the spring of the year soon after the ice goes out. A 25-pound female may contain up to 500,000 eggs, which she deposits in the grassy margins of a lake shore, slow-moving stream, or slough. The eggs drop to the bottom where they stick to grass, rocks, or other debris. (ADF&G 2018a).

Because ice-covered, shallow lakes become depleted of oxygen, most Northern Pike overwinter in the deep, slow waters of large rivers. Spring migration from overwintering areas to spawning ground and then to summer feeding areas are generally short distances. Movement during the summer is localized between warm, shallow feeding areas. In Interior Alaska, 12-inch Pike may be two to three years old, while a 25-inch Pike may be six to eight years old. Very large fish (15+ pounds) ages range from 10 to 17 years old (ADF&G 2018a).

Juvenile Northern Pike feed on small crustaceans and insects. Once they reach two inches in length, they begin to eat smaller fish. Adult Northern Pike eat other fish, including Longnose Suckers, Burbot, smaller Northern Pike, and juvenile salmon. Large adults have been known to eat small rodents and waterfowl (ADF&G 2018a).

Burbot

Burbot are distributed in fresh waters throughout Alaska except Southeast Alaska. Robust populations of Burbot exist in the Kuskokwim River. Most lake populations are also healthy, but overfishing is known to have occurred in road accessible lakes in the interior portions of Alaska. Burbot are relatively long-lived and slow-growing species. In Alaska, Burbot older than 20 years are not uncommon. Burbot typically take from five to seven years to reach 18 inches in length, which coincides with sexual maturity. Burbot spawn under the ice in late winter (February–March) and have been observed to mill together forming a large writhing ball while spawning. Burbot are broadcast spawners (ADF&G 2018b).

Juvenile Burbot diet consists mainly of insects and other invertebrates. Closer to sexual maturity, Burbot diets switch to almost exclusively fish, where common prey types include whitefish, sculpins, lampreys, other Burbot, and occasionally small rodents (ADF&G 2018b).

Cultural Knowledge and Traditional Practices

Seventeen communities are situated in the lower and middle Kuskokwim River drainage (**Table 2**). The majority belong to the *Kusquqvagmiut* confederation of villages and *Yup'ik* cultural tradition (Oswalt 1980, Fienup-Riordan 1984). Most non-Natives living in the area reside in Bethel and Aniak, the regional hubs of Federal and State governments, transportation, trade, and services. The population of the area tripled in the 50 years between 1960 and 2010. In 1960, the U.S. Census Bureau's population estimate was 4,023 people. In 2010, it estimated 12,133 people living in 3,482 households were permanent residents of these villages.

Springtime can be difficult for people waiting for salmon runs and "feeling the pinch of dwindling food supplies" (Brown et al. 2013:36). To compensate for low salmon stores in the spring, people rely more heavily on nonsalmon fishes, especially whitefishes (cf. Andrews and Peterson 1983; Brown et al 2012, 2013; Coffing 1991; Coffing et al. 2001; Ikuta et al. 2013, 2014, 2016; Krauthoefer et al. 2007; Oswalt 1959; Ray et al. 2010). Humpback Whitefish, Broad Whitefish, ciscoes, Pike, smelt, Burbot, Alaska Blackfish, char, Arctic Grayling, and Rainbow Trout are harvested for subsistence. People use traps, hook and line, gillnets, and dip nets to harvest these fishes. Levels of harvest vary from community to community and from year to year depending on availability of fishes and environmental conditions, such as if it is safe to jig through the ice. Dip nets are generally used in the mainstem to harvest smelts and some

salmon. People use traps (*taluyak*) to harvest Blackfish and some Burbot. Many fishes are harvested with hook and line by jigging through the ice and by nets set under the ice. Gillnets are used year round and catch whitefishes, Sheefish, Pike, Burbot, char, Grayling and Suckers. In some communities, whitefishes are taken primarily with gillnets from open water (Coffing 1991:137). Many whitefishes and Sheefish are harvested with gillnets in open water following spring breakup in the mainstem and tributaries. In late spring and summer, whitefishes, Sheefish, and Pike are incidentally caught in commercial and subsistence gillnets during salmon season and are preserved by drying and smoking along with salmon at summer fish camps and by freezing, and are eaten either fresh, boiled, or baked. Other types of fishes taken incidentally in salmon nets are generally eaten fresh.

Table 2. The population of communities in the lower and middle Kuskokwim River drainage, based on U.S. Census Bureau estimates, 1960-2010, (blank cell=0 or not available, ADCCED 2014).

Community	1960	1970	1980	1990	2000	2010	2010 number of households
Lower							
Tuntutuliak	144	158	216	300	370	408	96
Eek	200	186	228	254	280	296	91
Napakiak	190		262	318	353	354	96
Napaskiak	154	259	244	328	390	405	94
Oscarville	51	41	56	57	61	70	15
Kasigluk	244		342	425	543	569	113
Nunapitchuk	327	526	299	378	466	496	124
Atmautluak			219	258	294	277	63
Bethel	1,258	2,416	3,576	4,674	5,471	6,080	1,896
Kwethluk	325	408	454	558	713	721	192
Akiachak	229	312	438	481	585	627	183
Akiak	187	171	198	285	309	346	90
Tuluksak	137	195	236	358	428	373	92
Subtotal	**3,446**	**4,672**	**6,768**	**8,674**	**10,263**	**11,022**	**3,145**
Middle							
Lower Kalskag	122	183	246	291	267	282	75
Kalskag	147	122	129	172	230	210	60
Aniak	308	205	341	540	572	501	166
Chuathbaluk		94	105	97	119	118	36
Subtotal	**577**	**604**	**821**	**1,100**	**1,188**	**1,111**	337
TOTAL	**4,023**	**5,276**	**7,589**	**9,774**	**11,451**	**12,133**	**3,482**

Research conducted between 2009 and 2013 shows that residents of lower Kuskokwim River drainage communities (Eek to Tuluksak) harvested high levels of nonsalmon fishes, 23–46% of annual harvests of all wild resources in lbs. edible weight. Harvest levels in other resource categories (large land mammals, small land mammals, birds and eggs, marine invertebrates, and berries and plants) except salmon were considerably lower. Nonsalmon fishes harvested by residents of communities in the lower river were primarily Pike and whitefishes and smaller amounts of Blackfish, Burbot, and smelt. Few char, trout, or Grayling were reported in these harvests (ADF&G 2018c). Typically, communities in the middle Kuskokwim River drainage, from Lower Kalskag to Chuathbaluk, reported harvesting nonsalmon fishes at a lower rate, 5–17% of annual wild food harvests, than lower river communities. The most common nonsalmon fishes harvested in middle river communities were whitefishes. Other fish harvested included smelt, Blackfish, and Grayling (ADF&G 2018c).

People who reside in the lower and middle Kuskokwim River drainage rely heavily on nonsalmon fishes. In household surveys between 1983 and 2013, almost all households reported using nonsalmon fishes and majorities reported harvesting them. They are widely shared within and between communities, and annual harvests rates of over 200 lbs. edible weight per person have been common (see **Table 3**).

Harvest History

People participate in postseason house-to-house salmon harvest surveys each year. Since 2014 they have answered questions concerning their harvests of Humpback Whitefish, Broad Whitefish, Ciscoes, Sheefish, Burbot, and Pike as part of these surveys and drainage-wide harvests have been estimated (see **Table 4**).

Subsistence harvest information is also collected through periodic comprehensive household harvest surveys. The primary purpose of comprehensive household harvest surveys is to document subsistence uses of wild resources. These studies focus on a one-year time period; however, they may not be the "typical" year. In fact, annual variation in subsistence patterns can be significant as subsistence harvesters respond, for example, to the availability of resources or environmental conditions that may vary considerably from year to year. Additionally, some community harvest estimates from surveys are imprecise ranges. Only by observing large data sets we can begin to see trends.

Estimated harvest levels of Humpback Whitefish, Broad Whitefish, Sheefish, Pike, and Burbot are displayed in **Table 5, Table 6, Table 7**, **Table 8,** and **Table 9**. These are the fishes that are available for harvest in June, and when harvested in June, are taken primarily with gillnets, which are the focus of this analysis.

Current Events

Proposals FP19-08, FP19-09, and FP19-10 request the Board to adopt into regulation actions that have been previously accomplished by special actions issued to manage the harvest of Chinook Salmon in Refuge waters since 2016. Proposals FP19-08 and FP19-09 deal with the timing of gillnet restrictions and how harvest opportunity will be managed during gillnet restrictions, while FP19-10 deals with what parts of Refuge waters remain open during gillnet restrictions. All of these requests deal with specifics about timing and manner of the fishery closures and harvest opportunities, and the location of harvest opportunities during closures. These are management topics that could benefit from a more coordinated and collaborative effort to develop permanent Federal regulations related to Chinook Salmon on the Kuskokwim River. Regardless of whether or not Proposal FP17-05 is approved, the adoption of any of these proposals would require the Federal in-season manager to continue to issue emergency special actions in order to adjust for in-season management in the absence of a complete plan for Federal subsistence fisheries management.

Table 3. The harvest and use of nonsalmon fishes by communities situated in the lower and middle Kuskokwim River drainage, based on household harvest surveys (blank cell=question not asked, Source: ADF&G 2018c).

Community	Study year	Households using nonsalmon fishes	Households attempting to harvest nonsalmon fishes	Households harvesting nonsalmon fishes	Households giving away nonsalmon fishes	Households receiving nonsalmon fishes	Pounds harvested per person
Akiachak	1998	99%	96%	95%	70%	73%	248
Akiak	2010	83%	73%	71%	43%	46%	209
Aniak	2001	91%	74%	65%	25%	72%	37
Aniak	2009	70%	70%	51%	27%	46%	50
Bethel	2012	76%	55%	54%	37%	60%	31
Chuathbaluk	2001	85%	65%	65%	12%	38%	175
Chuathbaluk	2009	80%	80%	57%	27%	53%	20
Eek	2005	91%	87%	87%	50%	15%	550
Eek	2013	88%	72%	67%	55%	63%	61
Kalskag	2009	90%	90%	69%	52%	63%	48
Kwethluk	1986		87%	87%	64%	72%	269
Kwethluk	2010	88%	75%	75%	41%	61%	84
Lower Kalskag	2009	89%	89%	67%	33%	70%	32
Napakiak	2011	82%	64%	64%	46%	54%	151
Napaskiak	2011	88%	68%	66%	41%	63%	105
Nunapitchuk	1983			100%			365
Nunapitchuk	2005	65%	61%	65%	39%	30%	812
Oscarville	2010	100%	100%	100%	67%	75%	169
Tuluksak	2010	91%	81%	79%	49%	60%	87
Tuntutuliak	2013	97%	78%	76%	49%	76%	98

Table 4. The estimated harvest of nonsalmon fishes, in numbers of fish, for subsistence in lower and middle Kuskokwim River drainage communities, based on annual postseason household surveys, 2014 and 2015 (CI 95%, the reported harvest is not available) (Source: Shelden et al. 2016a and 2016b).

Year	Kusko-kwim drainage	Humpback whitefish harvest	Broad whitefish harvest	Cisco harvest	Sheefish harvest	Burbot harvest	Pike harvest
2014	Lower	40,403 (±5,126)	15,701 (±2,787)	7,165 (±2,600)	4,390 (±1,591)	21,529 (±7,383)	38,072 (±4,949)
	Middle	1,638 (±426)	1,741 (±355)	1,619 (±699)	744 (±221)	466 (±250)	941 (±437)
2015	Lower	26,618 (±6,453)	19,437 (±2,949)	8,495 (±4,340)	3,279 (±1,050)	17,114 (±3,758)	62,845 (±8,750)
	Middle	1,743 (±1,064)	1,928 (±1,884)	6,257 (±8,799)	359 (±86)	414 (±218)	448 (±210)

Table 5. The estimated harvest, in numbers of fish, of Humpback Whitefish by communities in the lower and middle Kuskokwim River drainage, based on household harvest surveys (CI 95%, lower harvest estimate is the lower bound of the estimate or the reported harvest, whichever is larger) (Source ADF&G 2018c).

Community	Study year	Humpback Whitefish estimated harvest	Lower harvest estimate	Upper harvest estimate
Akiachak	1998	7,233	5,588	8,878
Akiak	2010	7,089	5,018	13,197
Aniak	2009	919	762	1,413
Bethel	2012	10,427	10,423	10,430
Chuathbaluk	2009	78	65	113
Eek	2005	1,726	1,683	1,789
Eek	2013	674	672	675
Kalskag	2009	1,091	873	1,446
Kwethluk	2010	8,375	4,849	14,751
Lower Kalskag	2009	1,109	932	1,324
Napakiak	2011	2,591	2,581	2,601
Napaskiak	2011	7,269	7,188	7,350
Nunapitchuk	2005	3,373	4,157	4,157
Oscarville	2010	1,430	1,226	2,392
Tuluksak	2010	2,687	2,124	3,641
Tuntutuliak	2005	4,334	3,425	4,661
Tuntutuliak	2013	2,496	2,491	2,501

Other Alternatives Considered

If adopted, Proposal FP17-05 in combination with any of the other Kuskokwim area proposals submitted during this cycle (FP19-08, FP19-09, and FP19-10) would effect Federal subsistence management for the Kuskokwim Area. A potential alternative for consideration would be to defer all of the Kuskokwim area proposals (FP17-05, FP19-08, FP19-09, and FP19-10) and direct OSM staff to facilitate the development of a collaborative Federal subsistence management plan that would outline strategies for management Federal subsistence fisheries in the Kuskokwim Area. The approaches found in the current fisheries regulatory proposals for the Kuskokwim Area are valid approaches to fisheries management. However, it may be more effective to develop a full suite of permanent regulations through coordinated efforts with the parties identified in the Kuskokwim Area delegation of authority letter. This potential alternative would provide a mechanism to allow a larger group involved with all entities the time to submit a larger proposal that would become a Federal subsistence fisheries management plan for the Kuskokwim area.

Table 6. The estimated harvest, in numbers of fish, of Broad Whitefish by communities in the lower and middle Kuskokwim River drainage, based on household harvest surveys (CI 95%, lower harvest estimate is the lower bound of the estimate or the reported harvest, whichever is larger) (Source ADF&G 2018c).

Community	Study year	Broad Whitefish estimated harvest	Lower harvest estimate	Upper harvest estimate
Akiachak	1998	4,168	3,145	5,191
Akiak	2010	1,232	872	1,742
Aniak	2009	599	497	755
Bethel	2012	5,633	5,631	5,635
Chuathbaluk	2009	125	104	187
Eek	2005	532	519	572
Eek	2013	333	332	334
Kalskag	2009	703	563	878
Kwethluk	2010	865	533	1,197
Lower Kalskag	2009	728	612	920
Napakiak	2011	1,799	1,791	1,806
Napaskiak	2011	1,505	1,493	1,517
Nunapitchuk	2005	2,321	3,026	3,026
Oscarville	2010	53	45	78
Tuluksak	2010	738	525	951
Tuntutuliak	2005	1,975	1,561	2,104
Tuntutuliak	2013	1,934	1,930	1,939

Effects of the Proposal

If the proposal was adopted, then during closures to the harvest of salmon in Refuge waters, the common practice of the Refuge manager of closing by special action the first 100 yards of Kuskokwim River tributaries in which salmon do not spawn, to the use of gillnets would become a regulation. There would be no effect on subsistence users, nonsubsistence users, or fish. The Refuge manager would be required to provide additional justification in order to increase the closure to the use of gillnets in a tributary in which salmon do not spawn, beyond 100 yards of the confluence with the Kuskokwim River.

If the proposal was not adopted, then during closures to the harvest of salmon in Refuge waters, the Refuge manager would likely continue to close by special action the first 100 yards of Kuskokwim River tributaries in which salmon do not spawn, to the use of gillnets. There would be no effect on subsistence users, nonsubsistence users, or fish.

Table 7. The estimated harvest, in numbers of fish, of Sheefish by communities in the lower and middle Kuskokwim River drainage, based on household harvest surveys (CI 95%, lower harvest estimate is the lower bound of the estimate or the reported harvest, whichever is larger) (Source ADF&G 2018c).

Community	Study year	Sheefish estimated harvest	Lower harvest estimate	Upper harvest estimate
Akiachak	1998	205	149	262
Akiak	2010	2,036	1,441	3,337
Aniak	2001	701	544	859
Aniak	2009	667	553	892
Bethel	2012	1,854	1,853	1,854
Chuathbaluk	2001	187	152	245
Chuathbaluk	2009	119	99	142
Eek	2005	235	230	270
Eek	2013	37	36	37
Kalskag	2009	453	363	626
Kwethluk	1986	2,119	2,119	2,119
Kwethluk	2010	253	152	384
Lower Kalskag	2009	242	203	304
Napakiak	2011	168	167	170
Napaskiak	2011	271	269	273
Nunapitchuk	1983	12	3	27
Nunapitchuk	2005	53	31	75
Oscarville	2010	36	31	65
Tuluksak	2010	271	2	334
Tuntutuliak	2005	372	294	432
Tuntutuliak	2013	356	353	357

OSM PRELIMINARY CONCLUSION

Support Proposal FP19-10 **with modification** to clarify that nonsalmon tributaries would be identified by the Federal in-season manager in special actions.

The modified regulation should read:

§___.27(e)(4) Kuskokwim Area

(xvii) Tributaries of the Kuskokwim River in which salmon do not spawn will remain open to the use of gillnets. Gillnets can be used more than 100 yards upstream from the confluence of each tributary in which salmon do not spawn and the Kuskokwim River. Tributaries to which this applies will be identified in special actions that prohibit the use of gillnets.

Table 8. The estimated harvest, in numbers of fish, of Northern Pike by communities in the lower and middle Kuskokwim River drainage, based on household harvest surveys (CI 95%, lower harvest estimate is the lower bound of the estimate or the reported harvest, whichever is larger) (Source ADF&G 2018c).

Community	Study year	Pike estimated harvest	Lower harvest-estimate	Upper harvest estimate
Akiachak	1998	4,400	3,811	4,988
Akiak	2010	2,220	1,566	2,875
Aniak	2001	503	420	586
Aniak	2009	342	284	414
Bethel	2012	12,804	12,802	12,807
Chuathbaluk	2001	81	66	140
Chuathbaluk	2009	57	48	84
Eek	2005	5,520	5,382	5,632
Eek	2013	1,436	1,431	1,441
Kalskag	2009	230	184	299
Kwethluk	1986	9,043	9,043	9,043
Kwethluk	2010	5,361	3,794	6,929
Lower Kalskag	2009	335	281	403
Napakiak	2011	5,665	5,651	5,679
Napaskiak	2011	3,296	3,286	3,305
Nunapitchuk	1983	26,925	17,295	36,555
Nunapitchuk	2005	14,816	12,742	16,989
Oscarville	2010	1,096	774	1,417
Tuluksak	2010	2,622	2,066	3,177
Tuntutuliak	2005	8,679	6,858	9,174
Tuntutuliak	2013	2,685	2,679	2,692

Justification

The OSM preliminary conclusion for this analysis is assuming Board action taken on FP17-05 reflects the OSM preliminary recommendation provided in that analysis, to support adoption. The OSM preliminary conclusion for this proposal is advocating support with modification as it would provide a framework for management in the event that FP17-05 is adopted.

Before 2014, closures to the use of gillnets over 4-inch mesh size occurred on a schedule of three days a week by ADF&G emergency orders in order to allow passage of more Chinook Salmon to middle and upper river tributaries and subsistence users. (The exception was 2012 when 12 days of continuous closures occurred, the longest ever at that time.) The use of up to 4-inch mesh gillnets remained legal throughout the drainage to allow harvest of nonsalmon fishes.

Table 9. The estimated harvest, in numbers of fish, of Burbot by communities in the lower and middle Kuskokwim River drainage, based on household harvest surveys (CI 95%, lower harvest estimate is the lower bound of the estimate or the reported harvest, whichever is larger) (Source ADF&G 2018c).

Community	Study year	Burbot estimated harvest	Lower harvest estimate	Upper harvest estimate
Akiachak	1998	5,090	4,545	5,635
Akiak	2010	10,076	6,912	15,712
Aniak	2001	1,258	938	1,831
Aniak	2009	5,131	4,256	9,088
Bethel	2012	6,430	6,428	6,432
Chuathbaluk	2001	3,915	3,181	8,203
Chuathbaluk	2009	77	64	127
Eek	2005	746	728	770
Eek	2013	1,796	1,790	1,802
Kalskag	2009	50	40	75
Kwethluk	1986	7,497	7,497	7,497
Kwethluk	2010	808	586	1,029
Lower Kalskag	2009	2	2	4
Napakiak	2011	732	728	735
Napaskiak	2011	922	919	924
Nunapitchuk	1983	1,342	326	2,477
Nunapitchuk	2005	115	159	159
Oscarville	2010	201	172	264
Tuluksak	2010	2,675	2,115	3,787
Tuntutuliak	2005	1,330	1,051	1,436
Tuntutuliak	2013	1,717	1,712	1,722

In contrast, since 2014 the Refuge manager has provided extremely limited opportunities to harvest Chinook Salmon in Refuge waters because of low run-size indicators. The use of all gillnets, from early June to early July, has been prohibited in Refuge waters except past 100 yards from the mouths of tributaries in which salmon do not spawn. Gillnet fishing remained legal in these tributaries so that Federally qualified subsistence users could continue to harvest nonsalmon fishes. One-hundred yards have been deemed adequate (until further scientific data is collected) to prevent the harvest of Chinook Salmon that have strayed past the mouths of these tributaries.

The harvest and use of nonsalmon fishes have been important to Federally qualified subsistence users, and subsistence users rely on nonsalmon fishes harvested year round. Many whitefish and Sheefish are harvested with gillnets in open water following spring breakup in the Kuskokwim River mainstem and tributaries. In late spring and summer, whitefishes, Sheefish, and Pike have often been incidentally caught in commercial and subsistence gillnets during salmon season, and some have been preserved by drying and smoking along with salmon at summer fish camps.

Since 2014, it is likely that some Federally qualified subsistence users have increased their efforts to harvest nonsalmon fishes because subsistence users' opportunity to harvest Chinook Salmon in the Kuskokwim River drainage has been significantly reduced. While effort to harvest nonsalmon fishes in most Refuge waters has been legal using any gear type that allows live release of Chinook Salmon, the use of gillnets has only been legal past 100 yards from the mouths of tributaries in which salmon do not spawn. The Refuge manager has continued to allow the use of gillnets in these tributaries so that subsistence users may continue to harvest nonsalmon fishes in an efficient manner in areas where salmon are shown not to migrate, thereby continuing to protect Chinook Salmon from harvest.

Therefore, the ability for Federally qualified subsistence users to continue to use gillnets in tributaries in which salmon do not spawn more than 100 yards upstream from their confluences with the Kuskokwim River should be required and in Federal regulations. The Refuge manager will have to provide adequate justification for a special action to increase the closure to beyond 100 yards from the confluence with the Kuskokwim River.

Although specific nonsalmon spawning tributaries will not be listed in Federal regulations, the modification to the proposal would compel the Refuge manage to specify which nonsalmon spawning tributaries are excluded from closures to gillnets; thus, the proposed modification keeps the proponents original intent and keeps Federal regulation from being vague since no complete list of nonsalmon spawning tributaries in the Kuskokwim area exists.

This proposed change does not present any conservation issues for nonsalmon species, such as whitefishes, Sheefish, Northern Pike, and Burbot. However, if conservation issues do arise, the Federal in-season manager would still have the authority to restrict gillnet use in tributaries in which salmon do not spawn, if information became available to indicate a problem. There is little to no harvest information on Chinook Salmon harvest within these tributaries. The 100-yard barrier does prevent subsistence users from straddling the confluence of the tributaries with the main-stem Kuskokwim River where more Chinook Salmon may be at risk to harvest.

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FP19–02 Executive Summary	
General Description	Proposal FP19-02 requests the Federal Subsistence Board (Board) decrease the time the subsistence fishery is closed prior to the start of the State commercial fishing season in Yukon Districts 1, 2, 3, and 4A (excluding Koyukuk and Innoko rivers) from 24 hours to 6 hours. *Submitted by: Alissa Rogers*.
Proposed Regulation	***§___.14 Relationship to State procedures and regulations*** *(a) State fish and game regulations apply to public lands and such laws are hereby adopted and made a part of the regulations in this part to the extent they are not inconsistent with, or superseded by, the regulations in this part.* ***§___.27 Subsistence taking of fish*** *(e)(3) Yukon-Northern Area.* * * * * *(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060),* ***except in Districts 1, 2, 3, and Subdistrict 4A, excluding the Koyukuk and Innoko River drainages, you may not take salmon for subsistence purposes during the 6 hours immediately before the opening of a State commercial salmon fishing season,*** *unless superseded by a Federal Special Action.* * * * * *(vi) In Districts 1, 2, 3, and Subdistrict 4A, excluding the Koyukuk and Innoko River drainages, you may not take salmon for subsistence purposes during the* ~~*24*~~***6*** *hours immediately before the opening of the State commercial salmon fishing season.*
OSM Preliminary Conclusion	**Support** Proposal FP19-02 **with modification** to provide the up-dated language only one time in the regulations to avoid redundancy.

FP19–02 Executive Summary	
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	**None**

DRAFT STAFF ANALYSIS
FP19-02

ISSUES

Proposal FP19-02, submitted by Alissa Rogers of Bethel requests the Federal Subsistence Board (Board) decrease the time the subsistence fishery is closed prior to the start of the State commercial fishing season in Yukon Districts 1, 2, 3, and 4A (excluding Koyukuk and Innoko rivers) from 24 hours to 6 hours.

DISCUSSION

The proponent states these closures do not prevent people from selling into the commercial fishery Chinook Salmon taken in the subsistence fishery because only a few Yukon subsistence fishermen do this. The proponent states there are always going to be a few bad actors that they are known and have been fined before but that the existing regulation has not stopped them. The proponent states that this regulation is burdensome on subsistence fishermen without any benefit.

Existing Federal Regulation

§___.14 Relationship to State procedures and regulations

(a) State fish and game regulations apply to public lands and such laws are hereby adopted and made a part of the regulations in this part to the extent they are not inconsistent with, or superseded by, the regulations in this part.

§___.27 Subsistence taking of fish

(e)(3) Yukon-Northern Area.

* * * *

(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.

* * * *

(vi) In Districts 1, 2, 3, and Subdistrict 4A, excluding the Koyukuk and Innoko River drainages, you may not take salmon for subsistence purposes during the 24 hours immediately before the opening of the State commercial salmon fishing season.

Proposed Federal Regulation

§___.14 Relationship to State procedures and regulations

(a) State fish and game regulations apply to public lands and such laws are hereby adopted and made a part of the regulations in this part to the extent they are not inconsistent with, or superseded by, the regulations in this part.

§___.27 Subsistence taking of fish

(e)(3) Yukon-Northern Area.

* * * *

(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), ***except in Districts 1, 2, 3, and Subdistrict 4A, excluding the Koyukuk and Innoko River drainages, you may not take salmon for subsistence purposes during the 6 hours immediately before the opening of a State commercial salmon fishing season,*** *unless superseded by a Federal Special Action.*

* * * *

(vi) In Districts 1, 2, 3, and Subdistrict 4A, excluding the Koyukuk and Innoko River drainages, you may not take salmon for subsistence purposes during the ~~*24*~~***6*** *hours immediately before the opening of the State commercial salmon fishing season.*

Existing State Regulation

5 AAC 01.240. Marking and use of subsistence-taken salmon

(e) In Districts 1, 2, and 3, excluding the Innoko River drainage, salmon may not be taken for subsistence during the 24 hours immediately before the opening of the commercial salmon fishing season, and

Extent of Federal Public Lands

For purposes of this discussion, the phrase "Federal public waters" is defined as those waters described under 36 CFR §242.3 and 50 CFR §100.3. The Federal public waters addressed by this proposal are those portions of the Yukon River located within, or adjacent to, the external boundaries of the Yukon Delta National Wildlife Refuge (NWR) within fishing Subdistricts 1-3 of the Yukon/Northern Federal Subsistence Fishery Management Area (**Figure 1**).

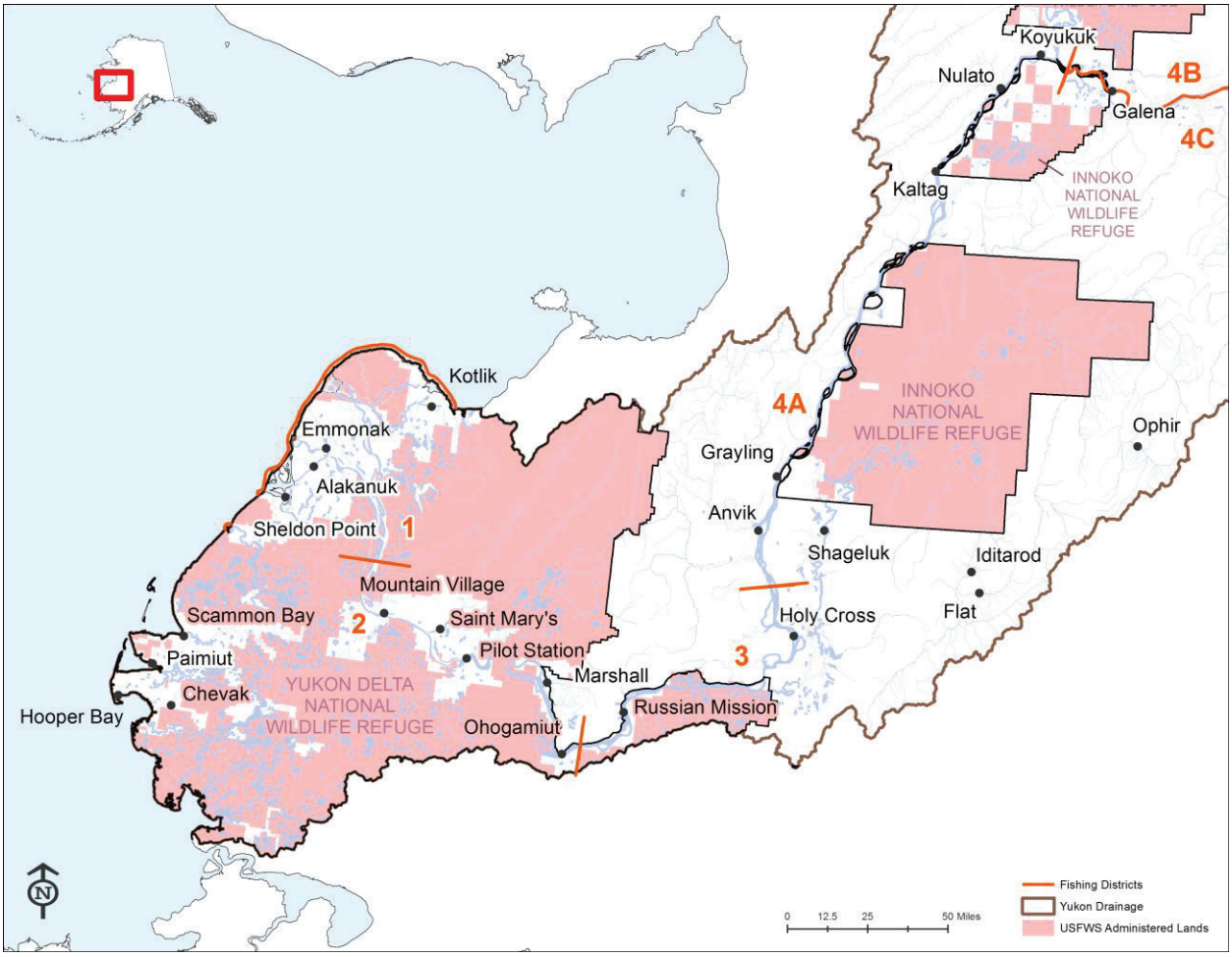

Figure 1. Lower Yukon River Districts 1, 2, 3, and 4A.

Customary and Traditional Use Determinations

Rural residents of the Yukon River drainage and the community of Stebbins have customary and traditional use determination for Salmon, other than Fall Chum salmon in the Yukon River drainage.

Residents of the Yukon River drainage and the community of Chevak, Hooper Bay, Scammon Bay, and Stebbins have a customary and traditional use determination for Fall Chum salmon in the Yukon River drainage.

Regulatory History

State Regulatory History

The current six commercial fishing districts were established in 1974. The subsistence fishing schedules were also linked to the commercial fishing schedules in districts 1-6 in the same year, and concurrent subsistence and commercial fishing for 5 days per week was implemented in the Upper Yukon Area (Districts 4-6). Beginning in 1977 the lower Yukon area was reduced to commercial and subsistence fishing for 3 days per week during the commercial Chinook Salmon season, and 3.5 days per week during the Fall Chum Salmon season. The Fall Chum Salmon fishing season was again reduced in 1979, to 3 days per week. Beginning in 1981, ADF&G began announcing in-season Lower Yukon area commercial fishing periods by emergency order, with Lower Yukon area subsistence periods announced in this manner beginning in 1984 (Jallen et al. 2015).

In December 1976, the Alaska BOF prohibited the use of drift gillnets for subsistence Chinook Salmon fishing in the middle and upper Yukon Areas (Districts 4-6). The BOF discussions at that time indicated that the possible increase in the use of drift gillnets could seriously impact both the conservation and allocation of middle and upper Yukon River salmon stocks, which were being harvested at maximum levels (ADF&G 2001). However, subsistence users in the upper Yukon areas were allowed to continue using drift gillnets throughout the Yukon River drainage until the 1977 season.

In 1981, the Alaska BOF adopted a proposal to allow drift gillnets for subsistence Chinook Salmon harvest in Subdistrict 4A (ADF&G 1982).

Beginning in 1993, regulations separated commercial and subsistence fishing times in Districts 1, 2, 3 and Subdistrict 4A. The regulations stated that subsistence fishing in Districts 1-3 was open 7 days per week, 24 hours/day until the commercial fishing season began. Once commercial fishing had started, subsistence fishing was closed 18 hours prior, during, and 12 hours after each commercial fishing period. Also, marking of subsistence caught fish was required by removal of the dorsal fin. These regulations were made based on an enforcement action where subsistence-caught fish were being sold in the commercial fishery in 1992 (Bergstrom et al. 1995).

In 1994, the Alaska BOF questioned the need for drift gillnets to provide for adequate subsistence opportunity in the middle and upper Yukon Areas. State staff comments suggested that at that time it did not appear necessary (ADF&G 2001). The BOF stated that the Alaska Department of Fish and Game could allow increased time for subsistence fishing with other gear types by emergency order, as an alternative, if subsistence needs were not being met. No BOF action was taken.

The Board added a fishing schedule for the subsistence salmon fisheries in 2001. The schedule will be implemented chronologically, consistent with migratory timing as the run progresses upstream. This schedule may be altered by emergency order if preseason or in-season indicators indicate it is necessary for conservation.. Districts 1-3 windows allowed subsistence salmon fishing for two 36 hour periods per week. Districts 4, and Subdistricts 5-B and 5-C were open to subsistence fishing for two 48-hour periods per week. Subsistence fishing in Subdistrict 4A was further defined during the commercial fishing season

in 2004 with Chinook Salmon fishing only allowed during two 48 hour drift netting periods per week by emergency order.

In February 2007, the BOF adopted a proposal changing the marking requirement for subsistence-caught salmon in Districts 1–3 from removal of the dorsal fin to removal of both tips of the tail fin. The rationale cited in the subcommittee report was to foster better compliance because marking would be easier, to make the regulation consistent with other areas of the state, to clarify when subsistence marking requirements would be in place, to use a more sanitary mark, and to discourage subsistence caught fish from entering the State's commercial fisheries (ADF&G 2007).

Commercial fishing for Chum Salmon during times of Chinook Salmon conservation was permitted with fish wheels by emergency order in Subdistrict 4-A, beginning in 2012. Fishermen are required to be present at the fish wheel, and immediately release all Chinook Salmon alive.

In March 2015, the BOF adopted a new regulation that allowed the use of drift gillnets to harvest summer Chum Salmon for subsistence purposes during times of Chinook conservation from June 10 through August 2, by emergency order, in the upper portion of Subdistrict 4A (5 AAC 0l.220(e)(1)).

In January 2016, the BOF adopted the same regulations in the lower portion of the Subdistrict 4A (5 AAC 0l.220 (e) (2)).

The BOF adopted a proposal to allow the use of drift gill nets in sub-districts 4B and 4C at the March 2018 meeting.

Federal Regulatory History

Starting in October 1999, Federal subsistence management regulations for the Yukon-Northern Area stipulated that, unless otherwise restricted, rural residents may take salmon in the Yukon-Northern Area at any time by gillnet, beach seine, fish wheel, or rod and reel unless exceptions are noted.

In 2002, the Board delegated some of its authority to manage Yukon River drainage subsistence salmon fisheries to the Branch Chief for Subsistence Fisheries, U.S. Fish and Wildlife Service, in Fairbanks. The Federal Subsistence Board's delegation allows the Federal manager to open or close Federal subsistence fishing periods or areas provided under codified regulations, and to specify methods and means.

In 2017, through fisheries proposal FP17-03, the Board modified regulations in Subdistrict 4A to allow the Federal In-season Manager to open fishing periods during which Chum Salmon may be taken by drift gillnets from June 10 through August 2 (FSB 2017). This regulation change was made to match existing ADF&G regulations that were modified in 2015 and 2016.

Current Events

The proponent for this regulatory proposal has also submitted this proposal to the BOF for its review during their Arctic/Yukon/Kuskokwim Finfish meeting that is scheduled for January 15-19, 2019. The

proponent has also submitted FP19-03 and FP19-04, which are similar proposals that aim to reduce or eliminate the required closure before a commercial fishing period. Fisheries Proposal 19-03 requests to reduce the closure time down to 6 hours prior to and 6 hours after a commercial fishing period, while FP19-04 requests that there would be no closure to subsistence fishing prior to, during, and after a commercial fishing period.

Biological Background

Chinook Salmon

Recent analyses indicate that Yukon River Chinook Salmon stocks appear to be in the third year of increasing productivity after the low returns of 2015. Historically, the stocks showed periods of above-average abundance (1982-1997) and periods of below-average abundance (1998 onwards), as well as periods of generally higher productivity (brood years 1993 and earlier) mixed with years of low productivity (brood years 1994-1996 and 2002-2005; Schindler et al. 2013).

The 2014 run was expected to be the smallest on record, with a projected size of 64,000-121,000 fish. Despite initial concerns, the cumulative passage estimate at the mainstem Yukon River sonar project in Pilot Station was approximately 138,000±17,000 (90% CI) fish (**Figure 2**). The passage estimate was still below the historical average of 143,000 fish and below the average of 195,800 fish for years with early run timing. As a result of severe management restrictions, all escapement goals that could be assessed were achieved, even with below average run sizes (JTC 2015).

The 2015 projected run size was 118,000-140,000 fish, which was once again below average but higher than the previous year's projection. Cumulative passage estimates at the sonar station in Pilot Station were approximately 116,000±30,000 fish (90% CI) (**Figure 2**). As with the previous year, this number was still below the historical average. As a result of severe management restrictions, all escapement goals that could be assessed were achieved, even with below average run sizes (JTC 2016).

The 2016 run outlook was a below-average run of 130,000–176,000 fish (JTC 2017). Cumulative passage estimates at the sonar station in Pilot Station were approximately 176,898±18,466 fish (90% CI) (Liller, 2018, pers. comm.). This number was near the recent historical average of 178,300 fish (ADFG 2018), but is considered preliminary at this time. Conservative actions were relaxed slightly from previous years and all escapement goals were again met (JTC 2016).The 2017 run outlook was slightly larger, but still for a below average run of 140,000-194,000 fish (JTC 2017). Cumulative passage estimates at the Pilot Station sonar were approximately 263,000±29,000 fish (90% CI) (ADF&G 2018), the largest since 2003 (JTC 2017), is also considered preliminary. Subsistence management restrictions were further relaxed that resulted in harvests approximately two thirds of average and most escapement goals were met despite the poor water conditions that existed throughout the drainage. The numbers reported at the Pilot Station sonar do not factor in any harvest that occurs downstream, which can be significant during some years.

The 2018 run outlook is larger than in recent years, with a run size of 173,000-251,000 fish (ADF&G 2018a). The upper end of the range could support an average subsistence harvest, while the low end of the range would likely result in restrictions to subsistence fishing.

Summer Chum Salmon

Summer Chum Salmon runs in the Yukon River have provided a harvestable surplus in each of the last 15 years, 2003-2017. In 2017, the projected outlooks were for a run size of approximately 2 million fish, while the 2018 projection is expected to be similar or slightly lower than the 2017 run of approximately 3.6 million fish.

In 2016, approximately 1.92 million ±80,517 (90% CI) fish passed the Yukon River sonar project at Pilot Station, which was near the historical median for the project of 1.90 million fish. In 2017, the passage estimate at Pilot Station increased to 3.09 million ±138,259 (90% CI) (**Figure 3**). Most tributaries experienced average to above-average escapement in 2017 (JTC 2018). The Henshaw Creek weir counted a record number of Chum Salmon (360,687), which was only 13% smaller than the number counted at the Anvik River Sonar (415,139).

Although all 2017 numbers are preliminary at this time, the 2018 run is anticipated to provide for escapement, normal subsistence harvest, and a surplus for commercial harvest (JTC 2018).

Fall Chum Salmon

Fall Chum Salmon runs in the Yukon River have provided a harvestable surplus in each of the last 8 years, 2010-2017. The 2018 projection of 1.6-1.8 million fish is lower than the 2017 run of approximately 2.3 million fish (JTC 2018).

In 2016, approximately 994,760 million ±64,434 (90% CI) Fall Chum Salmon passed the Yukon River sonar project at Pilot Station, which was above the 1995-2016 median for the project of 688,057 fish. In 2017, the passage estimate at Pilot Station increased to 1.83 million ±54,179 (90% CI) and was the second largest run in 43 years (**Figure 4**). Most tributaries experienced average to above-average escapement in 2017 (JTC 2018) although all 2017 numbers are still preliminary at this time.

The 2018 run is anticipated to provide for escapement, normal subsistence harvest, and a surplus for commercial harvest (JTC 2018).

Coho Salmon

In 2016 approximately 168,297 ± 11,180 (90% CI) Coho Salmon passed the Yukon River sonar project at Pilot Station, which was slightly above the historical median of 160,272 fish. In 2017, the passage estimate at Pilot Station decreased to 166,330 ±20,300 (90% CI) and was slightly above the historical median (**Figure 5**). All 2017 numbers are preliminary at this time. The Coho Salmon outlook is based upon parent year escapements assuming average survival. Since Coho Salmon predominately return as age 2.1 fish

(4 year old fish), the major contributor to the 2018 returns are from the 2014 parent year. Therefore, the 2018 outlook is for average to above average returns in 2018

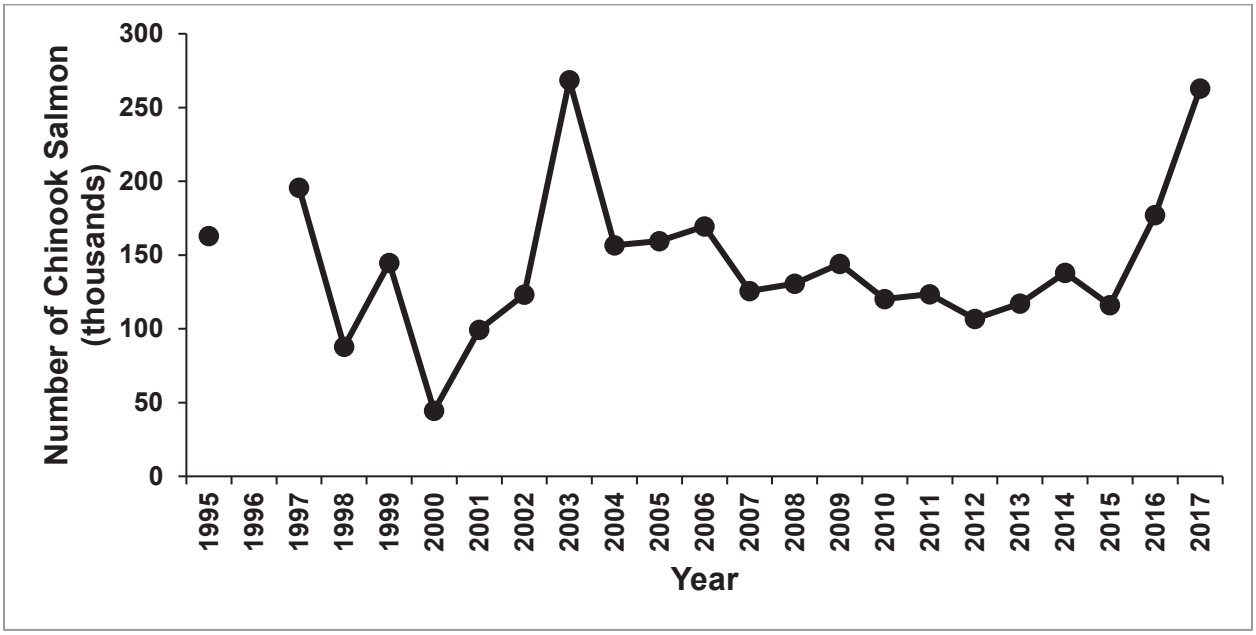

Figure 2. Chinook Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

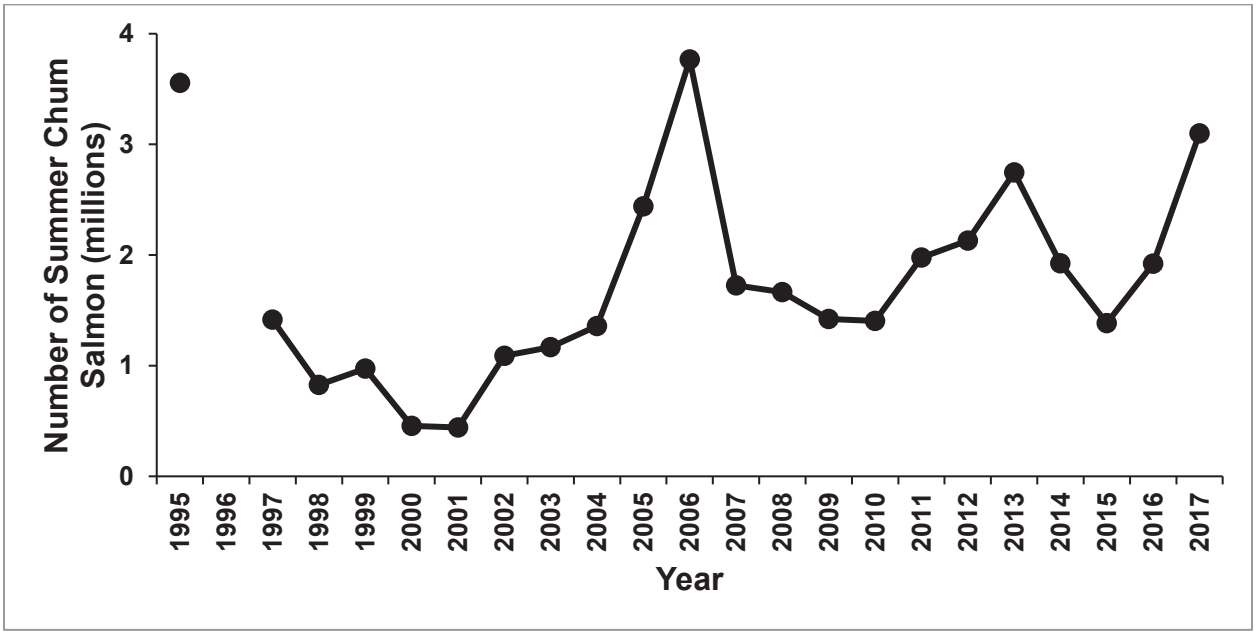

Figure 3. Summer Chum Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

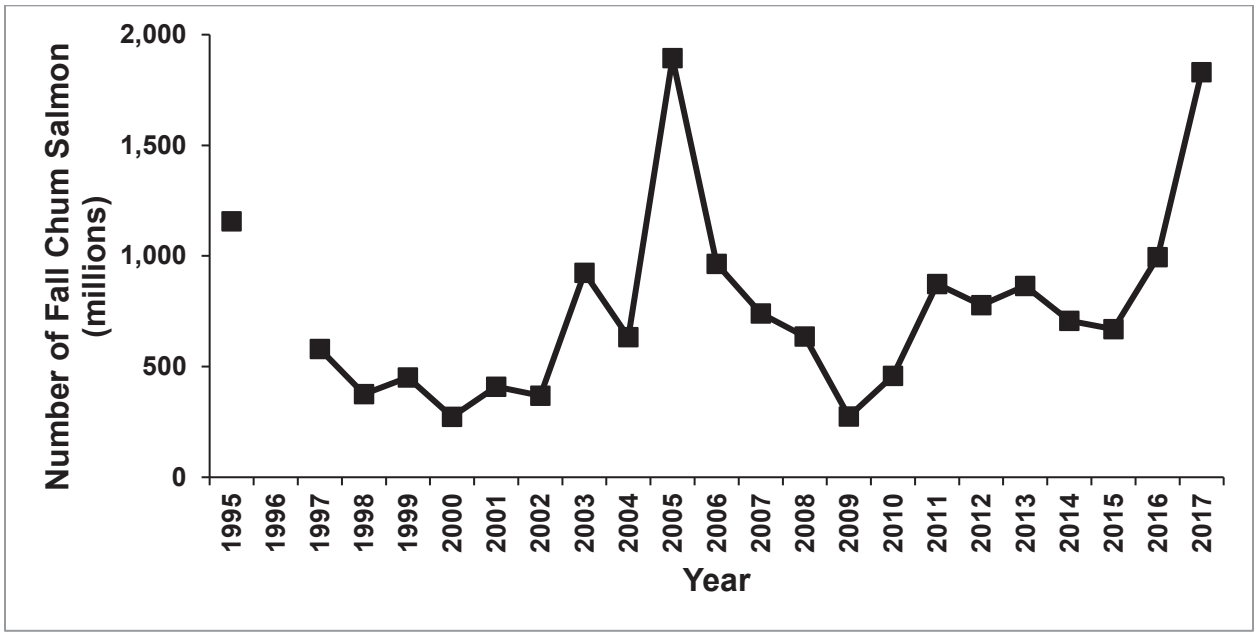

Figure 4. Fall Chum Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

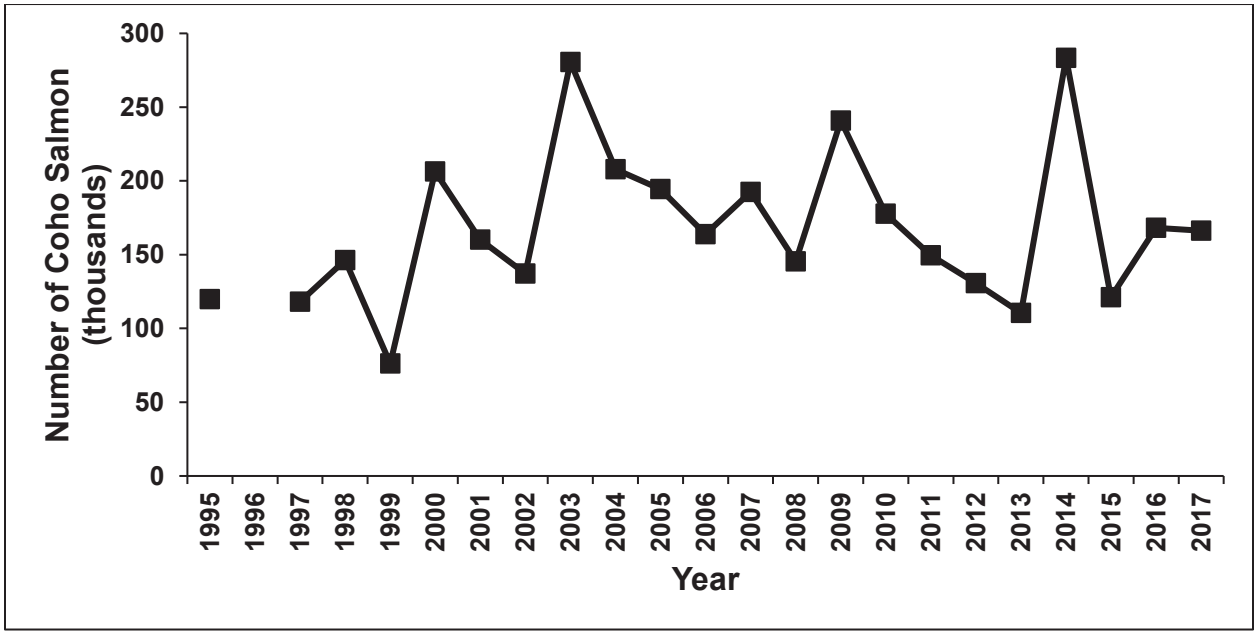

Figure 5. Coho Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

Harvest History

Chinook Salmon

Subsistence

Subsistence harvest of Chinook Salmon in the Alaska portion of the Yukon River averaged 34,791 fish from 1961-2015, with a high of 62,486 in 1993 and a low of 2,724 in 2014 (JTC 2017) (**Figure 6**). The 2014 Chinook Salmon subsistence harvest of 2,724 fish was the lowest on record for the Alaska portion of the Yukon River drainage. Harvest increased in 2015, 2016 and 2017 with 7,577, 21,627, and 36,992 fish harvested respectively. The 2017 harvest estimate, though preliminary, is larger than the 2007-2016 average (29,514) and over two times the number of the recent 5 year average of 15,088 (JTC 2018). The 2017 harvest is the largest since 2011.

The subsistence harvest in Yukon River Districts 1-3 averaged 16,755 from 2004- 2013, with a 2009-2013 average of 13,442 Chinook Salmon (Jallen et al 2017). The estimated 2014 subsistence harvest in these districts was 2,020 Chinook Salmon.

Commercial

Chinook Salmon have not been targeted in the commercial fishery for 10 years and the sale of incidentally caught Chinook Salmon was prohibited for the seventh consecutive year during the 2017 summer season. However, there was a small opportunity during the fall fishing seasons were fish were sold in Districts 1 and 2 in 2011 (82) and 2017 (168). The 1961-2016 average commercial harvest is 88,092 with a recent 10 year average of 9,714 (JTC 2018).

Sportfish

Sport fishing harvest of Chinook Salmon are generally low in the Yukon River drainage. The 2012-2016 average sport fishing harvest within the Alaska portion of the Yukon River was estimated to be 105 Chinook Salmon (JTC 2018). The majority of sport fishing effort in the drainage occurs in the Tanana River drainage (District 6). Outside of the Tanana River, the Andreafsky (in District 2) and Anvik (in District 4) rivers receive the bulk of the remaining effort. During 2017, sport fishing was allowed after June 20, and allowed for a bag limit of 1 Chinook Salmon 20-inches or greater (JTC 2018).

Summer Chum Salmon

Subsistence

Subsistence harvest of summer Chum Salmon in the Alaska portion of the Yukon River averaged 129,766 fish from 1970-2016, with a high of 227,829 in 1988 and a low of 72,155 in 2001 (JTC 2018) (Figure 7). The 2012-2016 average harvest is estimated to be 100,113 summer Chum Salmon, and the harvest estimate from 2014-2017 has remained relatively constant. The preliminary 2017 harvest is 87,252 summer Chum Salmon. Summer Chum Salmon are predominately harvested in Yukon area Districts 1-4, and 6. Few summer Chum Salmon migrate upstream of the Tanana River in the Yukon River mainstream.

Commercial

Commercial harvest of Chum Salmon in the Alaska portion of the Yukon River averaged 382,635 fish from 1970-2016, with a high of 1,148,650 in 1988 and a low of 0 in 2001 (JTC 2018). Since 2001, commercial catches of summer Chum Salmon has increased dramatically, with a 2012-2016 average of 444,094 fish. The preliminary 2017 harvest is 555,296 summer Chum salmon.

Sportfish

Sport fishing harvest of summer Chum Salmon is generally low in the Yukon River drainage. The 2012-2016 average sport fishing harvest within the Alaska portion of the Yukon River was estimated to be 264 summer Chum Salmon (JTC 2018). The majority of sport fishing effort in the drainage occurs in the Tanana River drainage (District 6). Outside of the Tanana River, the Andreafsky (in District 2) and Anvik (in District 4) rivers receive the bulk of the remaining effort.

Fall Chum Salmon

Subsistence

Subsistence harvest of fall Chum Salmon in the Alaska portion of the Yukon River averaged 105,167 fish from 1961-2016, with a high of 342,819 in 1987 and a low of 19,395 in 2000 (JTC 2018) (**Figure 8**). The 2012-2016 average harvest is estimated to be 95,294 fall Chum Salmon, and the harvest estimate from 2014-2017 has remained relatively constant. The preliminary 2017 harvest is 86,189 fall Chum Salmon.

Commercial

Commercial harvest of fall Chum Salmon in the Alaska portion of the Yukon River averaged 157,467 fish from 1961-2016, with a high of 466,451 in 1981 and a low of 0 in 1987, 1993, 2000, 2001, and 2002 when no commercial fishery was conducted (JTC 2018). Since 2002, commercial catches of fall Chum Salmon has varied dramatically, and the 2012-2016 average is 260,042 fish. The preliminary 2017 harvest is 489,702 fall Chum salmon.

Sportfish

Sport fishing harvest of fall Chum Salmon is generally low in the Yukon River drainage, with no data presented (JTC 2018).

Coho Salmon

Subsistence

Subsistence harvest of Coho Salmon in the Alaska portion of the Yukon River averaged 22,400 fish from 1961-2016, with a high of 82,371 in 1987 and a low of 3,966 in 1970 (JTC 2018) (**Figure 9**). The 2012-2016 average harvest is estimated to be 16,003 Coho Salmon, while the harvest estimate from 2016 and 2017 has decreased. The preliminary 2017 harvest is 7,645 Coho Salmon.

Commercial

Commercial harvest of Coho Salmon in the Alaska portion of the Yukon River averaged 38,031 fish from 1961-2016, with a high of 201,482 in 2016 and a low of 0 in 1987, 1993, 2000, 2001, and 2002 when no commercial fishery was conducted (JTC 2018). Since 2002, commercial catches of Coho Salmon has varied dramatically, and the 2012-2016 average is 115,372 fish. The 2017 harvest is 138,915 Coho salmon. All harvest data from 2016 and 2017 is preliminary.

Sportfish

Sport fishing harvest of Coho Salmon is generally low in the Yukon River drainage. The 2012-2016 average sport fishing harvest within the Alaska portion of the Yukon River was estimated to be 703 Coho Salmon (JTC 2018). The majority of sport fishing effort in the drainage occurs in the Tanana River drainage (District 6). Outside of the Tanana River, the Andreafsky (in District 2) and Anvik (in District 4) rivers receive the bulk of the remaining effort.

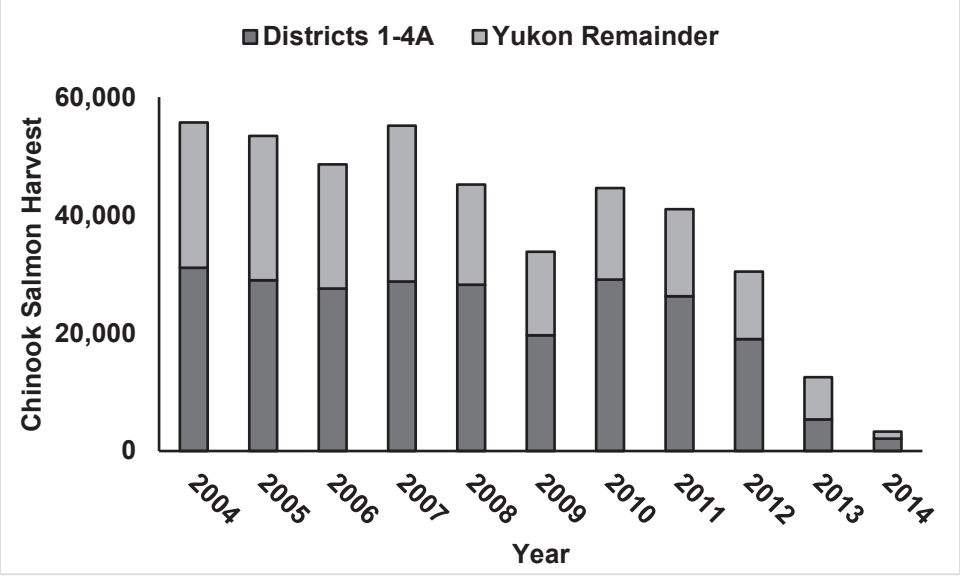

Figure 6. Comparison of Chinook Salmon subsistence harvest of communities from Districts 1- 4A and the remaining U.S. districts of the Yukon River from 2004 to 2014 (Jallen et al. 2017).

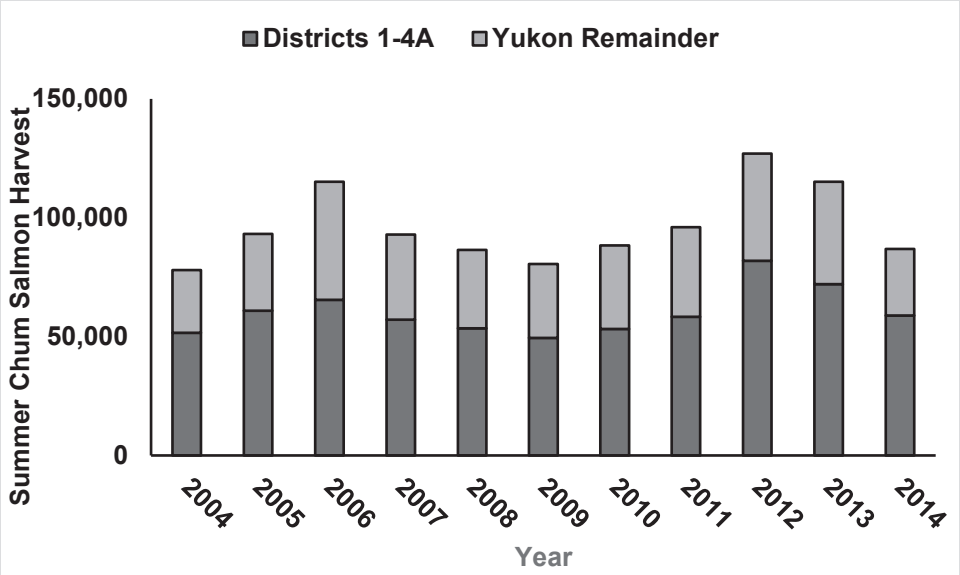

Figure 7. Comparison of Summer Chum Salmon subsistence harvest from communities in Districts 1- 4A and the remaining U.S. districts of the Yukon River from 2004 to 2014 (Jallen et al. 2017).

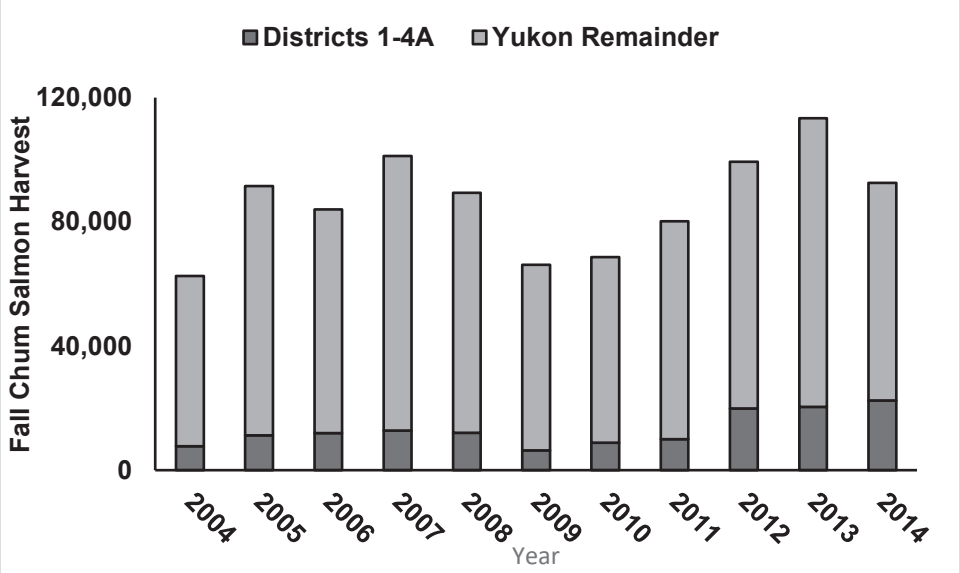

Figure 8. Comparison of Fall Chum Salmon subsistence harvest from communities in Districts 1- 4A and the remaining U.S. districts of the Yukon River from 2004 to 2014 (Jallen et al. 2017).

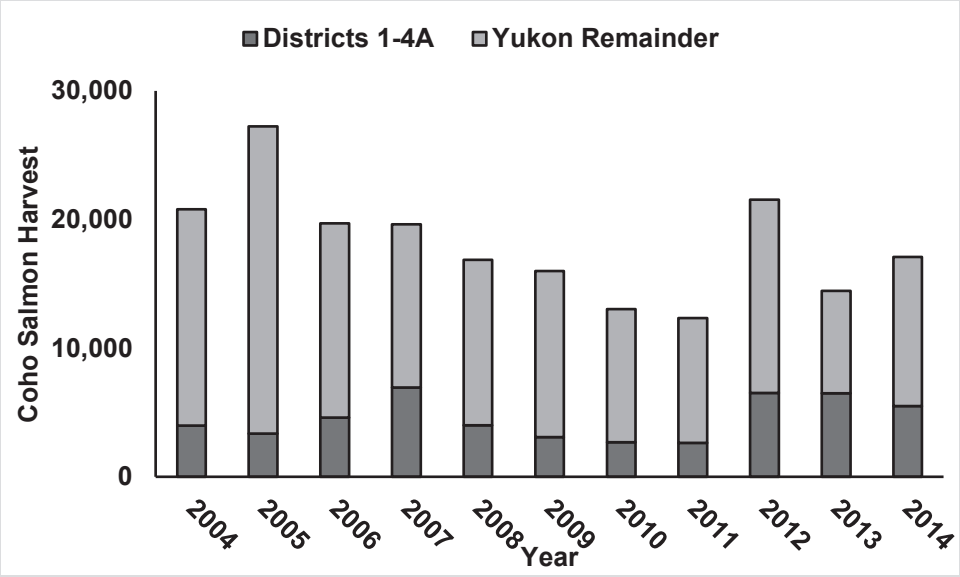

Figure 9. Comparison of Coho Salmon subsistence harvest from communities in Districts 1- 4A and the remaining U.S. districts of the Yukon River from 2004 to 2014 (Jallen et al. 2017).

Cultural Knowledge and Traditional Practices

The use and importance of salmon and other non-salmon species for Yukon River communities has been documented through oral histories and harvest surveys conducted in the area. Historically, many Yukon communities followed a semi-nomadic, subsistence lifestyle, spending time at seasonal camps, migrating with the resources and harvesting various species of fish, along with hunting and gathering subsistence resources. Humans have likely lived in the Yukon area for over 10,000 years (Rainey 1940) and fishing was a family and community activity, deeply ingrained in to the cultures of the people in this area. People traditionally used weirs and fish traps, and nets made of animal sinew and willow bark and more recently employed commercially made set nets along with hand made fish wheels for salmon at their fish camps. Multi-generational family groups would travel to seasonal camps to harvest fish and wildlife. Although fewer young people spend time at seasonal camps now due to employment, school, and other responsibilities, subsistence fishing continues to be important for communities up and down the river. According to surveys, many older people recalled whole families spending long hours at their fish camps, harvesting, processing, and preserving fish. Children learned about subsistence activities from their elders at fish camp (Brown et al. 2010; Brown et al. 2015).

Salmon is considered the most reliable and significant subsistence resource on the Lower Yukon River. Salmon has always been an important part of the culture, economically and socially, and the knowledge of how to catch, process, and preserve fish has been passed down from generation to generation. Before contact by outsiders dried fish was regularly traded between Yukon villages along with other commodities such as furs and sea mammal products (Wolfe 1981).

Yukon River residents are dependent on the harvest of salmon, especially Chinook Salmon, for both subsistence and commercial uses. Starting in the late 1990s, Chinook Salmon began to decline so people harvested more summer and Fall Chum Salmon along with other subsistence resources (Brown et al. 2015). In the 1960s, people started using gillnets to drift fish for salmon for personal and commercial use.

Today fishing still plays an important cultural role in the communities along the lower and middle Yukon River, and the knowledge of how and when to fish is passed down from generation to generation.

Customary trade of fish is an important part of continuing trade networks in rural areas of Alaska. Salmon fishing takes place in the summer and timing is based on the runs for various species. Local residents also use nets under the ice to fish for pike, whitefish, or sheefish in the spring before breakup. Communities have used various types of nets and fish wheels to harvest fish through the generations. Fish wheels are used less now than they were in the past when people were catching more fish to feed sled dogs, but are still used in some areas, mainly to catch fish for human consumption (Brown et al. 2010). Chum salmon, once primarily used for dog food, were caught using nets set from the shore but are now consumed by people in the United States and overseas. As more village runways were built, increasing air travel, and more snow machines were brought to the villages, the dependency on sled dogs was reduced, reducing the need for harvesting fish to feed dogs (Brown et al. 2015).

The use, harvest, and dependence of salmon resources can vary by community based on cultural practices, resource availability, economics and many other factors. Yukon River drainage residents exhibit these variations generally within the lower, middle, and upper stretches of the drainage. Communities present along the river and their populations over time, by fishing district, are represented in Appendix 1.

Effects of the Proposal

If this proposal were adopted, Federally qualified subsistence users would be allowed to continue subsistence fishing for salmon up to 6 hours, instead of up to 24 hours, before the start of the State commercial fishing season in Yukon Districts 1, 2, 3, and Subdistrict 4A (excluding Koyukuk and Innoko rivers).

Although this proposal may increase opportunities for subsistence harvest for Federally qualified users, there are some potential drawbacks that may occur. State and Federal regulations would no longer be the same, complicating enforcement of these regulations and creating confusions about where and when it is legal to fish. Districts 1 and 2 contain primarily Federal public waters, as well as most of District 3. However, once out of the Yukon Delta National Wildlife Refuge, land status becomes more varied and would require users to know the location of Federal public waters.

Fishery managers currently have the authority to set time and area. Therefore, it is not unusual for them to modify the amount of closure time leading into and out of a commercial fishing period. For example, subsistence fishing was closed for only 3 hours prior to and reopened 3 hours after a commercial opening on July 22, 2017 (ADF&G 2017).

If the proposal was not adopted, the subsistence fishery would remain closed for 24 hours prior to the start of the State commercial fishing season and subsistence management regulations would remain the same.

OSM PRELIMINARY CONCLUSION

Support Proposal FP19-02 **with modification** to provide the updated language only one time in the regulations to avoid redundancy.

The modified regulation should read:

§___.14 Relationship to State procedures and regulations

(a) State fish and game regulations apply to public lands and such laws are hereby adopted and made a part of the regulations in this part to the extent they are not inconsistent with, or superseded by, the regulations in this part.

§___.27 Subsistence taking of fish

(e)(3) Yukon-Northern Area.

* * * *

(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.

* * * *

*(vi) In Districts 1, 2, 3, and Subdistrict 4A, excluding the Koyukuk and Innoko River drainages, you may not take salmon for subsistence purposes during the ~~24~~**6** hours immediately before the opening of the State commercial salmon fishing season.*

Justification

Adoption of this proposal would result in additional opportunity for Federally qualified subsistence users in Districts 1-4A on the Yukon River. If adopted with FP19-03 as modified, Federally qualified subsistence users would have a uniform period of closure surrounding the commercial fishery throughout the fishing season reducing confusion in Federal regulations surrounding the closure time before and after a commercial fishing opportunity. The 6 hours between subsistence fishing and commercial fishing would still allow enough time for users to adjust for each as needed. Modification of the proposed language avoids redundancy in Federal regulations.

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Appendix 1. Population data for communities within the Yukon River drainage fishing districts, 1960-2010.

U.S. CENSUS POPULATION							
Community	**1960**	**1970**	**1980**	**1990**	**2000**	**2010**	**2010 number of households**
Stebbins city	158	231	331	400	547	556	134
Outside drainage subtotal	**158**	**231**	**331**	**400**	**547**	**556**	**134**
Alakanuk city	278	265	522	544	652	677	160
Nunam Iqua city	125	125	103	109	164	187	43
Emmonak city	358	439	567	642	767	762	185
Kotlik city	57	228	293	461	591	577	128
District 1 subtotal	**818**	**1,057**	**1,485**	**1,756**	**2,174**	**2,203**	**516**
Mountain Village city	300	419	583	674	755	813	184
Pitkas Point CDP	28	70	88	135	125	109	31
Saint Marys city	260	384	382	441	500	507	151
Pilot Station city	219	290	325	463	550	568	121
Marshall city	166	175	262	273	349	414	100
District 2 subtotal	**973**	**1,338**	**1,640**	**1,986**	**2,279**	**2,411**	**587**
Russian Mission city	102	146	169	246	296	312	73
Holy Cross city	256	199	241	277	227	178	64
Shageluk city	155	167	131	139	129	83	36
District 3 subtotal	**513**	**512**	**541**	**662**	**652**	**573**	**173**
Anvik city	120	83	114	82	104	85	33
Grayling city	0	139	209	208	194	194	55
Kaltag city	165	206	247	240	230	190	70
Nulato CDP	183	308	350	359	336	264	92
Koyukuk city	128	124	98	126	101	96	42
Huslia city	168	159	188	207	293	275	91
Hughes city	69	85	73	54	78	77	31
Allakaket city	115	174	163	170	97	105	44
Alatna CDP				31	35	37	12
Bettles city	77	57	49	36	43	12	9
Evansville CDP	77	57	45	33	28	15	12
Wiseman CDP	0	0	8	33	21	14	5
Coldfoot CDP					13	10	6
Galena city	261	302	765	833	675	470	190
Ruby city	179	145	197	170	188	166	62
District 4 subtotal	**1,542**	**1,839**	**2,506**	**2,582**	**2,436**	**2,010**	**754**
Tanana city	349	120	388	345	308	246	100
Rampart CDP	49	36	50	68	45	24	10
Stevens Village CDP	102	74	96	102	87	78	26
Beaver CDP	101	101	66	103	84	84	36
Fort Yukon city	701	448	619	580	595	583	246
Chalkyitsik CDP	57	130	100	90	83	69	24

Continued on next page

Appendix 1. *Continued from previous page*

U.S. CENSUS POPULATION							
Community	**1960**	**1970**	**1980**	**1990**	**2000**	**2010**	**2010 number of households**
Arctic Village CDP	110	85	111	96	152	152	65
Venetie CDP	107	112	132	182	202	166	61
Birch Creek CDP	32	45	32	42	28	33	17
Circle CDP	41	54	81	73	100	104	40
Chicken CDP	0	0	0	0	17	7	5
Central CDP	28	26	36	52	134	96	53
Eagle Village CDP	0	0	54	35	68	67	31
Eagle city	92	36	110	168	129	86	41
District 5 subtotal	**1,769**	**1,267**	**1,875**	**1,936**	**2,032**	**1,795**	**755**
Livengood CDP					29	13	7
Manley CDP	72	34	61	96	72	89	41
Minto CDP	161	168	153	218	258	210	65
Whitestone CDP						97	22
Nenana city	286	362	470	393	402	378	171
Four Mile Road CDP					38	49	14
Healy CDP	67	79	334	487	1,000	1,021	434
McKinley Park CDP	0	0	60	171	142	185	109
Anderson city	341	362	517	628	367	246	90
Ferry CDP				56	29	33	17
Lake Minchumina CDP	0	0	22	32	32	13	6
Cantwell CDP	85	62	89	147	222	219	104
Delta Junction city	0	703	945	652	840	958	377
Fort Greely CDP	0	1,820	1,635	1,299	461	539	236
Deltana CDP					1,570	2,251	784
Healy Lake CDP	0	0	33	47	37	13	7
Big Delta CDP	0	0	285	400	749	591	206
Dry Creek CDP	0	0	0	106	128	94	29
Dot Lake CDP	56	42	67	70	19	13	7
Dot Lake Village CDP					38	62	19
Tanacross CDP	102	84	117	106	140	136	53
Tetlin CDP	122	114	107	87	117	127	43
Tok CDP	129	214	589	935	1,393	1,258	532
Northway CDP	196	40	73	123	95	71	27
Northway Jct. CDP	0	0	0	88	72	54	20
Northway Village CDP						98	
Alcan border CDP	0	0	0	27	21	33	16
Nabesna CDP						5	3
District 6 subtotal	**1,617**	**4,084**	**5,557**	**6,168**	**8,271**	**8,856**	**3,439**
TOTAL	**7,390**	**10,328**	**13,935**	**15,490**	**18,391**	**18,404**	**6,358**

CDP=Census Designated Place. Black cell=information is not available. Source: ADCCED 2014.

FP19–03/19-04 Executive Summary	
General Description	Proposal FP19-03 requests the Federal Subsistence Board (Board) decrease the time the subsistence fishery is closed immediately before the State commercial fishing period in Yukon Districts 1, 2, and 3 from 18 hours to 6 hours, and immediately after from 12 hours to 6 hours. Proposal FP-04 requests the Board eliminate the closures to subsistence fishing immediately before, during and after commercial fishing periods in Yukon Districts 1, 2, and 3 *Both proposals submitted by: Alissa Rogers*.
Proposed Regulation	*See pages 252 to 255 of this book for proposed regulations.*
OSM Preliminary Conclusion	**Support** Proposal FP19-03 **with modification** to include district 4A and provide the updated language only one time in the regulations to avoid redundancy. **Oppose** Proposal FP19-04.
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	**None**

DRAFT STAFF ANALYSIS
FP19-03 AND 19-04

ISSUES

Proposal FP19-03, submitted by Alissa Rogers of Bethel requests the Federal Subsistence Board (Board) decrease the time the subsistence fishery is closed immediately before the State commercial fishing period in Yukon Districts 1, 2, and 3 from 18 hours to 6 hours, and immediately after from 12 hours to 6 hours.

Proposal FP-04, submitted by Alyssa Rogers of Bethel requests the Board eliminate the closures to subsistence fishing immediately before, during and after commercial fishing periods in Yukon Districts 1, 2, and 3.

DISCUSSION

The proponent states these closures do not prevent people from selling their harvest from the Federal subsistence fishery as commercially caught fish. The proponent states there are always going to be a few bad actors, that they are known and have been fined before but that the existing regulation has not stopped them. The proponent states that the existing regulation is burdensome on Federal subsistence fishermen without any benefit.

Existing Federal Regulation

> ***§___.14 Relationship to State procedures and regulations***
>
> *(a) State fish and game regulations apply to public lands and such laws are hereby adopted and made a part of the regulations in this part to the extent they are not inconsistent with, or superseded by, the regulations in this part.*
>
> ***§___.27 Subsistence taking of fish***
>
> *(e)(3) Yukon-Northern Area.*
>
> * * * *
>
> *(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.*
>
> * * * *

(vii) In Districts 1, 2, and 3:

(A) After the opening of the State commercial salmon fishing season through July 15, you may not take salmon for subsistence for 18 hours immediately before, during, and for 12 hours after each State commercial salmon fishing period;

(B) After July 15, you may not take salmon for subsistence for 12 hours immediately before, during, and for 12 hours after each State commercial salmon fishing period.

Proposed Federal Regulation

Proposal FP19-03

§___.14 Relationship to State procedures and regulations

(a) State fish and game regulations apply to public lands and such laws are hereby adopted and made a part of the regulations in this part to the extent they are not inconsistent with, or superseded by, the regulations in this part.

§___.27 Subsistence taking of fish

(e)(3) Yukon-Northern Area.

* * * *

(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), ***except in Districts 1, 2, and 3 after the opening of the State commercial salmon fishing season through July 15, you may not take salmon for subsistence for 6 hours immediately before, during, and for 6 hours after each State commercial salmon fishing period and after July 15, you may take salmon for subsistence for 6 hours immediately before, during, and for 6 hours after each State commercial salmon fishing period,*** *unless superseded by a Federal Special Action.*

* * * *

(vii) In Districts 1, 2, and 3:

*(A) After the opening of the State commercial salmon fishing season through July 15, you may not take salmon for subsistence for ~~18~~**6** hours immediately before, during, and for ~~12~~**6** hours after each State commercial salmon fishing period;*

*(B) After July 15, you may not take salmon for subsistence for ~~12~~**6** hours immediately before, during, and for ~~12~~**6** hours after each State commercial salmon fishing period.*

Proposal FP19-04

§___.27 Subsistence taking of fish

(e)(3) Yukon-Northern Area.

* * * *

(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), ***except in Districts 1, 2, and 3 after the opening of the State commercial salmon fishing there are no closures to subsistence salmon fishing before, during, or after each State commercial fishing period,*** *unless superseded by a Federal Special Action.*

* * * *

(vii) In Districts 1, 2, and 3:

(A) After the opening of the State commercial salmon fishing season through July 15, you may ~~not~~ take salmon for subsistence for 18 hours immediately before, during, and for 12 hours after each State commercial salmon fishing period;

(B) After July 15, you may ~~not~~ take salmon for subsistence for 12 hours immediately before, during, and for 12 hours after each State commercial salmon fishing period.

Existing State Regulation

5 AAC 01.210. Fishing seasons and periods

(e) In Districts 1, 2, and 3, excluding the Innoko River drainage, salmon may not be taken for subsistence during the 24 hours immediately before the opening of the commercial salmon fishing season, and

(1) in Districts 1, 2, and 3,

(A) after the opening of the commercial salmon fishing season through July 15, salmon may not be taken for subsistence for 18 hours immediately before, during, and for 12 hours after each commercial salmon fishing period;

(B) after July 15, salmon may not be taken for subsistence for 12 hours immediately before, during, and for 12 hours after each commercial salmon fishing period;

(C) notwithstanding the provisions of (A) and (B) of this paragraph, if the commissioner determines it necessary to ensure that reasonable opportunity for subsistence uses is being provided, the commissioner may, by emergency order, open a subsistence fishing period that may occur during times that are before, during, and after a commercial salmon fishing period;

Extent of Federal Public Lands

For purposes of this discussion, the phrase "Federal public waters" is defined as those waters described under 36 CFR §242.3 and 50 CFR §100.3. The Federal public waters addressed by this proposal are those portions of the Yukon River located within, or adjacent to, the external boundaries of the Yukon Delta National Wildlife Refuge (NWR) within fishing Subdistricts 1-3 of the Yukon/Northern Federal Subsistence Fishery Management Area (**Figure 1**).

Customary and Traditional Use Determinations

Rural residents of the Yukon River drainage and the community of Stebbins have customary and traditional use determination for Salmon, other than Fall Chum Salmon in the Yukon River drainage.

Residents of the Yukon River drainage and the community of Chevak, Hooper Bay, Scammon Bay, and Stebbins have a customary and traditional use determination for Fall Chum Salmon in the Yukon River drainage.

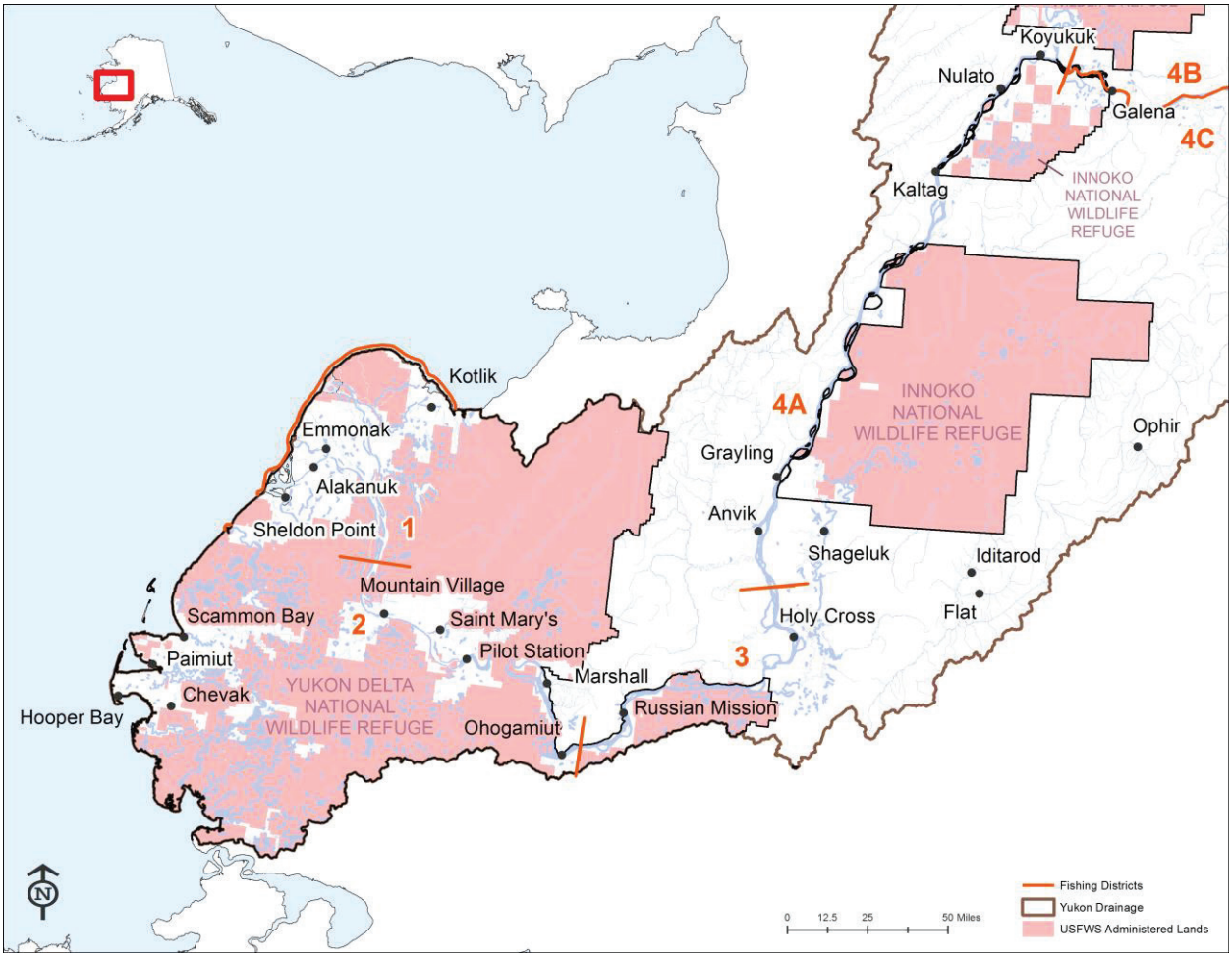

Figure 1. Yukon River Drainage fishing Districts 1, 2, 3, and 4A.

Regulatory History

State Regulatory History

The current 6 commercial fishing districts were established in 1974. The subsistence fishing schedules were also linked to the commercial fishing schedules in districts 1-6 in the same year, and concurrent subsistence and commercial fishing for 5 days per week was implemented in the Upper Yukon Area (Districts 4-6). Beginning in 1977 the lower Yukon area was reduced to commercial and subsistence fishing for 3 days per week during the commercial Chinook Salmon season, and 3.5 days per week during the Fall Chum Salmon season. The Fall Chum Salmon fishing season was again reduced in 1979, to 3 days per week. Beginning in 1981, ADF&G began announcing in-season lower Yukon area commercial fishing periods by emergency order, with Lower Yukon area subsistence periods announced in this manner beginning in 1984 (Jallen et al. 2015).

In December 1976, the BOF prohibited the use of drift gillnets for subsistence Chinook Salmon fishing in the middle and upper Yukon Areas (Districts 4-6). The Alaska Board of Fisheries discussions at that time indicated that the possible increase in the use of drift gillnets could seriously impact both the conservation and allocation of middle and upper Yukon River salmon stocks, which were being harvested at maximum

levels (ADF&G 2001). However, subsistence users in the upper Yukon areas were allowed to continue using drift gillnets throughout the Yukon River drainage until the 1977 season.

In 1981, the BOF adopted a proposal to allow drift gillnets for subsistence Chinook Salmon harvest in Subdistrict 4-A (ADF&G 1982).

Beginning in 1993, regulations separated commercial and subsistence fishing times in Districts 1-3 and Subdistrict 4A. The regulations stated that subsistence fishing in District 1-3 was open 7 days per week, 24 hours/day until the commercial fishing season began. Once commercial fishing had started, subsistence fishing was closed 18 hours prior, during, and 12 hours after each commercial fishing period. Also, marking of subsistence caught fish was required by removal of the dorsal fin. These regulations were made based on an enforcement action where subsistence-caught fish were being sold in the commercial fishery in 1992 (Bergstrom et al. 1995).

In 1994, the BOF questioned the need for drift gillnets to provide for adequate subsistence opportunity in the middle and upper Yukon Areas. State staff comments suggested that at that time, it did not appear necessary (ADF&G 2001). The Alaska BOF stated that ADF&G could allow increased time for subsistence fishing with other gear types by emergency order, as an alternative, if subsistence needs were not being met. No BOF action was taken.

The Board added a fishing schedule for the subsistence salmon fisheries. The schedule will be implemented chronologically, consistent with migratory timing as the run progresses upstream. This schedule may be altered by emergency order if preseason or in-season indicators suggest it is necessary for conservation. Districts 1-3 windows allowed subsistence salmon fishing for two 36 hour periods per week. Districts 4, and Subdistricts 5-B and 5-C were open to subsistence fishing for two 48-hour periods per week. Subsistence fishing in Subdistrict 4-A was further defined during the commercial fishing season in 2004 with Chinook Salmon fishing only allowed during two 48 hour drift netting periods per week by emergency order.

In February 2007, the BOF adopted a proposal changing the marking requirement for subsistence-caught salmon in Districts 1–3 from removal of the dorsal fin to removal of both tips of the tail fin. The rationale cited in the subcommittee report was to foster better compliance because marking would be easier, to make the regulation consistent with other areas of the State, to clarify when subsistence marking requirements would be in place, to use a more sanitary mark, and to discourage subsistence caught fish from entering the State's commercial fisheries (ADF&G 2007).

Commercial fishing for Chum Salmon during times of Chinook Salmon conservation was permitted with fish wheels by emergency order in Subdistrict 4A, beginning in 2012. Fishermen are required to be present at the fish wheel, and immediately release all Chinook Salmon alive.

In March 2015, the BOF adopted a new regulation that allowed the use of drift gillnets to harvest Summer Chum Salmon for subsistence purposes during times of Chinook conservation from June 10 through August 2, by emergency order, in the upper portion of Subdistrict 4A (5 AAC 0l.220(e)(1)).

In January 2016, the BOF adopted the same regulations for the lower portion of the Subdistrict 4A (5 AAC 0l.220 (e) (2)).

Federal Regulatory History

Starting in October 1999, Federal subsistence management regulations for the Yukon-Northern Area stipulated that, unless otherwise restricted, rural residents may take salmon in the Yukon-Northern Area at any time by gillnet, beach seine, fish wheel, or rod and reel unless exceptions are noted.

In 2002, the Board delegated some of its authority to manage Yukon River drainage subsistence salmon fisheries to the Branch Chief for Subsistence Fisheries, U.S. Fish and Wildlife Service, in Fairbanks. The Federal Subsistence Board's delegation allows the Federal manager to open or close Federal subsistence fishing periods or areas provided under codified regulations, and to specify methods and means.

In 2017, through fisheries proposal FP17-03, the Board modified regulations in Subdistrict 4-A to allow the Federal In-season Manager to open fishing periods during which Chum Salmon may be taken by drift gillnets from June 10 through August 2 (FSB 2017). This regulation change was made to match existing ADF&G regulations that were modified in 2015 and 2016.

Current Events

The proponent for this regulatory proposal has also submitted this proposal to the BOF for its review during their Arctic/Yukon/Kuskokwim Finfish meeting that is scheduled for January 15-19, 2019. The proponent has also submitted FP19-02 which is a similar proposal that aims to reduce the required closure before the beginning of the commercial fishing season from 24 hours to 6 hours.

Biological Background

Chinook Salmon

Recent analyses indicate that Yukon River Chinook Salmon stocks appear to be in the third year of increasing productivity after the low returns of 2015. Historically, the stocks showed periods of above-average abundance (1982-1997) and periods of below-average abundance (1998 onwards), as well as periods of generally higher productivity (brood years 1993 and earlier) mixed with years of low productivity (brood years 1994-1996 and 2002-2005; Schindler et al. 2013).

The 2014 run was expected to be the smallest on record, with a projected size of 64,000-121,000 fish. Despite initial concerns, the cumulative passage estimate at the mainstem Yukon River sonar project in Pilot Station were approximately 138,000±17,000 (90% CI) fish (**Figure 2**). The passage estimate was still below the historical average of 143,000 fish and below the average of 195,800 fish for years with early run timing. As a result of severe management restrictions, all escapement goals that could be assessed were achieved, even with below average run sizes (JTC 2015).

The 2015 projected run size was 118,000-140,000 fish, which was once again below average yet higher than the previous year's projection. Cumulative passage estimates at the sonar station in Pilot Station were approximately 116,000±30,000 fish (90% CI) (**Figure 2**). As with the previous year, this number was still below the historical average. As a result of severe management restrictions, all escapement goals that could be assessed were achieved, even with below average run sizes (JTC 2016).

The 2016 run outlook was a below-average run of 130,000–176,000 fish (JTC 2017). Cumulative passage estimates at the sonar station in Pilot Station were approximately 176,898±18,466 fish (90% CI) (Liller, 2018 pers. comm.). This number was near the recent historical average of 178,300 fish (ADF&G 2018a), but is considered preliminary at this time. Conservative actions were relaxed slightly from previous years and all escapement goals were again met (JTC 2016).

The 2017 run outlook was slightly larger, but still below average: 140,000-194,000 fish (JTC 2017). Cumulative passage estimates at the Pilot Station sonar were approximately 263,000±29,000 fish (90% CI) (ADF&G 2018a), which was the largest since 2003 (JTC 2017), is also considered preliminary. Subsistence management restrictions were further relaxed that resulted in harvests approximately two thirds of average and most escapement goals were met despite the poor water conditions that existed throughout the drainage. The numbers reported at the Pilot Station sonar do not factor in any harvest that occurs downstream, which can be significant during some years.

The 2018 run outlook is larger than in recent years, with a run size of 173,000-251,000 fish (ADF&G 2018a). The upper end of the range could support an average average subsistence harvest, while the low end of the range would likely result in restrictions to subsistence fishing.

Summer Chum Salmon

Summer Chum Salmon runs in the Yukon River have provided a harvestable surplus in each of the last 15 years, 2003-2017. In 2017, the projected outlooks were for a run size of approximately 2 million fish, while the 2018 projection is expected to be similar or slightly lower than the 2017 run of approximately 3.6 million fish.

In 2016, approximately 1.92 million ±80,517 (90% CI) fish passed the Yukon River sonar project at Pilot Station, which was near the historical median for the project of 1.90 million fish. In 2017, the passage estimate at Pilot Station increased to 3.09 million ±138,259 (90% CI) (**Figure 3**). Most tributaries experienced average to above-average escapement in 2017 (JTC 2018). The Henshaw Creek weir counted a record number of Chum Salmon (360,687), which was just under the number counted at the Anvik River Sonar (415,139). The numbers reported at the Pilot Station sonar do not factor in any harvest that occurs downstream, which can be significant during some years.

Although all 2017 numbers are preliminary at this time, the 2018 run is anticipated to provide for escapement, normal subsistence harvest, and a surplus for commercial harvest (JTC 2018).

Fall Chum Salmon

Fall Chum Salmon runs in the Yukon River have provided a harvestable surplus in each of the last 8 years, 2010-2017. The 2018 projection of 1.6-1.8 million fish is lower than the 2017 run of approximately 2.3 million fish (JTC 2018).

In 2016, approximately 994,760 million ±64,434 (90% CI) Fall Chum Salmon passed the Yukon River sonar project at Pilot Station, which was above the 1995-2016 median for the project of 688,057 fish. In 2017, the passage estimate at Pilot Station increased to 1.83 million ±54,179 (90% CI) and was the second largest run in 43 years (**Figure 4**). Most tributaries experienced average to above-average escapement in 2017 (JTC 2018) although all 2017 numbers are preliminary at this time.

The 2018 run is anticipated to provide for escapement, normal subsistence harvest, and a surplus for commercial harvest (JTC 2018).

Coho Salmon

In 2016 approximately 168,297 ± 11,180 (90% CI) Coho Salmon passed the Yukon River sonar project at Pilot Station, which was slightly above the historical median of 160,272 fish. In 2017, the passage estimate at Pilot Station decreased to 166,330 ±20,300 (90% CI) which was also slightly above the historical median (**Figure 5**). All 2017 numbers are preliminary at this time. The Coho Salmon outlook is based upon parent year escapements assuming average survival. Since Coho Salmon predominately return as age 2.1 fish (4 year old fish), the major contributor to the 2018 returns are from the 2014 parent year. Therefore, the 2018 outlook is for average to above average returns in 2018.

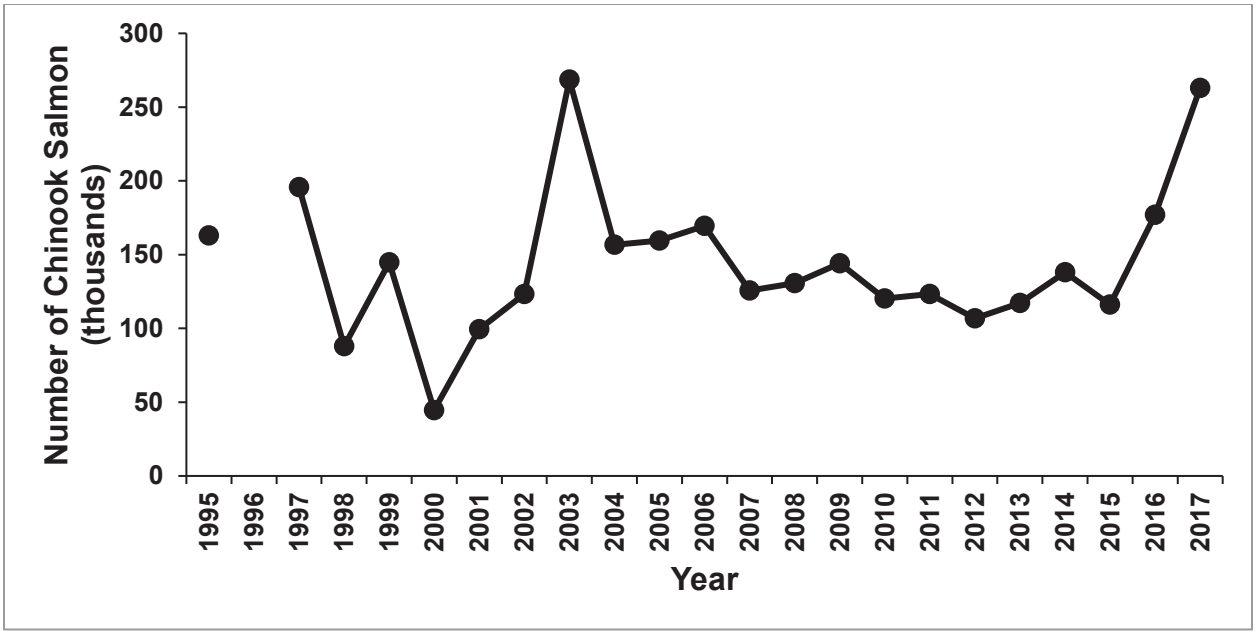

Figure 2. Chinook Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

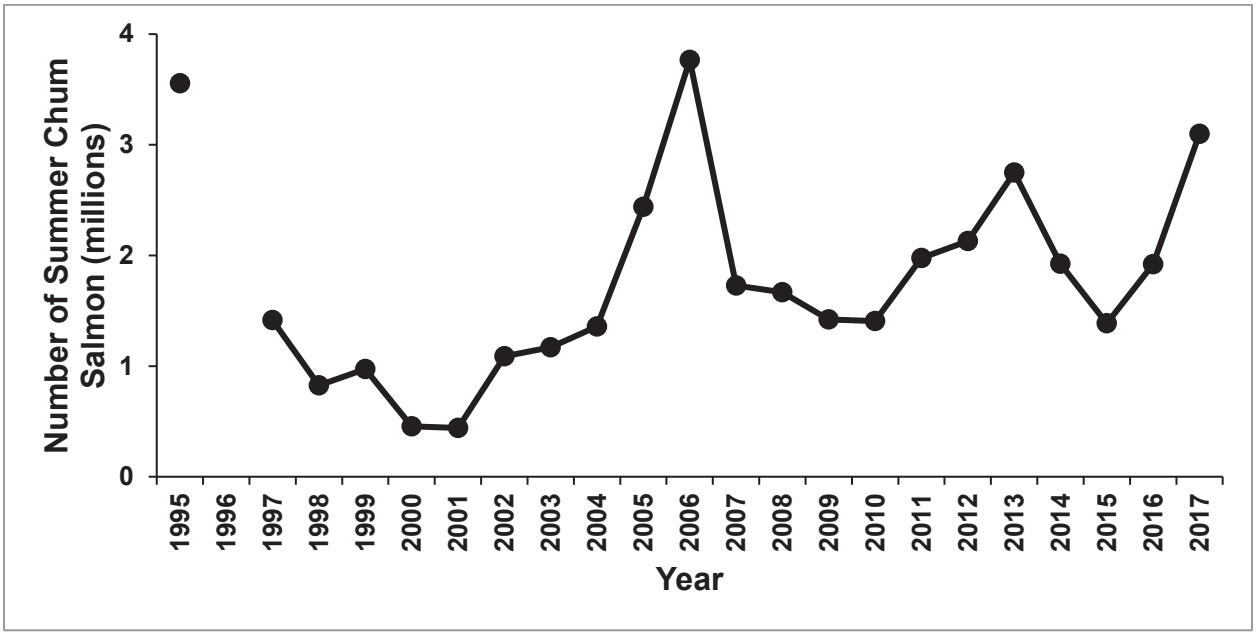

Figure 3. Summer Chum Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

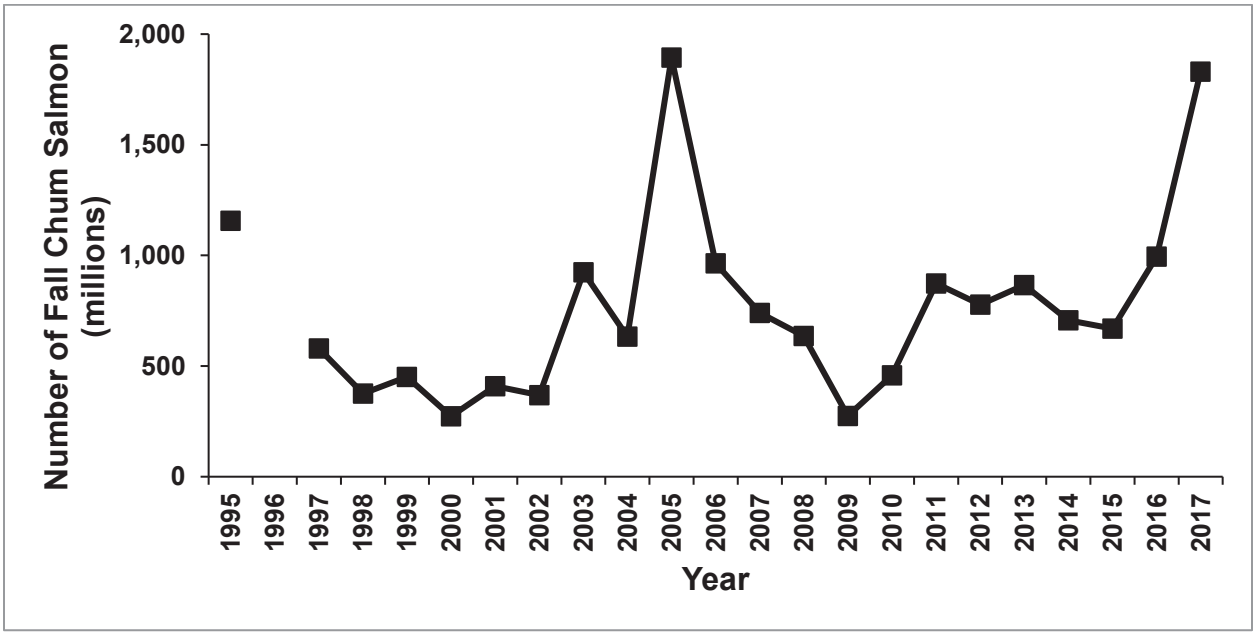

Figure 4. Fall Chum Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

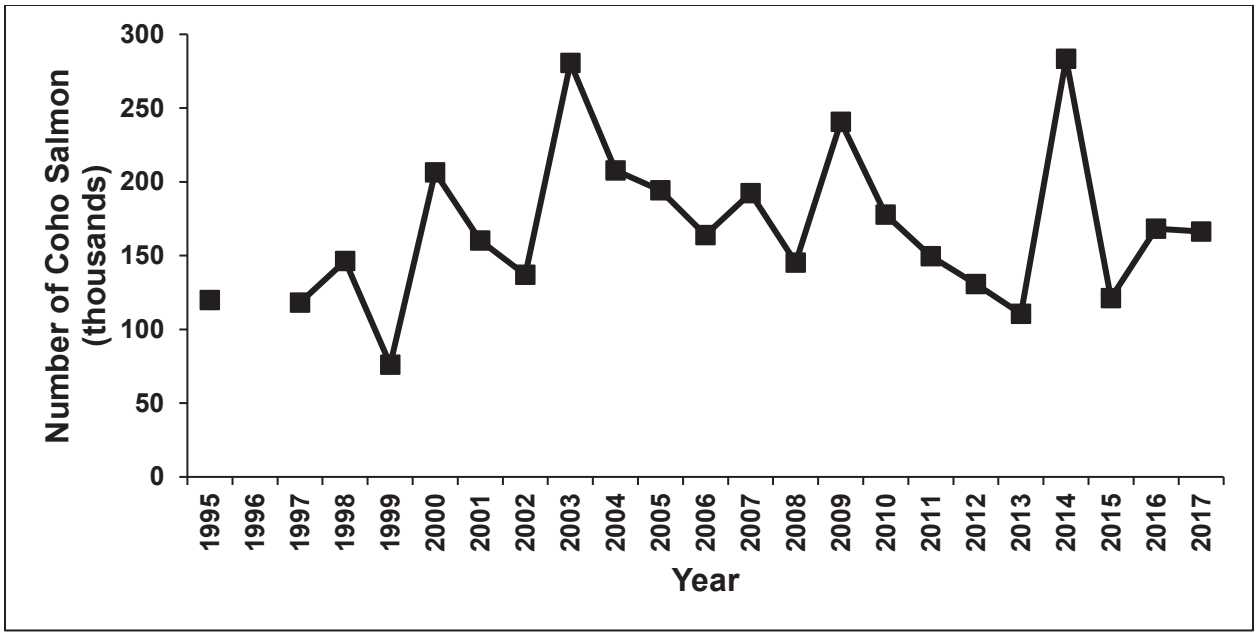

Figure 5. Coho Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

Harvest History

Chinook Salmon

Subsistence

Subsistence harvest of Chinook Salmon in the Alaska portion of the Yukon River averaged 34,791 fish from 1961-2015, with a high of 62,486 in 1993 and a low of 2,724 in 2014 (JTC 2017) (**Figure 6**). The 2014 Chinook Salmon subsistence harvest of 2,724 fish was the lowest on record for the Alaska portion of the Yukon River drainage. Harvest increased in 2015, 2016 and 2017 with 7,577, 21,627, and 36,992 fish harvested respectively. The 2017 harvest estimate, though preliminary, is larger than the 2007-2016 average (29,514) and over 2 times the number of the recent 5 year average of 15,088 (JTC 2018). The 2017 harvest was the largest since 2011.

The subsistence harvest in Yukon River Districts 1-3 averaged 16,755 from 2004- 2013, with a 2009-2013 average of 13,442 Chinook Salmon (Jallen et al. 2017). The estimated 2014 subsistence harvest in these districts was 2,020 Chinook Salmon.

Commercial

Chinook Salmon have not been targeted in the commercial fishery for 10 years and the sale of incidentally caught Chinook Salmon was prohibited for the seventh consecutive year during the 2017 summer season. However, there was a small opportunity during the fall fishing seasons were fish were sold in Districts 1 and 2 in 2011 (82) and 2017 (168). The 1961-2016 average commercial harvest is 88,092 with a recent 10 year average of 9,714 (JTC 2018).

Sportfish

Sport fishing harvest of Chinook Salmon are generally low in the Yukon River drainage. The 2012-2016 average sport fishing harvest within the Alaska portion of the Yukon River was estimated to be 105 Chinook Salmon (JTC 2018). The majority of sport fishing effort in the drainage occurs in the Tanana River drainage (District 6). Outside of the Tanana River, the Andreafsky (in District 2) and Anvik (in District 4) rivers receive the bulk of the remaining effort. During 2017, sport fishing was allowed after June 20, and allowed for a bag limit of 1 Chinook Salmon 20-inches or greater (JTC 2018).

Summer Chum Salmon

Subsistence

Subsistence harvest of Summer chum Salmon in the Alaska portion of the Yukon River averaged 129,766 fish from 1970-2016, with a high of 227,829 in 1988 and a low of 72,155 in 2001 (JTC 2018) (**Figure 7**). The estimated 2012-2016 average harvest was 100,113 Summer Chum Salmon, and the harvest estimate from 2014-2017 remained relatively constant. The preliminary 2017 harvest is 87,252 Summer Chum Salmon. Summer Chum Salmon are predominately harvested in Yukon area Districts 1-4, and 6. Few Summer Chum Salmon migrate upstream of the Tanana River in the Yukon River mainstream.

Commercial

Commercial harvest of Chum Salmon in the Alaska portion of the Yukon River averaged 382,635 fish from 1970-2016, with a high of 1,148,650 in 1988 and a low of 0 in 2001 (JTC 2018). Since 2001, commercial catches of Summer Chum Salmon has increased dramatically, with a 2012-2016 average of 444,094 fish. Preliminary data for the 2017 season shows a harvest of 555,296 Summer Chum Salmon.

Sportfish

Sport fishing harvest of Summer Chum Salmon is generally low in the Yukon River drainage. The 2012-2016 average sport fishing harvest within the Alaska portion of the Yukon River was estimated to be 264 Summer Chum Salmon (JTC 2018). The majority of sport fishing effort in the drainage occurs in the Tanana River drainage (District 6). Outside of the Tanana River, the Andreafsky (in District 2) and Anvik (in District 4) rivers receive the bulk of the remaining effort.

Fall Chum Salmon

Subsistence

Subsistence harvest of Fall Chum Salmon in the Alaska portion of the Yukon River averaged 105,167 fish from 1961-2016, with a high of 342,819 in 1987 and a low of 19,395 in 2000 (JTC 2018) (**Figure 8**). The 2012-2016 average harvest is estimated to be 95,294 Fall Chum Salmon, and the harvest estimate from 2014-2017 has remained relatively constant. The preliminary 2017 harvest is 86,189 Fall Chum Salmon.

Commercial

Commercial harvest of Fall Chum Salmon in the Alaska portion of the Yukon River averaged 157,467 fish from 1961-2016, with a high of 466,451 in 1981 and a low of 0 in 1987, 1993, 2000, 2001, and 2002 when no commercial fishery was conducted (JTC 2018). Since 2002, commercial catches of Fall Chum Salmon has varied dramatically, and the 2012-2016 average is 260,042 fish. Preliminary data for the 2017 season shows a harvest of 489,702 Fall Chum Salmon.

Sportfish

Sport fishing harvest of Fall Chum Salmon is generally low in the Yukon River drainage, with no data available (JTC 2018).

Coho Salmon

Subsistence

Subsistence harvest of Coho Salmon in the Alaska portion of the Yukon River averaged 22,400 fish from 1961-2016, with a high of 82,371 in 1987 and a low of 3,966 in 1970 (JTC 2018) (**Figure 9**). The 2012-2016 average harvest was estimated to be 16,003 Coho Salmon, while the harvest estimate from 2016 and 2017 has decreased. Preliminary data for the 2017 season show a harvest of 7,645 Coho Salmon.

Commercial

Commercial harvest of Coho Salmon in the Alaska portion of the Yukon River averaged 38,031 fish from 1961-2016, with a high of 201,482 in 2016 and a low of 0 in 1987, 1993, 2000, 2001, and 2002 when no commercial fishery was conducted (JTC 2018). Since 2002, commercial catches of Coho Salmon has varied dramatically, and the 2012-2016 average is 115,372 fish. The 2017 harvest was 138,915 Coho Salmon. All harvest data from 2016 and 2017 are preliminary.

Sportfish

Sport fishing harvest of Coho Salmon is generally low in the Yukon River drainage. The 2012-2016 average sport fishing harvest within the Alaska portion of the Yukon River was estimated to be 703 Coho Salmon (JTC 2018). The majority of sport fishing effort in the drainage occurs in the Tanana River drainage (District 6). Outside of the Tanana River, the Andreafsky (in District 2) and Anvik (in District 4) rivers receive the bulk of the remaining effort.

Comprehensive Household Harvest Surveys

ADF&G's Division of Subsistence occasionally undertakes comprehensive household surveys as time and resources allow. These document the use, harvest, and sharing of all wild foods harvested in a community in a given year and can thus provide insights on the importance of individual resources within the overall harvest and the cultural contexts of these harvests, including patterns of sharing. For the region represented by the proposal, available salmon harvest and use data collected by these surveys is represented in **Table 1**.

The Chinook Salmon and Chum Salmon harvests and use represented in **Table 1** include all gear types including commercial retention. A large percentage of households in these communities used Chinook Salmon in the study years. Patterns of Chum Salmon use was similar to Chinook Salmon for all communities except for Alakanuk, which had a higher percentage of Chinook Salmon compared to Chum Salmon. Coho Salmon use was much less than for the other two species for all communities except Shageluk which used more Coho Salmon than Chinook or Chum Salmon in 2013.

Sharing of salmon resources as represented by giving and receipt in **Table 1** was common for communities with available data. Sharing includes distribution within and outside of the community. For all communities except Marshall, a larger percentage of households reported receiving salmon resources than did those giving them away. Russian Mission household also gave away more Chum Salmon in 2011 than they received. Emmonak represented the greatest percentage of households sharing both Chinook Salmon and Chum Salmon, with 56.5% and 55.7% of households respectively.

The estimated amount of harvest for these salmon species varied by community and year, based largely on availability of the resource and the population of each community. To correct for population, lbs. harvested per capita is a better indicator of harvest and use than is the total estimated harvest. Within the available data, all communities except Marshall and Russian Mission harvested more pounds. per capita of Chum Salmon than Chinook Salmon. Marshall's per capita harvest of Chinook and Chum Salmon were similar while Russian Mission's per capita harvest of Chinook Salmon was greater than that of Chum Salmon in both 1985 and 2011. For all years and communities except Shageluk, the per capita harvest of Coho was lower than that of Chinook and Chum Salmon. While Shageluk's per capita harvest of Coho was lower in 1990, it exceeded that of Chinook Salmon in 2013.

Table 1. Chinook Salmon, Chum Salmon, and Coho Salmon harvest in communities located within Yukon River districts 1-3 as determined through available ADF&G household subsistence harvest surveys. (ADF&G 2018b).

Community, Year, Species	% Households Using	Est. Individuals Harvested	Lbs. Harvested per Capita	% Households Giving Away	% Households Receiving
Alakanuk					
1980 Chinook	-	13,693	72.5	-	-
1980 Chum	-	1,521	112.2	-	-
1980 Coho	-	2,717	12.5	-	-
Nunam Iqua					
1980 Chinook	-	1912	220.3	-	-
1980 Chum	-	11,487	406.2	-	-

Community, Year, Species	% Households Using	Est. Individuals Harvested	Lbs. Harvested per Capita	% Households Giving Away	% Households Receiving
1980 Coho	-	1,275	45.1	-	-
Emonnak					
1980 Chinook	-	2,256	79.7	-	-
1980 Chum	-	12,144	131.7	-	-
1980 Coho	-	1,350	14.6	-	-
2008 Chinook	89.0	3,042.7	39.3	34.9	65.1
2008 Chum	90.1	19,132.0	125.0	41.3	57.8
2008 Coho	55.0	3,265.3	21.2	20.2	32.1
Kotlik					
1980 Chinook	-	1,060	44.8	-	-
1980 Chum	-	6,884	89.4	-	-
1980 Coho	-	764	9.9	-	-
Mountain Village					
1980 Chinook	-	2,322	71.6	-	-
1980 Chum	-	17,382	164.4	-	-
1980 Coho	-	1,932	18.3	-	-
2010 Chinook	85.2	2,198.9	26.4	38.3	56.5
2010 Chum	82.6	11,447.5	74.1	38.3	55.7
2010 Coho	39.1	1,134.9	7.6	16.5	22.6
Marshall					
2010 Chinook	89.1	3,303.9	91.2	50.0	39.1
2010 Chum	89.1	5,981.4	89.0	41.3	37.0
2010 Coho	34.8	844.5	13.1	23.9	17.4
Russian Mission					
1985 Chinook	-	1,938	134.7	-	-
1985 Chum	-	3,087	73.2	-	-
1985 Coho	-	740	17.6	-	-
2011 Chinook	84.8	3,176.5	73.5	28.3	37.0
2011 Chum	80.4	2,375.0	29.7	32.6	15.2
2011 Coho	47.8	479.2	6.1	13.0	21.7
Holy Cross					
1990 Chinook	-	1,649	82.9	-	-
1990 Chum	-	1,218	21.1	-	-
1990 Coho	-	944	17.2	-	-
Shageluk					
1990 Chinook	-	189	21.1	-	-
1990 Chum	-	3,680	136.8	-	-
1990 Coho	-	0	0	-	-

Community, Year, Species	% Households Using	Est. Individuals Harvested	Lbs. Harvested per Capita	% Households Giving Away	% Households Receiving
2013 Chinook	46.2	83.7	9.5	15.4	26.9
2013 Chum	46.2	2,881.6	34.0	19.2	23.1
2013 Coho	65.4	425	23.0	19.2	46.2

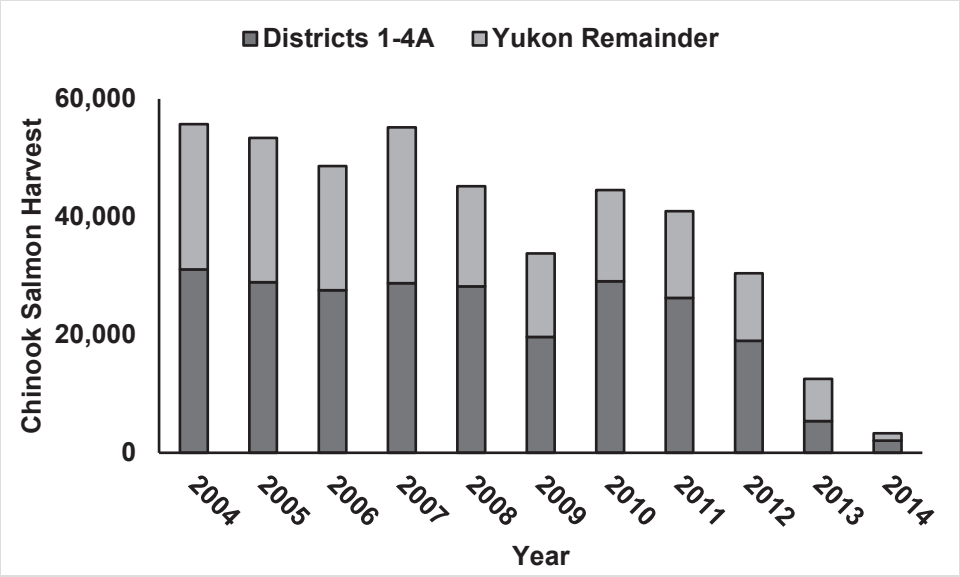

Figure 6. Comparison of Chinook Salmon subsistence harvest of communities from Districts 1- 4A and the Yukon River from 2004 to 2014 (Jallen et al. 2017).

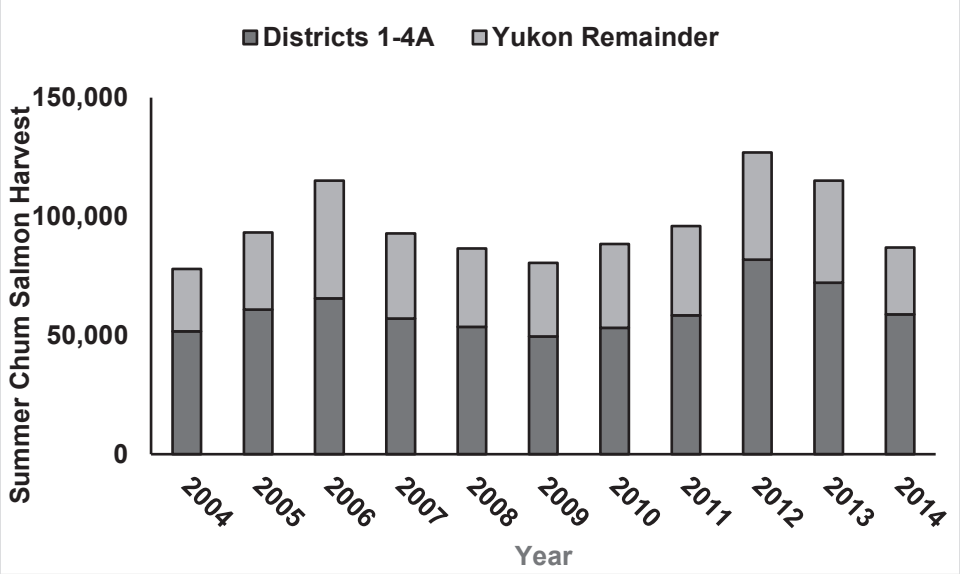

Figure 7. Comparison of Summer Chum Salmon subsistence harvest from communities in Districts 1- 4A and the Yukon River from 2004 to 2014 (Jallen et al. 2017).

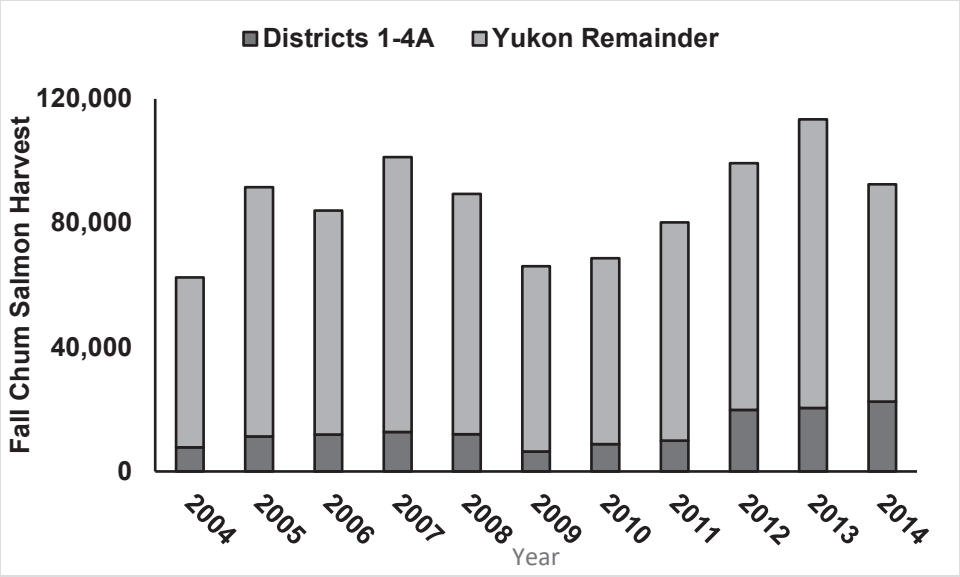

Figure 8. Comparison of Fall Chum Salmon subsistence harvest from communities in Districts 1- 4A and the Yukon River from 2004 to 2014 (Jallen et al. 2017).

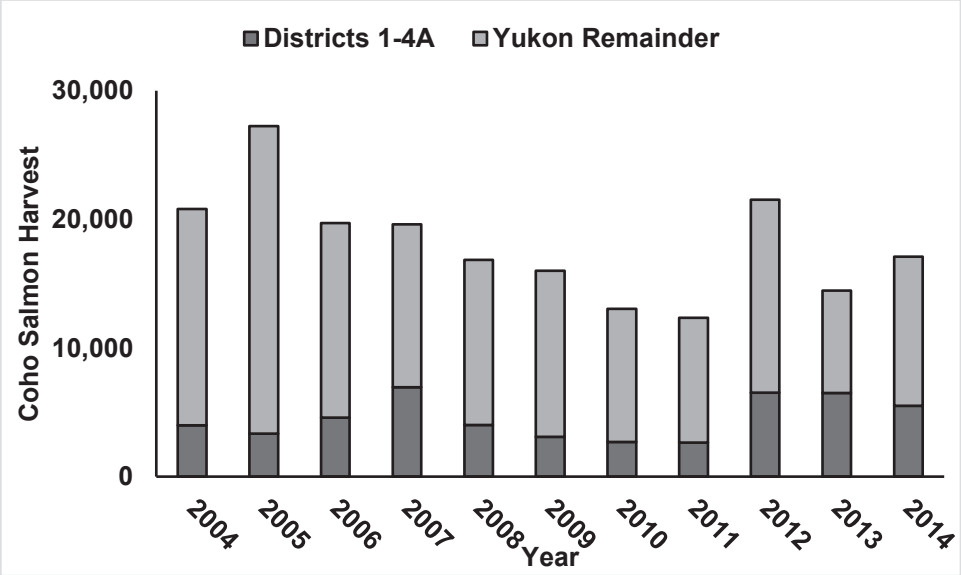

Figure 9. Comparison of Coho Salmon subsistence harvest from communities in Districts 1- 4A and the Yukon River from 2004 to 2014 (Jallen et al. 2017).

Cultural Knowledge and Traditional Practices

The use and importance of salmon and other non-salmon species for Yukon River communities has been documented through oral histories and harvest surveys conducted in the area. Historically, many Yukon communities followed a semi-nomadic, subsistence lifestyle, spending time at seasonal camps, migrating with the resources and harvesting various species of fish, along with hunting and gathering subsistence resources. Humans have likely lived in the Yukon area for over 10,000 years (Rainey 1940) and fishing was a family and community activity, deeply ingrained in to the cultures of the people in this area. People

traditionally used weirs and fish traps, and nets made of animal sinew and willow bark and more recently employed commercially made set nets along with hand made fish wheels for salmon at their fish camps. Multi-generational family groups would travel to seasonal camps to harvest fish and wildlife. Although fewer young people spend time at seasonal camps now due to employment, school, and other responsibilities, subsistence fishing continues to be important for communities up and down the river. According to surveys, many older people recalled whole families spending long hours at their fish camps, harvesting, processing, and preserving fish. Children learned about subsistence activities from their elders at fish camp (Brown et al. 2010; Brown et al. 2015).

Salmon is considered the most reliable and significant subsistence resource on the Lower Yukon River. Salmon has always been an important part of the culture, economically and socially, and the knowledge of how to catch, process, and preserve fish has been passed down from generation to generation. Before contact by outsiders, dried fish was regularly traded between Yukon villages along with other commodities such as furs and sea mammal products (Wolfe 1981).

Yukon River residents are dependent on the harvest of salmon, especially Chinook Salmon, for both subsistence and commercial uses. Starting in the late 1990s, Chinook Salmon began to decline so people harvested more summer and Fall Chum Salmon along with other subsistence resources (Brown and et al. 2015). In the 1960s, people started using gillnets to drift fish for salmon for personal and commercial use. Today fishing still plays an important cultural role in the communities along the lower and middle Yukon River, and the knowledge of how and when to fish is still passed down from generation to generation.

Customary trade of fish is an important part of continuing trade networks in rural areas of Alaska. Salmon fishing takes place in the summer and timing is based on the runs for various species. Local residents also use nets under the ice to fish for pike, whitefish, or sheefish in the spring before breakup. Communities have used various types of nets and fish wheels to harvest fish through the generations. Fish wheels are used less now than they were in the past when people were catching more fish to feed sled dogs, but are still used in some areas, mainly to catch fish for human consumption (Brown et al. 2010). Chum salmon, once primarily used for dog food, were caught using nets set from the shore but are now consumed by people in the United States and overseas. As more village runways were built, increasing air travel, and more snow machines were brought to the villages, the dependency on sled dogs was reduced, reducing the need for harvesting fish to feed dogs (Brown et al. 2015).

In the 1960s, people started using gillnets to drift fish for salmon for personal and commercial use. Today fishing still plays an important cultural role in the communities along the lower and middle Yukon River, and the knowledge of how and when to fish is still passed down from generation to generation.

The use, harvest, and dependence of salmon resources can vary by community based on cultural practices, resource availability, economics and many other factors. Yukon River drainage residents exhibit these variations generally within the lower, middle, and upper stretches of the drainage. **Table 2** shows the populations over time (1960-2010) for the communities within or in proximity to Yukon River Districts. 1-3.

Table 2. U.S. Census Bureau population estimates for communities within or in proximity to Yukon River Districts 1-3, 1960-2010 (ADCCED 2018).

Community	1960	1970	1980	1990	2000	2010	2010 No. Households
District 1							
Alakanuk city	278	265	522	544	652	677	160
Nunam Iqua city	125	125	103	109	164	187	43
Emmonak city	358	439	567	642	767	762	185
Kotlik city	57	228	293	461	591	577	128
District 2							
Mountain Village city	300	419	583	674	755	813	184
Pitkas Point CDP	28	70	88	135	125	109	31
Saint Marys city	260	384	382	441	500	507	151
Pilot Station city	219	290	325	463	550	568	121
Marshall city	166	175	262	273	349	414	100
District 3							
Russian Mission city	102	146	169	246	296	312	73
Holy Cross city	256	199	241	277	227	178	64
Shageluk city	155	167	131	139	129	83	36

Effects of the Proposal

If either proposal were adopted as submitted, there will be more subsistence fishing opportunity for Federally qualified subsistence users on Federal public lands in Districts 1-3. Effects on the salmon stocks are likely negligible as subsistence users typically do not harvest more than what is needed.

If proposal FP19-03 were adopted there would be a decrease in duration of the closure to subsistence fishing before and after State commercial opening periods. However, the fishery would remain closed for six hours before, six hours after, and during the entire length of the State commercial fishing periods.

If proposal FP19-04 were adopted it would eliminate the closures to subsistence fishing immediately before, during, and immediately following State commercial fishing periods.

Subdistrict 4A has similar restrictions prior to, during and after a commercial fishing period. While there has been relatively few commercial fishing periods recently due to the lack of buyers during some years, the number of commercial fishing periods could increase in the future. Subdistrict 4A would benefit having similar regulations as districts 1, 2, and 3 on the lower Yukon River.

Although these proposals may increase opportunities for subsistence harvest for Federally qualified users, there are some potential drawbacks that could occur. State and Federal regulations would no longer be the same, complicating enforcement of these regulations and creating confusions about where and when it is legal for Federally qualified users to subsistence fish during commercial openings. Districts 1 and 2 contain primarily waters under Federal subsistence fisheries jurisdiction, as well as most of District 3. However,

once out of the Yukon Delta National Wildlife Refuge land status becomes more varied and would require users to know the Federal public waters boundaries.

Commercial and subsistence fishers fishing at the same time increases enforcement complexity and may increase user conflict. Commercial fishers will be competing with subsistence fishers for prime fishing locations. Also, since Districts 1-3 are regulated to two 36-hour subsistence fishing periods per week, this proposed regulation may force some fishers to choose between catching fish for food purposes and catching fish to be sold. Additionally, this proposal may make it easier to illegally sell subsistence-caught fish in the commercial fishery, which could hinder upstream subsistence fishing opportunity and reduce escapement into spawning tributaries.

One potential effect that could come from adopting either of these proposals is an increase in commercial fishing time. If the Yukon Area managers are allowing two 18-hour subsistence fishing opportunities per week, then there is potential for commercial fishing to occur during, or up to 6 hours prior, and again 6 hours after the subsistence fishing opportunity. This may affect the quality of fishing during the subsistence fishing period.

Fishery managers currently have the authority to set time and area. Therefore, it is not unusual for them to modify the amount of closure time leading into and out of a commercial fishing period. For example, subsistence fishing was closed for only 3 hours prior to and reopened 3 hours after a commercial opening on July 22, 2017 (ADF&G 2017).

If both proposals were not adopted, then the subsistence fishery will remain closed for 12 hours prior to, during, and after a State commercial fishing openings and Federal and State subsistence management regulations will remain the same.

OSM PRELIMINARY CONCLUSION

Oppose Proposal FP19-04.

Support Proposal FP19-03 **with modification** to include district 4A and provide the updated language only one time in the regulations to avoid redundancy.

The modified regulation should read:

§___.14 Relationship to State procedures and regulations

(a) State fish and game regulations apply to public lands and such laws are hereby adopted and made a part of the regulations in this part to the extent they are not inconsistent with, or superseded by, the regulations in this part.

§___.27 Subsistence taking of fish

(e)(3) Yukon-Northern Area.

* * * *

(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.

* * * *

(vii) In Districts 1, 2, and 3:

*(A) After the opening of the State commercial salmon fishing season through July 15, you may not take salmon for subsistence for ~~18~~**6** hours immediately before, during, and for 126 hours after each State commercial salmon fishing period;*

*(B) After July 15, you may not take salmon for subsistence for ~~12~~**6** hours immediately before, during, and for ~~12~~**6** hours after each State commercial salmon fishing period.*

*(viii) In Subdistrict 4A after the opening of the State commercial salmon fishing season, you may not take salmon for subsistence for ~~12~~**6** hours immediately before, during, and for ~~12~~**6** hours after each State commercial salmon fishing period; however, you may take Chinook salmon during the State commercial fishing season, with drift gillnet gear only, from 6:00 p.m. Sunday until 6:00 p.m. Tuesday and from 6:00 p.m. Wednesday until 6:00 p.m. Friday.*

Justification

Adoption of this proposal as modified may result in additional opportunity for Federally qualified subsistence users in Districts 1, 2, 3 and 4-A on the Yukon River, while avoiding issues that may come with having concurrent subsistence and commercial fishing periods. This proposal as modified will also remove some of the confusion associated with restrictions prior to commercial fisheries by standardizing the amount of time subsistence fishing is closed prior to and after the commercial openings. Modification of the proposed language avoids redundancy in Federal regulations.

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FP19–05 Executive Summary	
General Description	Proposal FP19–05 requests the Federal Subsistence Board (Board) remove the requirement of fin clipping subsistence-caught Chinook Salmon in the Lower Yukon River Districts 1, 2, and 3. *Submitted by: Alissa Rogers*
Proposed Regulation	***§___.14 Relationship to State procedures and regulations*** *(a) State fish and game regulations apply to public lands and such laws are hereby adopted and made a part of the regulations in this part to the extent they are not inconsistent with, or superseded by, the regulations in this part.* ***§___.27 Subsistence taking of fish*** *(e)(3) Yukon-Northern Area.* * * * * *(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060)* ***except in Districts 1, 2, and 3 from June 1 through July 15 you may possess Chinook salmon taken for subsistence purposes with out both tips (lobes) of the tail fin removed****, unless superseded by a Federal Special Action.* * * * * *(xx)) In Districts 1, 2, and 3, from June 1 through July 15, you may ~~not~~ possess Chinook salmon taken for subsistence purposes ~~unless~~* ***without*** *both tips (lobes) of the tail fin ~~have been~~ removed ~~before the person conceals the salmon from plain view or transfers the salmon from the fishing site~~.*

FP19–05 Executive Summary	
OSM Preliminary Conclusion	**Support** Proposal FP19-05 **with modification** to allow Federally qualified subsistence users to harvest Chinook Salmon without clipping the tails during times that the commercial sale of Chinook Salmon is not allowed and provide the updated language only one time in the regulations to avoid redundancy.
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	**None**

DRAFT STAFF ANALYSIS
FP19-05

ISSUES

Proposal FP19-05, submitted by Alissa Rogers of Bethel, requests the Federal Subsistence Board (Board) remove the requirement of fin clipping subsistence-caught Chinook Salmon in the Lower Yukon River Districts 1, 2, and 3.

DISCUSSION

The proponent states that fin clipping does not prevent people from selling subsistence-caught Chinook Salmon into the commercial fishery because only a few Yukon subsistence fishermen do this. The proponent states there are always going to be a few bad actors, that they are known and have been fined before but that the existing regulation has not stopped them. The proponent states that the existing regulation is burdensome on subsistence fishermen without any benefit.

Existing Federal Regulation

§___.14 Relationship to State procedures and regulations

(a) State fish and game regulations apply to public lands and such laws are hereby adopted and made a part of the regulations in this part to the extent they are not inconsistent with, or superseded by, the regulations in this part.

§___.27 Subsistence taking of fish

(e)(3) Yukon-Northern Area.

* * * *

(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.

* * * *

(xx) In Districts 1, 2, and 3, from June 1 through July 15, you may not possess Chinook salmon taken for subsistence purposes unless both tips (lobes) of the tail fin have been

removed before the person conceals the salmon from plain view or transfers the salmon from the fishing site.

Proposed Federal Regulation

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(a) State fish and game regulations apply to public lands and such laws are hereby adopted and made a part of the regulations in this part to the extent they are not inconsistent with, or superseded by, the regulations in this part.

§___.27 Subsistence taking of fish

(e)(3) Yukon-Northern Area.

* * * *

(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060) ***except in Districts 1, 2, and 3 from June 1 through July 15 you may possess Chinook salmon taken for subsistence purposes with out both tips (lobes) of the tail fin removed****, unless superseded by a Federal Special Action.*

* * * *

(xx) In Districts 1, 2, and 3, from June 1 through July 15, you may ~~not~~ possess Chinook salmon taken for subsistence purposes ~~unless~~ ***without*** *both tips (lobes) of the tail fin ~~have been~~ removed ~~before the person conceals the salmon from plain view or transfers the salmon from the fishing site~~.*

Existing State Regulation

5 AAC 01.240. Marking and use of subsistence-taken salmon

(c) In Districts 1 - 3, from June 1 through July 15, a person may not possess king salmon taken for subsistence uses unless both tips (lobes) of the tail fin have been removed before the person conceals the salmon from plain view or transfers the salmon from the fishing site. A person may not sell or purchase salmon from which both tips (lobes) of the tail fin have been removed.

Extent of Federal Public Lands

For purposes of this discussion, the phrase "Federal public waters" is defined as those waters described under 36 CFR §242.3 and 50 CFR §100.3. The Federal public waters addressed by this proposal are those portions of the Yukon River located within, or adjacent to, the external boundaries of the Yukon Delta National Wildlife Refuge (NWR) and fishing Subdistricts 1-3 of the Yukon/Northern Federal Subsistence Fishery Management Area (**Figure 1**).

Customary and Traditional Use Determinations

Rural residents of the Yukon River drainage and the community of Stebbins have customary and traditional use determination for Salmon, other than fall chum salmon in the Yukon River drainage.

Residents of the Yukon River drainage and the community of Chevak, Hooper Bay, Scammon Bay, and Stebbins have a customary and traditional use determination for Fall chum salmon in the Yukon River drainage.

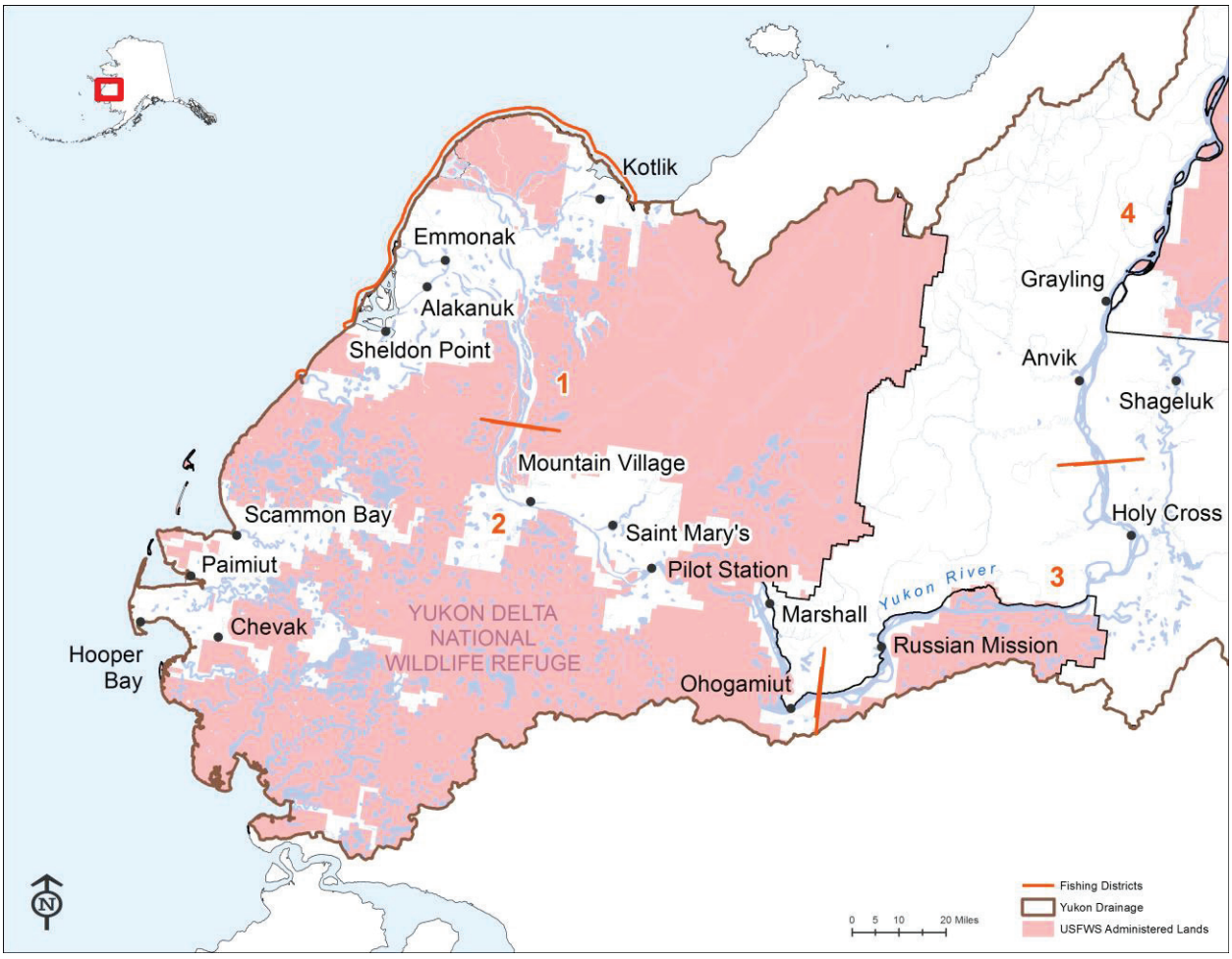

Figure 1. Lower Yukon River Districts 1, 2, and 3.

Regulatory History

State Regulatory History

The current 6 commercial fishing districts were established in 1974. The subsistence fishing schedules were also linked to the commercial fishing schedules in districts 1-6 in the same year, and concurrent subsistence and commercial fishing for 5 days per week was implemented in the Upper Yukon Area (Districts 4-6). Beginning in 1977 the lower Yukon area was reduced to commercial and subsistence fishing for 3 days per week during the commercial Chinook Salmon season, and 3.5 days per week during the fall Chum Salmon season. The fall Chum Salmon fishing season was again reduced in 1979, to 3 days per week. Beginning in 1981, ADF&G began announcing in-season Lower Yukon area commercial fishing periods by emergency order, with Lower Yukon area subsistence periods announced in this manner beginning in 1984 (Jallen et al. 2015).

Beginning in 1993, regulations were put into effect that separated commercial and subsistence fishing times in Districts 1-3 and Sub-district 4-A. The regulations stated that subsistence fishing in District 1-3 was open 7 days per week, 24 hours/day until the commercial fishing season began. Once commercial fishing had started, subsistence fishing was closed 18 hours prior, during, and 12 hours after each commercial fishing period. Also, marking of subsistence-caught fish was required by removal of the dorsal fin. These regulations were made based on an enforcement action where subsistence-caught fish were being sold in the commercial fishery in 1992 (Bergstrom et al 1995).

The Board added a fishing schedule for the subsistence salmon fisheries. The schedule will be implemented chronologically, consistent with migratory timing as the run progresses upstream. This schedule may be altered by emergency order if preseason or inseason indicators suggest it is necessary for conservation. Districts 1-3 windows allowed subsistence salmon fishing for two 36 hour periods per week. Districts 4, and Sub-districts 5-B and 5-C were open to subsistence fishing for two 48-hour periods per week. Subsistence fishing in Sub-district 4-A was further defined during the commercial season in 2004 with Chinook Salmon fishing only allowed during two 48 hour drift netting periods per week by emergency order.

In February 2007, the BOF adopted a proposal changing the marking requirement for subsistence-caught salmon in Districts 1–3 from removal of the dorsal fin to removal of both tips of the tail fin. The rationale cited in the subcommittee report was to foster better compliance because marking would be easier, to make the regulation consistent with other areas of the state, to clarify when subsistence marking requirements would be in place, to use a more sanitary mark, and to discourage subsistence-caught fish from entering the State's commercial fisheries (ADF&G 2007).

Commercial fishing for Chum Salmon during times of Chinook Salmon conservation was permitted with fish wheels by emergency order in Sub-district 4A, beginning in 2012. Fishermen are required to be present at the fish wheel, and immediately release all Chinook Salmon alive.

Federal Regulatory History

Fin clipping regulations were adopted by the (Board) from State subsistence regulations in the fall of 1998.

Starting in October 1999, Federal subsistence management regulations for the Yukon-Northern Area stipulated that, unless otherwise restricted, rural residents may take salmon in the Yukon-Northern Area at any time by gillnet, beach seine, fish wheel, or rod and reel unless exceptions are noted.

In 2002, the Board delegated some of its authority to manage Yukon River drainage subsistence salmon fisheries to the Branch Chief for Subsistence Fisheries, U.S. Fish and Wildlife Service, in Fairbanks. The Federal Subsistence Board's delegation allows the Federal manager to open or close Federal subsistence fishing periods or areas provided under codified regulations, and to specify methods and means.

The Board adopted FP13-02 in 2013 to align State and Federal marking requirements providing a modest reduction in regulatory complexity. This change in marking requirements made it mandatory to remove both tips of the tail fin on all Chinook Salmon before the person conceals the salmon from plain view or transfers the salmon from the fishing site.

Current Events

During the 2019-2021 Regulatory cycle, three proposals (FP18-02, FP18-03, and FP18-04) were submitted to alter or remove restrictions on subsistence fishing by Federally qualified subsistence users in Federal waters.

The proponent submitted a similar proposal to the Alaska Board of Fisheries to take up at its Arctic/Yukon/Kuskokwim Finfish meeting on January 15-19, 2019.

Biological Background

Chinook Salmon

Recent analyses indicate that Yukon River Chinook Salmon stocks appear to be in the third year of increasing productivity after the low returns of 2015. Historically, the stocks showed periods of above-average abundance (1982-1997) and periods of below-average abundance (1998 onwards), as well as periods of generally higher productivity (brood years 1993 and earlier) mixed with years of low productivity (brood years 1994-1996 and 2002-2005; Schindler et al. 2013).

The 2014 run was expected to be the smallest on record, with a projected size of 64,000-121,000 fish. Despite initial concerns, the cumulative passage estimate at the mainstem Yukon River sonar project in Pilot Station was approximately 138,000±17,000 (90% CI) fish (Figure 1). The passage estimate was still below the historical average of 143,000 fish and below the average of 195,800 fish for years with early run timing. As a result of severe management restrictions, all escapement goals that could be assessed were achieved, even with below average run sizes (JTC 2015).

The 2015 projected run size was 118,000-140,000 fish, which was once again below average yet higher than the previous year's projection. Cumulative passage estimates at the sonar station in Pilot Station were approximately 116,000±30,000 fish (90% CI) (Figure 1). As with the previous year, this number

was still below the historical average. As a result of severe management restrictions, all escapement goals that could be assessed were achieved, even with below average run sizes (JTC 2016).

The 2016 run outlook was a below-average run of 130,000–176,000 fish (JTC 2017). Cumulative passage estimates at the sonar station in Pilot Station were approximately 176,898±18,466 fish (90% CI) (Liller, 2018 pers. comm). This number was near the recent historical average of 178,300 fish (ADFG 2018a), but is considered preliminary at this time. Conservative actions were relaxed slightly from previous years and all escapement goals were again met (JTC 2016).

The 2017 run outlook was slightly larger, but still below average: 140,000-194,000 fish (JTC 2017). Cumulative passage estimates at the Pilot Station sonar were approximately 263,000±29,000 fish (90% CI) (ADF&G 2018a), which was the largest since 2003 (JTC 2017), is also considered preliminary. Subsistence management restrictions were further relaxed which resulted in harvests approximately two thirds of average and most escapement goals were met despite the poor water conditions that existed throughout the drainage. The numbers reported at the Pilot Station sonar do not factor in any harvest that occurs downstream, which can be significant during some years.

The 2018 run outlook is larger than in recent years, with a run size of 173,000-251,000 fish (ADF&G 2018a). The upper end of the range could support an average subsistence harvest, while the low end of the range would likely result in restrictions to subsistence fisheries.

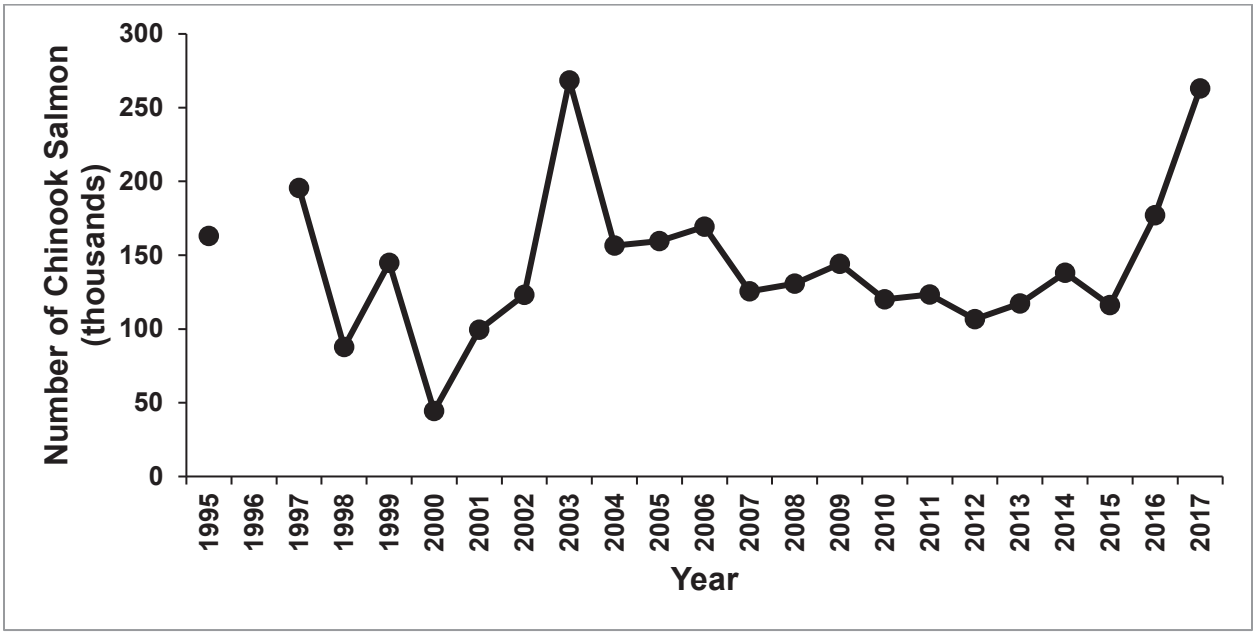

Figure 2. Chinook Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

Harvest History

Chinook Salmon

Subsistence

Subsistence harvest of Chinook Salmon in the Alaska portion of the Yukon River averaged 34,791 fish from 1961-2015, with a high of 62,486 in 1993 and a low of 2,724 in 2014 (JTC 2017) (**Figure 5**). The 2014 Chinook Salmon subsistence harvest of 2,724 fish was the lowest on record for the Alaska portion of the Yukon River drainage. Harvest increased in 2015, 2016 and 2017 with 7,577, 21,627, and 36,992 fish harvested respectively. The 2017 harvest estimate, though preliminary, is larger than the 2007-2016 average (29,514) and over two times the number of the recent 5 year average of 15,088 (JTC 2018). The 2017 harvest was the largest since 2011.

The subsistence harvest in Yukon River Districts 1-3 averaged 16,755 from 2004- 2013, with a 2009-2013 average of 13,442 Chinook Salmon (Jallen et al 2017). The estimated 2014 subsistence harvest in these districts was 2,020 Chinook Salmon.

Commercial

Chinook Salmon have not been targeted in the commercial fishery for 10 years and the sale of incidentally caught Chinook Salmon was prohibited for the seventh consecutive year during the 2017 summer season. However, there was a small opportunity during the fall fishing seasons were fish were sold in Districts 1 and 2 in 2011 (82) and 2017 (168). The 1961-2016 average commercial harvest was 88,092 with a recent 10 year average of 9,714 (JTC 2018).

Sportfish

Sport fishing harvest of Chinook Salmon are generally low in the Yukon River drainage. The 2012-2016 average sport fishing harvest within the Alaska portion of the Yukon River was estimated to be 105 Chinook Salmon (JTC 2018). The majority of sport fishing effort in the drainage occurs in the Tanana River drainage (District 6). Outside of the Tanana River, the Andreafsky (in District 2) and Anvik (in District 4) rivers receive the bulk of the remaining effort. During 2017, sport fishing was allowed after June 20, and allowed for a bag limit of 1 Chinook Salmon 20-inches or greater (JTC 2018).

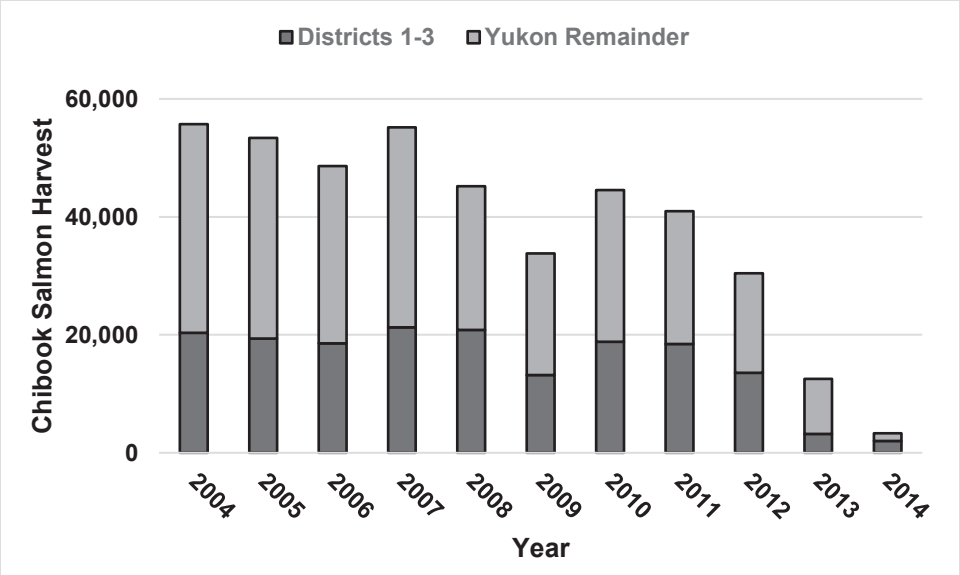

Figure 3. Comparison of Chinook Salmon subsistence harvest of communities from Districts 1-3 and the Yukon River from 2004 to 2014 (Jallen et al. 2017).

Comprehensive Household Harvest Surveys

ADF&G's Division of Subsistence occasionally undertakes comprehensive household surveys as time and resources allow. These document the use, harvest, and sharing of all wild foods harvested in a community in a given year and can thus provide insights on the importance of individual resources within the overall harvest and the cultural contexts of these harvests, including patterns of sharing. For the region represented by this proposal, household surveys that include Chinook, Chum and Coho Salmon harvest were conducted in several years for several communities (**Table 1**).

The Chinook Salmon and Chum Salmon harvests and use represented in **Table 1** include all gear types including commercial retention. A large percentage of households in these communities used Chinook Salmon in the study years. Chum Salmon use was similar to Chinook Salmon for all communities with available data. Coho Salmon use was much less than for the other two species for all communities except Shageluk which used more Coho Salmon than Chinook or Chum Salmon in 2013.

Sharing of salmon resources as represented by giving and receipt in **Table 1** was common for communities with available data. Sharing includes distribution within and outside of the community. For all communities except Marshall, a larger percentage of households reported receiving salmon resources than did those giving them away. Russian Mission household also gave away more Chum Salmon in 2011 than they received. Emmonak represented the greatest percentage of households sharing both Chinook Salmon and Chum Salmon, with 56.5% and 55.7% of households respectively.

The estimated amount of harvest for these salmon species varied by community and year, based largely on availability of the resource and the population of each community. To correct for population, lbs. harvested per capita is a better indicator of harvest and use than is the total estimated harvest. Within the available data, all communities except Marshall and Russian Mission harvested more pounds per capita of

Chum Salmon than Chinook Salmon. Marshall's per capita harvest of Chinook and Chum Salmon were similar while Russian Mission's per capita harvest of Chinook Salmon was greater than that of Chum Salmon in both 1985 and 2011. For all years and communities except Shageluk, the per capita harvest of Coho was lower than that of Chinook and Chum Salmon. While Shageluk's per capita harvest of Coho Salmon was lower in 1990, it exceeded that of Chinook Salmon in 2013.

Table 1. Chinook Salmon, Chum Salmon, and Coho Salmon harvest in communities located within Yukon River districts 1-3 as determined through available ADF&G household subsistence harvest surveys (ADF&G 2018b).

Community, Year, Species	% Households Using	Est. Individuals Harvested	Lbs. Harvested per Capita	% Households Giving Away	% Households Receiving
Alakanuk					
1980 Chinook	-	13,693	72.5	-	-
1980 Chum	-	1,521	112.2	-	-
1980 Coho	-	2,717	12.5	-	-
Nunam Iqua					
1980 Chinook	-	1,912	220.3	-	-
1980 Chum	-	11,487	406.2	-	-
1980 Coho	-	1,275	45.1	-	-
Emonnak					
1980 Chinook	-	2,256	79.7	-	-
1980 Chum	-	12,144	131.7	-	-
1980 Coho	-	1,350	14.6	-	-
2008 Chinook	89.0	3042.7	39.3	34.9	65.1
2008 Chum	90.1	19,132.0	125.0	41.3	57.8
2008 Coho	55.0	3,265.3	21.2	20.2	32.1
Kotlik					
1980 Chinook	-	1,060	44.8	-	-
1980 Chum	-	6,884	89.4	-	-
1980 Coho	-	764	9.9	-	-
Mountain Village					
1980 Chinook	-	2,322	71.6	-	-
1980 Chum	-	17,382	164.4	-	-
1980 Coho	-	1,932	18.3	-	-
2010 Chinook	85.2	2,198.9	26.4	38.3	56.5
2010 Chum	82.6	11,447.5	74.1	38.3	55.7
2010 Coho	39.1	1,134.9	7.6	16.5	22.6
Marshall					
2010 Chinook	89.1	3,303.9	91.2	50.0	39.1

Community, Year, Species	% Households Using	Est. Individuals Harvested	Lbs. Harvested per Capita	% Households Giving Away	% Households Receiving
2010 Chum	89.1	5,981.4	89.0	41.3	37.0
2010 Coho	34.8	844.5	13.1	23.9	17.4
Russian Mission					
1985 Chinook	-	1,938	134.7	-	-
1985 Chum	-	3,087	73.2	-	-
1985 Coho	-	740	17.6	-	-
2011 Chinook	84.8	3,176.5	73.5	28.3	37.0
2011 Chum	80.4	2,375.0	29.7	32.6	15.2
2011 Coho	47.8	479.2	6.1	13.0	21.7
Holy Cross					
1990 Chinook	-	1,649	82.9	-	-
1990 Chum	-	1,218	21.1	-	-
1990 Coho	-	944	17.2	-	-
Shageluk					
1990 Chinook	-	189	21.1	-	-
1990 Chum	-	3,680	136.8	-	-
1990 Coho	-	0	0	-	-
2013 Chinook	46.2	83.7	9.5	15.4	26.9
2013 Chum	46.2	2,881.6	34.0	19.2	23.1
2013 Coho	65.4	425	23.0	19.2	46.2

Cultural Knowledge and Traditional Practices

The use and importance of salmon and other non-salmon species for Yukon River communities has been documented through oral histories and harvest surveys conducted in the area. Historically, many Yukon communities followed a semi-nomadic, subsistence lifestyle, spending time at seasonal camps, migrating with the resources and harvesting various species of fish, along with hunting and gathering subsistence resources. Humans have likely lived in the Yukon area for over 10,000 years (Rainey 1940) and fishing was a family and community activity, deeply ingrained in to the cultures of the people in this area. People traditionally used weirs and fish traps, and nets made of animal sinew and willow bark and more recently employed set nets along with fish wheels for salmon at their fish camps. Multi-generational family groups would travel to seasonal camps to harvest fish and wildlife. Although fewer young people spend time at seasonal camps now due to employment, school, and other responsibilities, subsistence fishing continues to be important for communities up and down the river. According to surveys, many older people recalled whole families spending long hours at their fish camps, harvesting, processing, and preserving fish. Children learned about subsistence activities from their elders at fish camp (Brown et al. 2010; Brown et al. 2015).

Salmon is considered the most reliable and significant subsistence resource on the Lower Yukon River. Salmon has always been an important part of the culture, economically and socially, and the knowledge of how to catch, process, and preserve fish has been passed down from generation to generation. Before contact by outsiders dried fish was regularly traded between Yukon villages along with other commodities such as furs and sea mammal products (Wolfe 1981).

Yukon River residents are dependent on the harvest of salmon, especially Chinook Salmon, for both subsistence and commercial uses. Starting in the late 1990s, Chinook Salmon began to decline so people harvested more summer and fall Chum Salmon along with other subsistence resources (Brown et al. 2015). In the 1960s, people started using gillnets to drift fish for salmon for personal and commercial use. Today fishing still plays an important cultural role in the communities along the lower and middle Yukon River, and the knowledge of how and when to fish is still passed down from generation to generation.

Customary trade of fish is an important part of continuing trade networks in rural areas of Alaska. Salmon fishing takes place in the summer and timing is based on the runs for various species. Local residents also use nets under the ice to fish for pike, whitefish, or sheefish in the spring before breakup. Communities have used various types of nets and fish wheels to harvest fish through the generations. Fish wheels are used less now than they were in the past when people were catching more fish to feed sled dogs, but are still used in some areas, mainly to catch fish for human consumption (Brown et al. 2010). Chum Salmon, once primarily used for dog food, were caught using nets set from the shore but are now consumed by people in the United States and overseas. As more village runways were built, increasing air travel, and more snow machines were brought to the villages, the dependency on sled dogs was reduced, reducing the need for harvesting fish to feed dogs (Brown et al. 2015).

Yukon River residents are dependent on the harvest of salmon, especially Chinook Salmon, for both subsistence and commercial uses. Starting in the late 1990s, Chinook Salmon began to decline so people

harvested more summer and fall Chum Salmon along with other subsistence resources (Brown and et al. 2015). In the 1960s, people started using gillnets to drift fish for salmon for personal and commercial use. Today fishing still plays an important cultural role in the communities along the lower and middle Yukon River, and the knowledge of how and when to fish is still passed down from generation to generation.

The use, harvest, and dependence of salmon resources can vary by community based on cultural practices, resource availability, economics and many other factors. Yukon River drainage residents exhibit these variations generally within the lower, middle, and upper stretches of the drainage. **Table 2** shows the populations over time (1960-2010) for the communities within or in proximity to Yukon River Districts 1-3.

Fin marking requirements for Yukon River Chinook Salmon harvested in the Federal subsistence fishery were adopted from the State regulations by the Board in 1998. While transcripts of Board meetings lack mention of public or Council comment on the matter, a proposal to eliminate marking requirements in Southeast Alaska (13-16) was submitted to the Board in 2013. The analysis indicated that fin clipping was not a traditional practice and that some residents feel that it is disrespectful to cultural ways of life (FSB 2013a, FSB 2013b). Also in 2013 the Board adopted a proposal, FP13-02, to change the marking requirements from clipping the dorsal fin to clipping the tips of the tail of subsistence Chinook salmon harvested in Districts 1, 2, and 3 of the Yukon River. All four effected Councils supported the change (FSB 2013b).

Table 2. U.S. Census Bureau population estimates for communities within or in proximity to Yukon River Districts 1-3, 1960-2010 (ADCCED 2018).

Community	1960	1970	1980	1990	2000	2010	2010 No. Households
District 1							
Alakanuk city	278	265	522	544	652	677	160
Nunam Iqua city	125	125	103	109	164	187	43
Emmonak city	358	439	567	642	767	762	185
Kotlik city	57	228	293	461	591	577	128
District 2							
Mountain Village city	300	419	583	674	755	813	184
Pitkas Point CDP	28	70	88	135	125	109	31
Saint Marys city	260	384	382	441	500	507	151
Pilot Station city	219	290	325	463	550	568	121
Marshall city	166	175	262	273	349	414	100
District 3							
Russian Mission city	102	146	169	246	296	312	73
Holy Cross city	256	199	241	277	227	178	64
Shageluk city	155	167	131	139	129	83	36

Effects of the Proposal

If the proposal were adopted, there would be a reduction of requirements on Federally qualified subsistence users on Federal public lands in Districts 1-3, saving them time, the possibility of being cited, and potentially ameliorating ethical and cultural concerns regarding unnecessary mutilation of the carcass. Effects on the salmon stocks are likely negligible as subsistence users are not likely to harvest more Chinook Salmon due to the removal of fin clipping.

Although this proposal would reduce the requirements for subsistence harvest for Federally qualified users, there are some potential drawbacks that may occur. State and Federal regulations would no longer be the same, complicating enforcement of these regulations and creating confusions about where and when it is legal for Federally qualified users to harvest Chinook Salmon without clipping fins. Districts 1 and 2 contain primarily Federal waters, as well as most of District 3. However, once out of the Yukon Delta National Wildlife Refuge land status becomes more varied and would require users to know the Federal public waters boundaries. Additionally, this proposal may make it easier for subsistence-caught fish to end up being illegally sold in the commercial fishery.

If the proposal was not adopted, the subsistence fishery in Districts 1-3 will continue to clip fins on subsistence-caught Chinook Salmon under State regulations. Federal and State subsistence management regulations would not remain the same.

OSM PRELIMINARY CONCLUSION

Support Proposal FP19-05 **with modification** to allow Federally qualified subsistence users to harvest Chinook Salmon without clipping the tails during times that the commercial sale of Chinook Salmon is not allowed and provide the updated language only one time in the regulations to avoid redundancy.

The modified regulation should read:

(e)(3) Yukon-Northern Area.

* * * *

(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.

* * * *

(xx) In Districts 1, 2, and 3, from June 1 through July 15.

(A) ***If the State of Alaska has announced that Chinook Salmon can be sold in the commercial fisheries, then*** *you may not possess Chinook salmon taken for subsistence purposes unless both tips (lobes) of the tail fin have been removed before the person conceals the salmon from plain view or transfers the salmon from the fishing site.*

Justification

Fin clipping is not a traditional practice and in some regions of Alaska, marking requirements have been described as burdensome and disrespectful to cultural ways of life (FSB 2013a). There have not been targeted Chinook Salmon commercial fisheries in the Yukon River for many years and there may not be any in the near future. The incidental harvest and sale of Chinook Salmon has been permitted by the State only occasionally in the recent past. Given the limited opportunity for commercial sale of subsistence-caught Chinook salmon, there is no need to burden subsistence users with marking requirements meant to prevent illegal sale of Chinook salmon. The modification to require fin clipping once the commercial sale of Yukon River Chinook salmon is announced, removes an unnecessary burden on subsistence users, but, leaves in place a requirement to clip fins as a deterrent to illegal sales of subsistence-caught fish.

Requiring fin clipping once the commercial sale of Yukon River Chinook Salmon is announced is necessary for law enforcement to affectively track and differentiate salmon harvested under Federal subsistence fisheries and State commercial fisheries. Given the proximity of these two fisheries in both space and time, the opportunity for illegal sale of Chinook Salmon may be elevated in times that sale of the species is allowed. Curbing such illegal sales is essential to prevent overharvest as a means for some rural residents to earn cash from an illegal activity. While fish marking requirements are warranted during these specific and recently limited times, they are not warranted at all times. Thus, providing balance between the two concerns ensures continued subsistence opportunity while reducing burden on Federally qualified subsistence users and being sensitive to their cultural concerns when possible. Modification of the proposed language avoids redundancy in Federal regulations.

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FP19–07 Executive Summary	
General Description	Proposal FP19-07, requests the Federal Subsistence Board (Board) revise Federal subsistence management regulations section §___.27(e)(3)(xii) by adding dip nets to the gear types allowed for the subsistence harvest of salmon on the Yukon River. *Submitted by: Yukon-Kuskokwim Delta Subsistence Regional Advisory Council*.
Proposed Regulation	***§___.27 Subsistence taking of fish*** * * * * *(xiii) You may take salmon only by gillnet, beach seine, fish wheel, or rod and reel, subject to the restrictions in this section.* ***Salmon may be harvested by dip net at any time, except in times of conservation, Chinook Salmon are required to be released alive.***
OSM Preliminary Conclusion	**Support** Proposal FP19-07 **with modification** to allow the Federal in-season manager to additionally require the live release of Chinook, Chum, or Coho Salmon during times of low salmon abundance rather than only Chinook Salmon**.**
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	

FP19–07 Executive Summary	
Written Public Comments	**None**

DRAFT STAFF ANALYSIS
FP19-07

ISSUES

Proposal FP19-07, submitted by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council (Council), requests the Federal Subsistence Board (Board) revise Federal subsistence management regulations section §___.27(e)(3)(xii) by adding dip nets to the gear types allowed for the subsistence harvest of salmon on the Yukon River.

DISCUSSION

According to the proponent, dip netting has been a traditional method of fish harvest for many communities on the Yukon River but is not currently a legal gear type for the harvest of salmon under Federal subsistence regulations. The Yukon Kuskokwim Delta Council has noted that it is allowed for commercial salmon harvest on the Yukon River by Alaska Department of Fish and Game (ADF&G) Emergency Order. Dip nets have proven to be an effective method of catching Chum Salmon with safe live release of Chinook Salmon.

Existing Federal Regulation

§___.27 Subsistence taking of fish

(e)(3) Yukon-Northern Area.

(i) Unless otherwise restricted in this section, you make take fish in the Yukon-Northern Area at any time. In those locations where subsistence fishing permits are required, only one subsistence permit will be issued to each household per year. You may subsistence fish for salmon with rod and reel in the Yukon River drainage 24 hours per day, 7 days per week, unless rod and reel are specifically otherwise restricted in paragraph (e)(3) of this section.

(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.

* * * *

(xiii) You may take salmon only by gillnet, beach seine, fish wheel, or rod and reel,

subject to the restrictions in this section.

* * * *

(xvi) Unless otherwise specified in this section, you may take fish other than salmon by set gillnet, drift gillnet, beach seine, fish wheel, long line, fyke net, dip net, jigging gear, spear, lead, or rod and reel, subject to the following restrictions, which also apply to subsistence salmon fishing:.

* * * *

Proposed Federal Regulation

§___.27 Subsistence taking of fish

* * * *

(xiii) You may take salmon only by gillnet, beach seine, fish wheel, or rod and reel, subject to the restrictions in this section. ***Salmon may be harvested by dip net at any time, except in times of conservation, Chinook Salmon are required to be released alive.***

* * * *

Existing State Regulation

5 AAC 01.220. Lawful gear and gear specifications

(a) Salmon may be taken only by gillnet, beach seine, a hook and line attached to a pole, handline, or fish wheel, subject to the restrictions set out in this section, 5 AAC 01.210, and 5 AAC 01.225-5 AAC 01.249.

* * * *

(m) Notwithstanding the provisions of (d), (e)(2), and (f)(2) of this section, during times when the commissioner determines that it is necessary for the conservation of chum salmon, the commissioner may, by emergency order, close the fishing season in the Yukon Area and immediately reopen the season in that area during which one or more of the following gear limitations may be implemented

* * * *

(3) dip nets may be used; however, all chum salmon caught with a dip net must be released into the water alive;

(n) Notwithstanding the provisions of (d), (e)(2), and (f)(2) of this section, during times when the commissioner determines that it is necessary for the conservation of king salmon, the commissioner may, by emergency order, close the fishing season in the Yukon Area and immediately reopen the season in that area during which one or more of the following gear limitations may be implemented

* * * *

(3) dip nets may be used; however, all king salmon caught with a dip net must be released into the water alive;

Extent of Federal Public Lands

For the purpose of this discussion, the phrase "Federal public waters" is defined as those waters described under 36 CFR 242.3 and 50 CFR 100.3. The Federal public waters addressed by this proposal are within the Yukon River Drainage within or adjacent to the Arctic National Wildlife Refuge, Gates of the Arctic National Park and Preserve, Innoko National Wildlife Refuge, Yukon Delta National Wildlife Refuge, Koyukuk National Wildlife Refuge, Kanuti National Wildlife Refuge, Nowitna National Wildlife Refuge, Denali National Park and Preserve, White Mountains National Recreation Area, Steese National Conservation Area, Yukon Charely Rivers National Preserve, Beaver Creek National Wild and Scenic River, Birch Creek National Wild and Scenic River, Delta Wild and Scenic River, Fortymile Wild and Scenic River, Tetlin National Wildlife Refuge, Yukon Flats National Wildlife Refuge, and Wrangell-St. Elias National Park and Preserve (Figure **1**).

Customary and Traditional Use Determinations

Rural residents of the Yukon River drainage and the community of Stebbins have customary and traditional use determination for Salmon, other than fall chum salmon in the Yukon River drainage.

Residents of the Yukon River drainage and the community of Chevak, Hooper Bay, Scammon Bay, and Stebbins have a customary and traditional use determination for Fall chum salmon in the Yukon River drainage.

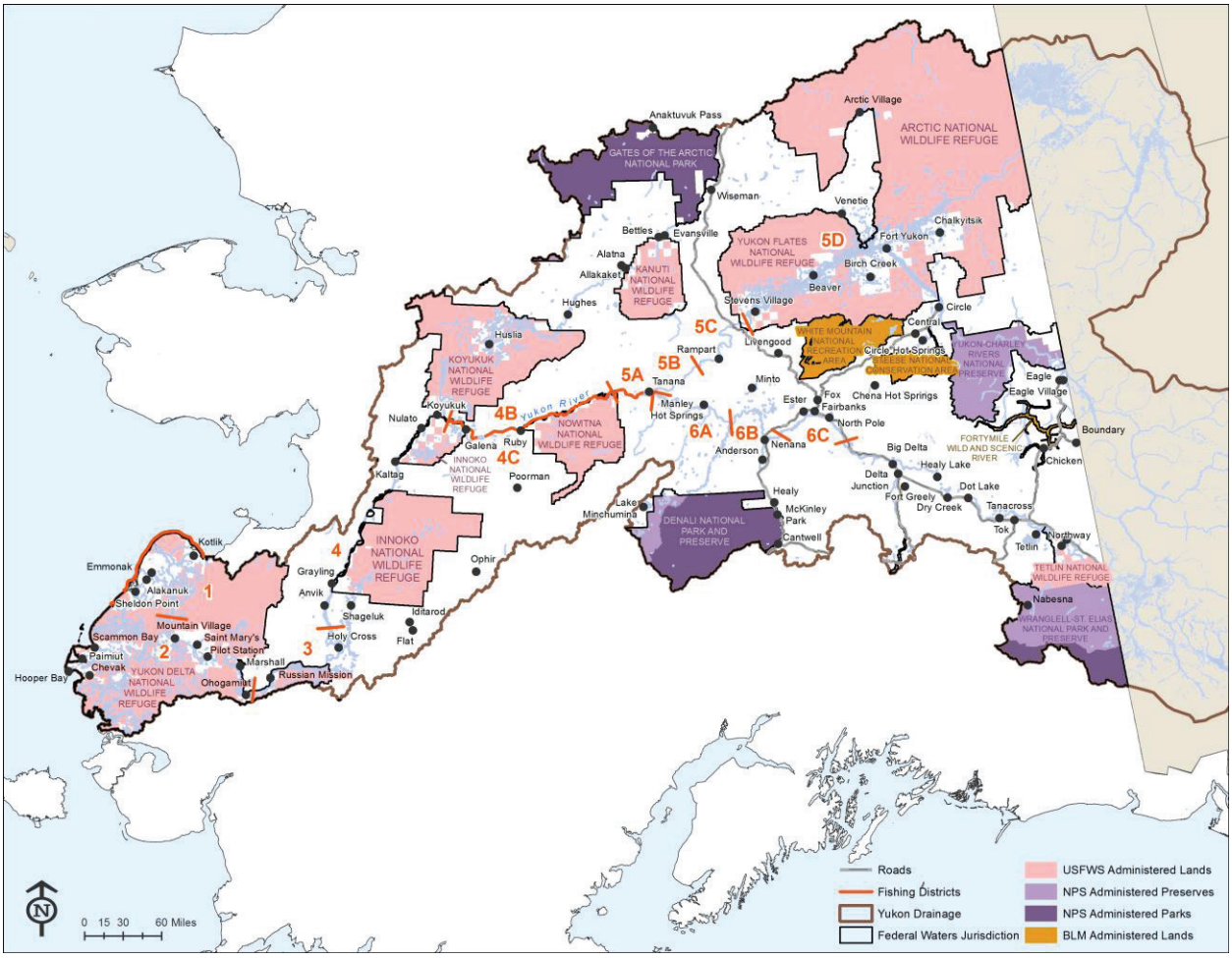

Figure 1. Yukon River with fishing Districts.

Regulatory History

State Regulatory History

In 2013, the Alaska Board of Fisheries adopted new commercial fishing regulations that allows the use of dip nets and beach seines to harvest salmon (Estensen et al. 2017). The rationale for adding these gear types was to allow fishing opportunity during times of low Chinook Salmon abundance.

Federal Regulatory History

Starting in October 1999, Federal subsistence management regulations for the Yukon-Northern Area stipulated that, unless otherwise restricted, rural residents may take salmon in the Yukon-Northern Area at any time by gillnet, beach seine, fish wheel, or rod and reel unless exceptions are noted. These methods were adopted from ADF&G methods for the Yukon Region at that time.

Biological Background

Chinook Salmon

Recent analyses indicate that Yukon River Chinook Salmon stocks appear to be in the third year of increasing productivity after the low returns of 2015. Historically, the stocks showed periods of above-average abundance (1982-1997) and periods of below-average abundance (1998 onwards), as well as periods of generally higher productivity (brood years 1993 and earlier) mixed with years of low productivity (brood years 1994-1996 and 2002-2005; Schindler et al. 2013).

The 2014 run was expected to be the smallest on record, with a projected size of 64,000-121,000 fish. Despite initial concerns, the cumulative passage estimate at the mainstem Yukon River sonar project in Pilot Station was approximately 138,000±17,000 (90% CI) fish (**Figure 2**). The passage estimate was still below the historical average of 143,000 fish and below the average of 195,800 fish for years with early run timing. As a result of severe management restrictions, all escapement goals that could be assessed were achieved, even with below average run sizes (JTC 2015).

The 2015 projected run size was 118,000-140,000 fish, which was once again below average yet higher than the previous year's projection. Cumulative passage estimates at the sonar station in Pilot Station were approximately 116,000±30,000 fish (90% CI) (**Figure 2**). As with the previous year, this number was still below the historical average. As a result of severe management restrictions, all escapement goals that could be assessed were achieved, even with below average run sizes (JTC 2016).

The 2016 run outlook was a below-average run of 130,000–176,000 fish (JTC 2017). Cumulative passage estimates at the sonar station in Pilot Station were approximately 176,898±18,466 fish (90% CI) (Liller, 2018 pers. comm). This number was near the recent historical average of 178,300 fish (ADF&G 2018), but is considered preliminary at this time. Conservative actions were relaxed slightly from previous years and all escapement goals were again met (JTC 2016).

The 2017 run outlook was slightly larger, but still below average: 140,000-194,000 fish (JTC 2017). Cumulative passage estimates at the Pilot Station sonar were approximately 263,000±29,000 fish (90% CI) (JTC 2018), which was the largest since 2003 (JTC 2017), is also considered preliminary. Subsistence management restrictions were further relaxed which resulted in harvests approximately two thirds of average and most escapement goals were met despite the poor water conditions that existed throughout the drainage. The numbers reported at the Pilot Station sonar do not factor in any harvest that occurs downstream, which can be significant during some years.

The 2018 run outlook is larger than in recent years, with a run size of 173,000-251,000 fish (ADF&G 2018). The upper end of the range could support an average subsistence harvest and while the low end of the range would likely result in restrictions to subsistence fisheries.

Summer Chum Salmon

Summer Chum Salmon runs in the Yukon River have provided a harvestable surplus in each of the last 15 years, 2003-2017. In 2017, the projected outlooks were for a run size of approximately 2 million fish, while the 2018 projection is expected to be similar or slightly lower than the 2017 run of approximately 3.6 million fish.

In 2016, approximately 1.92 million ±80,517 (90% CI) fish passed the Yukon River sonar project at Pilot Station, which was near the historical median for the project of 1.90 million fish. In 2017, the passage estimate at Pilot Station increased to 3.09 million ±138,259 (90% CI) (**Figure 3**). Most tributaries experienced average to above-average escapement in 2017 (JTC 2018). The Henshaw Creek weir counted a record number of Chum Salmon (360,687), which was only 13% smaller than the number counted at the Anvik River Sonar (415,139). The numbers reported at the Pilot Station sonar do not factor in any harvest that occurs downstream, which can be significant during some years.

Although all 2017 numbers are preliminary at this time, the 2018 run is anticipated to provide for escapements, normal subsistence harvest, and a surplus for commercial harvest (JTC 2018).

Fall Chum Salmon

Fall Chum Salmon runs in the Yukon River have provided a harvestable surplus in each of the last 8 years, 2010-2017. In 2017, the projected outlooks were for a run size of approximately 1.4-1.7 million fish, while the 2018 projection of 1.6-1.8 million fish is lower than the 2017 run of approximately 2.3 million fish (JTC 2018).

In 2016, approximately 994,760 million ±64,434 (90% CI) Fall Chum Salmon passed the Yukon River sonar project at Pilot Station, which was above the 1995-2016 median for the project of 688,057 fish. In 2017, the passage estimate at Pilot Station increased to 1.83 million ±54,179 (90% CI) and was the second largest run in 43 years (**Figure 4**). Most tributaries experienced average to above-average escapement in 2017 (JTC 2018) although all 2017 numbers are preliminary at this time. The numbers reported at the Pilot Station sonar do not factor in any harvest that occurs downstream, which can be significant during some years.

The 2018 run is anticipated to provide for escapements, normal subsistence harvest, and a surplus for commercial harvest (JTC 2018).

Coho Salmon

In 2016 approximately 168,297 ± 11,180 (90% CI) Coho Salmon passed the Yukon River sonar project at Pilot Station, which was slightly above the historical median of 160,272 fish. In 2017, the passage estimate at Pilot Station decreased to 166,330 ±20,300 (90% CI) which was also slightly above the historical median (**Figure 5**). All 2017 numbers are preliminary at this time. The Coho Salmon outlook is based upon parent year escapements assuming average survival. Since Coho Salmon predominately return as age 2.1 fish (4 year old fish), the major contributor to the 2018 returns are from the 2014 parent year. Therefore, the 2018

outlook is for average to above average returns in 2018. The numbers reported at the Pilot Station sonar do not factor in any harvest that occurs downstream, which can be significant during some years.

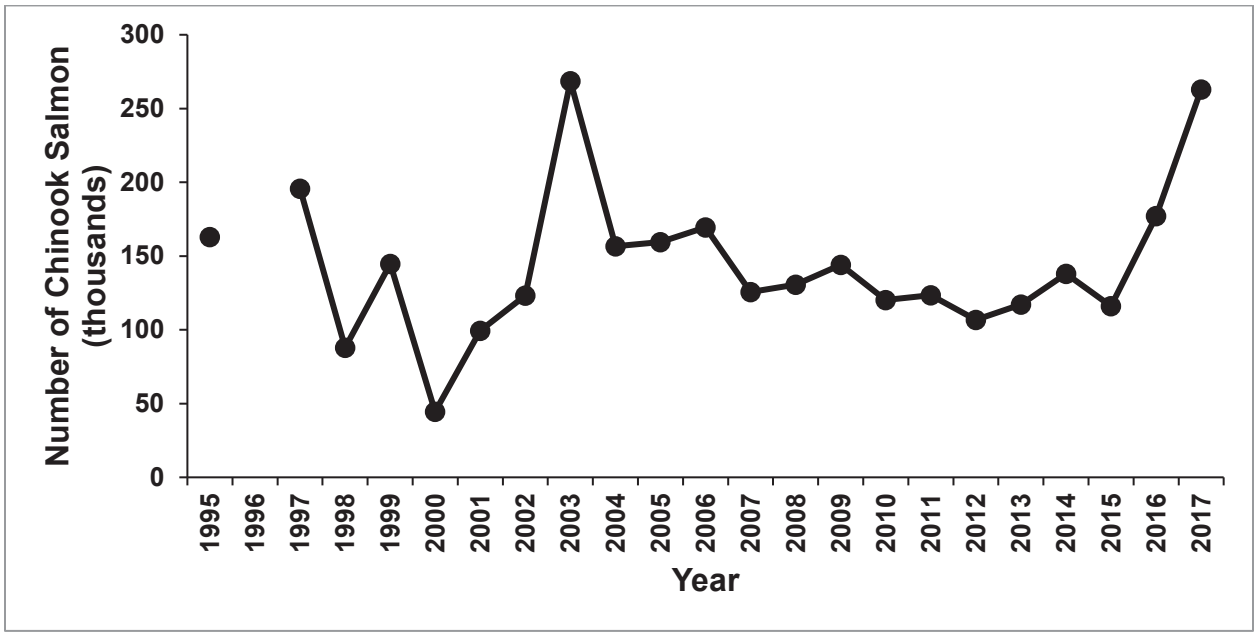

Figure 2. Chinook Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

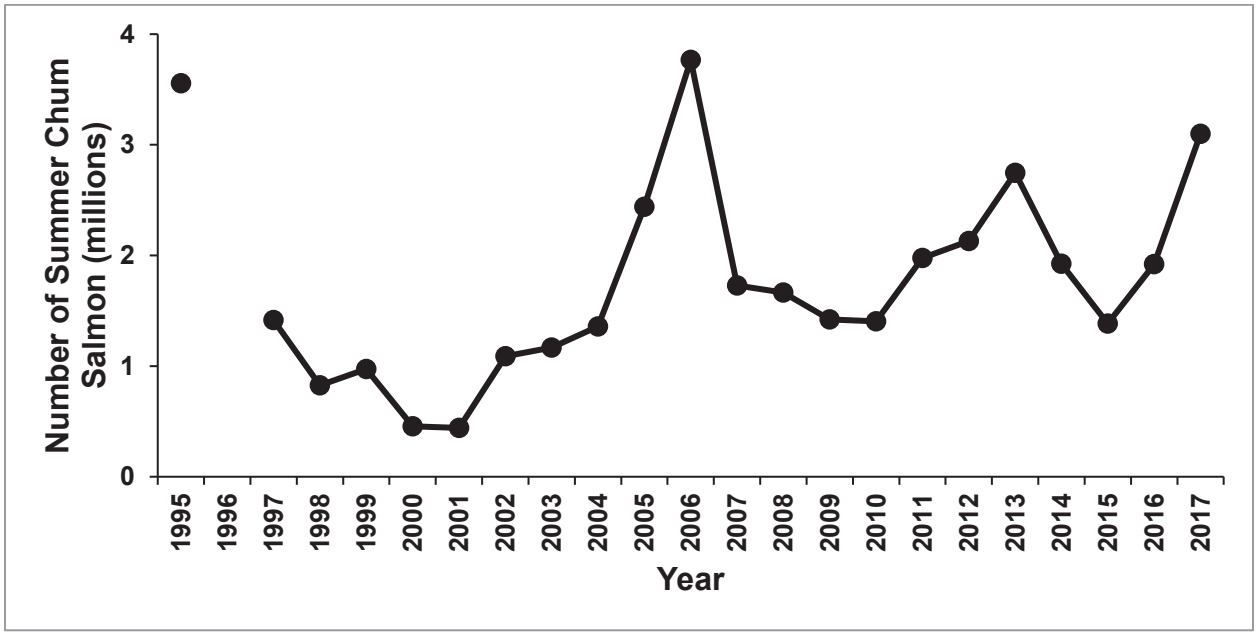

Figure 3. Summer Chum Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

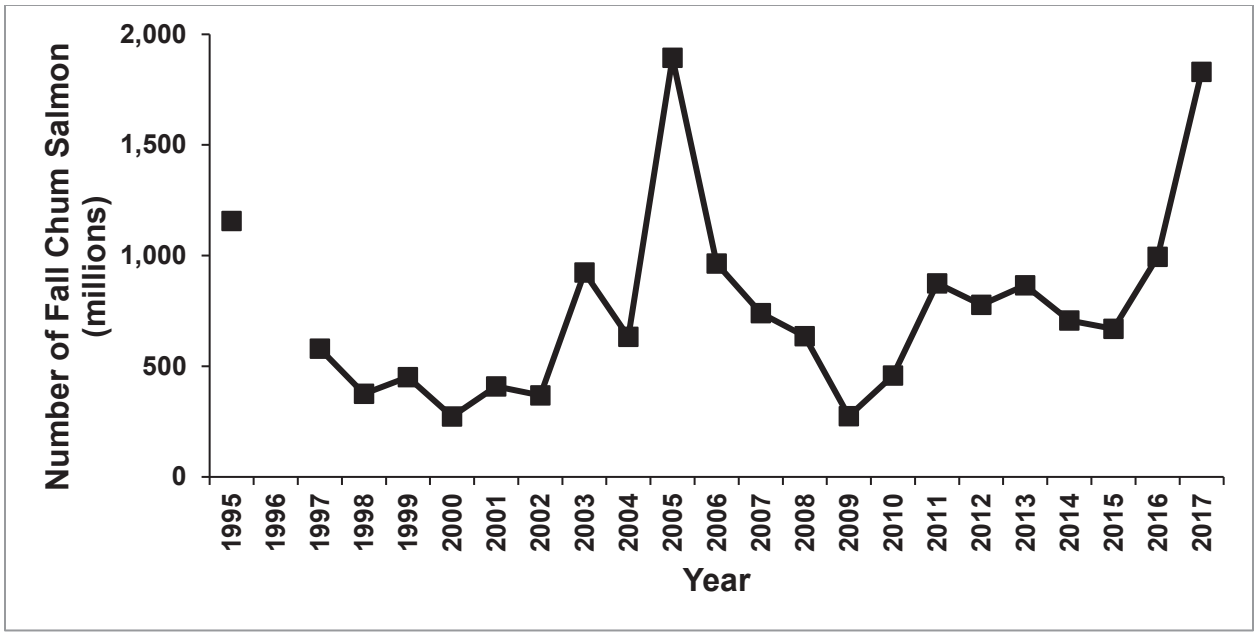

Figure 4. Fall Chum Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

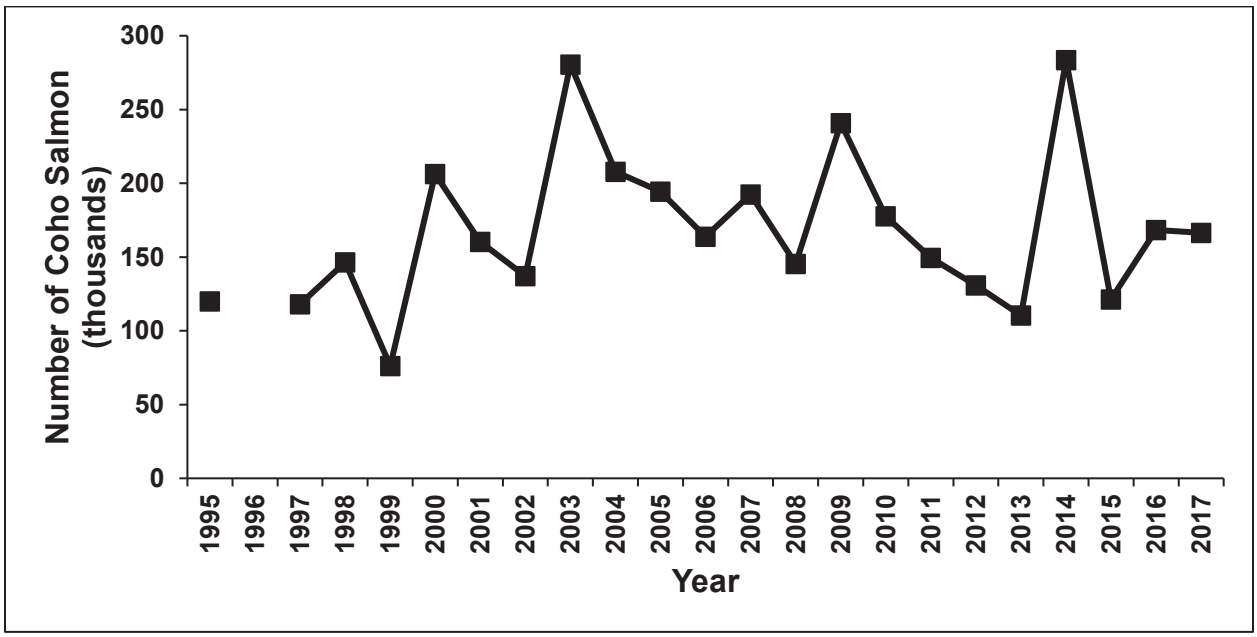

Figure 5. Coho Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

Harvest History

Distribution and availability of salmon varies throughout the Yukon River drainage. Summer Chum Salmon are uncommon in the Yukon River drainage above the Tanana River, while the fall Chum Salmon spawning grounds are mainly from the Tanana River upstream (Estensen et al, 2017). The lack of Summer

Chum Salmon in the upper portions of the drainage places a bigger reliance on Chinook Salmon in the early season for these communities. This information is reflected in the 2014 ADF&G subsistence salmon harvest estimates (Jallen et al. 2017). It is important to make the distinction on locations and timing when discussing possible changes to Federal subsistence fishing regulations, as not every village has the same fishing opportunities.

Chinook Salmon

Subsistence

Subsistence harvest of Chinook Salmon in the Alaska portion of the Yukon River averaged 34,791 fish from 1961-2015, with a high of 62,486 in 1993 and a low of 2,724 in 2014 (JTC 2017) (**Figure 6**). The 2014 Chinook Salmon subsistence harvest of 2,724 fish was the lowest on record for the Alaska portion of the Yukon River drainage. Harvest increased in 2015, 2016 and 2017 with 7,577, 21,627, and 36,992 fish harvested respectively. The 2017 harvest estimate, though preliminary, is larger than the 2007-2016 average (29,514) and over 2 times the number of the recent 5 year average of 15,088 (JTC 2018). The 2017 harvest is the largest since 2011.

Commercial

Chinook Salmon have not been targeted in the commercial fishery for 10 years and the sale of incidentally caught Chinook Salmon was prohibited for the seventh consecutive year during the 2017 summer season. However, there was a small opportunity during the fall fishing seasons were fish were sold in Districts 1 and 2 in 2011 (82) and 2017 (168). The 1961-2016 average commercial harvest is 88,092 with a recent 10 year average of 9,714 (JTC 2018).

Sportfish

Sport fishing harvest of Chinook Salmon are generally low in the Yukon River drainage. The 2012-2016 average sport fishing harvest within the Alaska portion of the Yukon River was estimated to be 105 Chinook Salmon (JTC 2018). The majority of sport fishing effort in the drainage occurs in the Tanana River drainage (District 6). Outside of the Tanana River, the Andreafsky (in District 2) and Anvik (in District 4) rivers receive the bulk of the remaining effort. During 2017, sport fishing was allowed after June 20, and allowed for a bag limit of 1 Chinook Salmon 20-inches or greater (JTC 2018).

Summer Chum Salmon

Subsistence

Subsistence harvest of Summer Chum Salmon in the Alaska portion of the Yukon River averaged 129,766 fish from 1970-2016, with a high of 227,829 in 1988 and a low of 72,155 in 2001 (JTC 2018) (**Figure 7**). The 2012-2016 average harvest is estimated to be 100,113 Summer Chum Salmon, and the harvest estimate from 2014-2017 has remained relatively constant. The preliminary 2017 harvest is 87,252 Summer Chum

Salmon. Summer Chum Salmon are predominately harvested in Yukon area Districts 1-4, and 6. Few Summer Chum Salmon migrate upstream of the Tanana River in the Yukon River mainstream.

Commercial

Commercial harvest of Chum Salmon in the Alaska portion of the Yukon River averaged 382,635 fish from 1970-2016, with a high of 1,148,650 in 1988 and a low of 0 in 2001 (JTC 2018). Since 2001, commercial catches of Summer Chum Salmon has increased dramatically, with a 2012-2016 average of 444,094 fish. The preliminary 2017 harvest is 555,296 Summer Chum salmon.

Sportfish

Sport fishing harvest of Summer Chum Salmon is generally low in the Yukon River drainage. The 2012-2016 average sport fishing harvest within the Alaska portion of the Yukon River was estimated to be 264 Summer Chum Salmon (JTC 2018). The majority of sport fishing effort in the drainage occurs in the Tanana River drainage (District 6). Outside of the Tanana River, the Andreafsky (in District 2) and Anvik (in District 4) rivers receive the bulk of the remaining effort.

Fall Chum Salmon

Subsistence

Subsistence harvest of fall Chum Salmon in the Alaska portion of the Yukon River averaged 105,167 fish from 1961-2016, with a high of 342,819 in 1987 and a low of 19,395 in 2000 (JTC 2018) (**Figure 8**). The 2012-2016 average harvest is estimated to be 95,294 fall Chum Salmon, and the harvest estimate from 2014-2017 has remained relatively constant. The preliminary 2017 harvest is 86,189 fall Chum Salmon.

Commercial

Commercial harvest of fall Chum Salmon in the Alaska portion of the Yukon River averaged 157,467 fish from 1961-2016, with a high of 466,451 in 1981 and a low of 0 in 1987, 1993, 2000, 2001, and 2002 when no commercial fishery was conducted (JTC 2018). Since 2002, commercial catches of fall Chum Salmon has varied dramatically, and the 2012-2016 average is 260,042 fish. The preliminary 2017 harvest is 489,702 fall Chum salmon.

Sportfish

Sport fishing harvest of fall Chum Salmon is generally low in the Yukon River drainage, with no data presented (JTC 2018).

Coho Salmon

Subsistence

Subsistence harvest of Coho Salmon in the Alaska portion of the Yukon River averaged 22,400 fish from 1961-2016, with a high of 82,371 in 1987 and a low of 3,966 in 1970 (JTC 2018) (**Figure 9**). The 2012-2016 average harvest is estimated to be 16,003 Coho Salmon, while the harvest estimate from 2016 and 2017 has decreased. The preliminary 2017 harvest is 7,645 Coho Salmon.

Commercial

Commercial harvest of Coho Salmon in the Alaska portion of the Yukon River averaged 38,031 fish from 1961-2016, with a high of 201,482 in 2016 and a low of 0 in 1987, 1993, 2000, 2001, and 2002 when no commercial fishery was conducted (JTC 2018). Since 2002, commercial catches of Coho Salmon has varied dramatically, and the 2012-2016 average is 115,372 fish. The 2017 harvest is 138,915 Coho salmon. All harvest data from 2016 and 2017 is preliminary.

Sportfish

Sport fishing harvest of Coho Salmon is generally low in the Yukon River drainage. The 2012-2016 average sport fishing harvest within the Alaska portion of the Yukon River was estimated to be 703 Coho Salmon (JTC 2018). The majority of sport fishing effort in the drainage occurs in the Tanana River drainage (District 6). Outside of the Tanana River, the Andreafsky (in District 2) and Anvik (in District 4) rivers receive the bulk of the remaining effort.

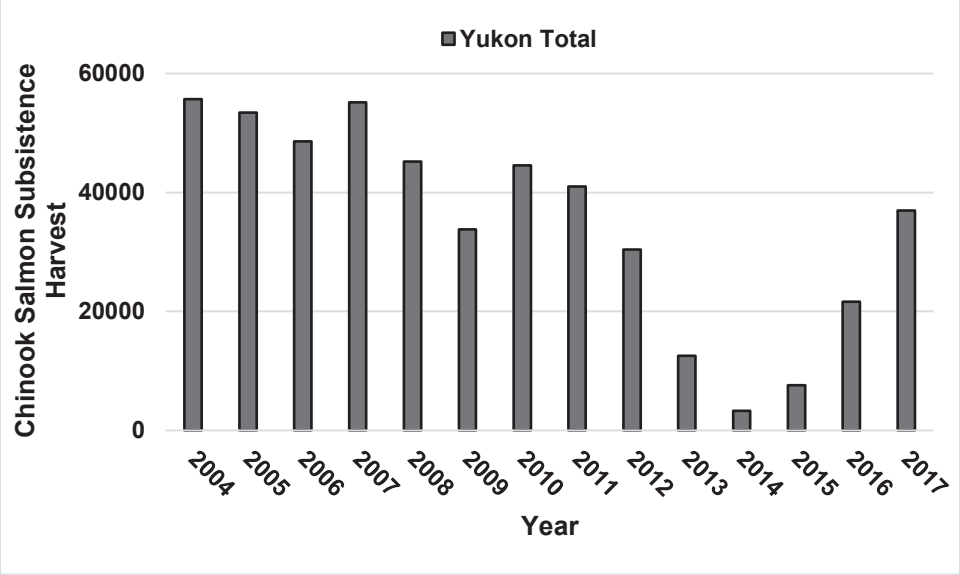

Figure 6. Chinook Salmon subsistence harvest in the Alaska portion of the Yukon River from 2004 to 2014 (Jallen et al. 2017).

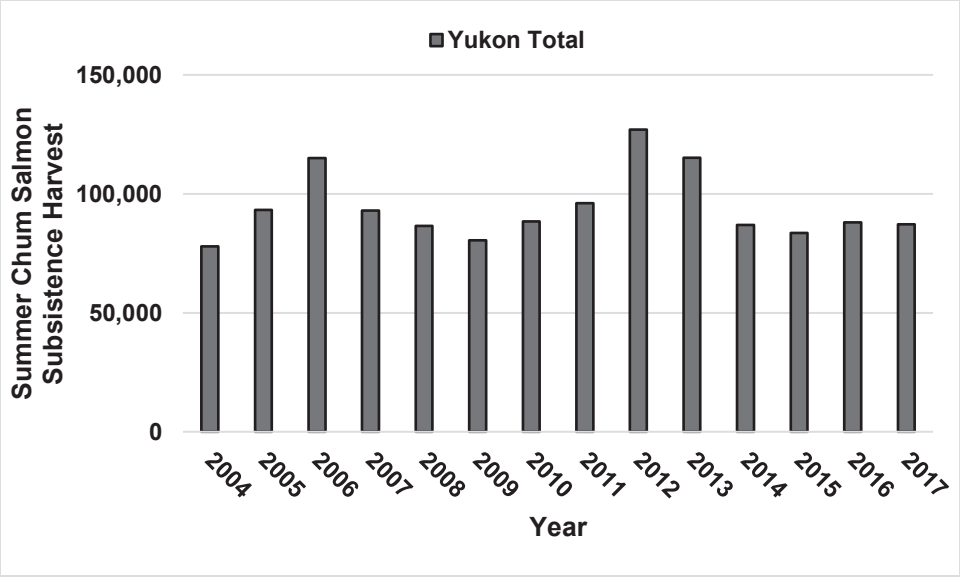

Figure 7. Summer Chum Salmon subsistence harvest in the Alaska portion of the Yukon River from 2004 to 2014 (Jallen et al. 2017).

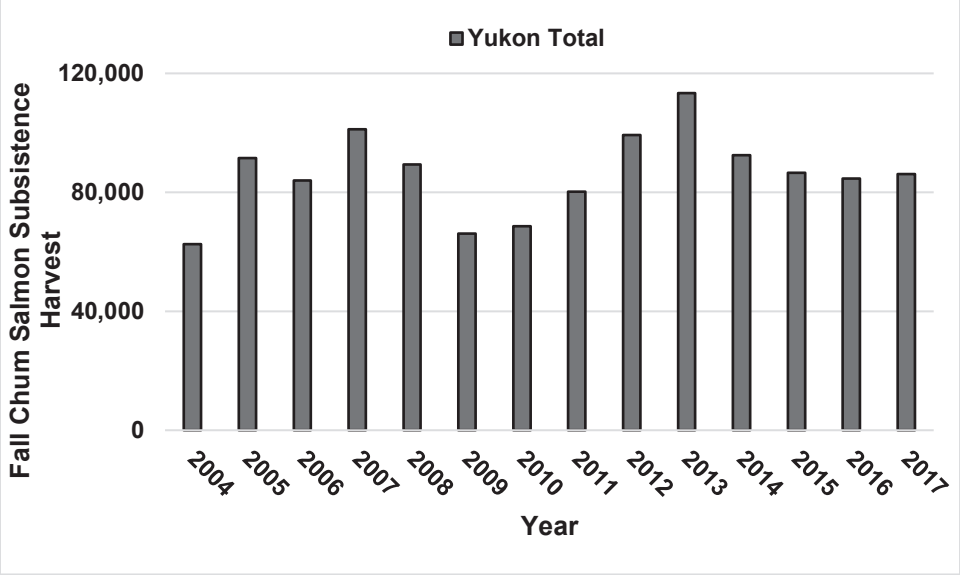

Figure 8. Fall Chum Salmon subsistence harvest in the Alaska portion of the Yukon River from 2004 to 2014 (Jallen et al. 2017).

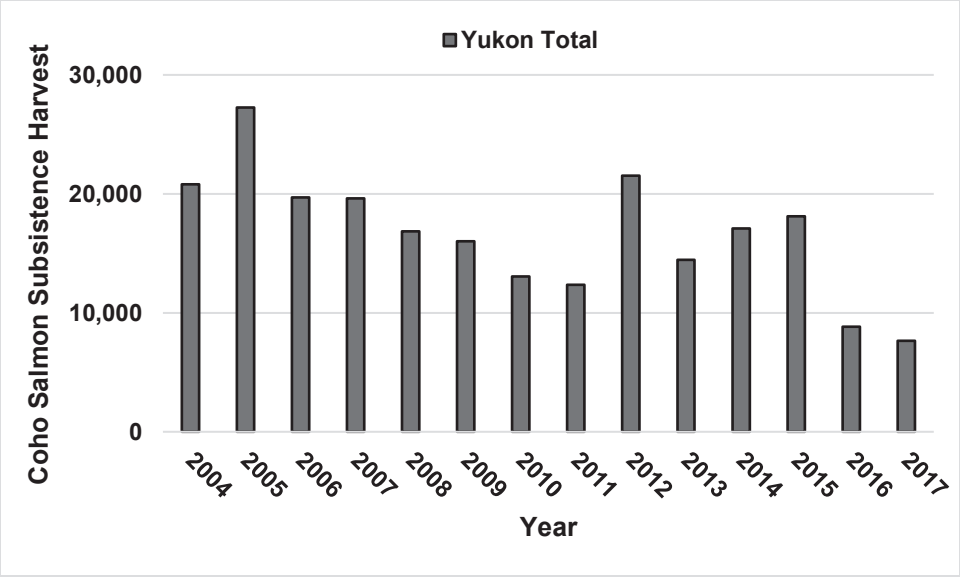

Figure 9. Coho Salmon subsistence harvest in the Alaska portion of the Yukon River from 2004 to 2014 (Jallen et al. 2017).

Cultural Knowledge and Traditional Practices

The use and importance of salmon and other non-salmon species for Yukon River communities has been documented through oral histories and harvest surveys conducted in the area. Historically, many Yukon communities followed a semi-nomadic, subsistence lifestyle, spending time at seasonal camps, migrating with the resources and harvesting various species of fish, along with hunting and gathering subsistence resources. Humans have lived in the Yukon area for over 10,000 years (Rainey 1940, Cinq-Mars 1979) and fishing was a family and community activity, deeply ingrained in to the cultures of the people in this area. People traditionally used weirs and fish traps, and nets made of animal sinew and willow bark and more recently employed commercially made set nets along with hand-made fish wheels for salmon at their fish camps. Multi-generational family groups would travel to seasonal camps to harvest fish and wildlife. Although fewer young people spend time at seasonal camps now due to employment, school, and other responsibilities, subsistence fishing continues to be important for communities up and down the river. According to surveys, many older people recalled whole families spending long hours at their fish camps, harvesting, processing, and preserving fish. Children learned about subsistence activities from their elders at fish camp (Brown et al. 2010; Brown et al. 2015).

Salmon is considered the most reliable and significant subsistence resource on the Lower Yukon River. Salmon has always been an important part of the culture, economically and socially, and the knowledge of how to catch, process, and preserve fish has been passed down from generation to generation. Before contact by outsiders dried fish was regularly traded between Yukon villages along with other commodities such as furs and sea mammal products (Wolfe 1981).

Yukon River residents are dependent on the harvest of salmon, especially Chinook Salmon, for both subsistence and commercial uses. Starting in the late 1990s, Chinook Salmon began to decline so people

harvested more summer and fall Chum Salmon along with other subsistence resources (Brown et al. 2015). In the 1960s, people started using gillnets to drift fish for salmon for personal and commercial use. Today fishing still plays an important cultural role in the communities along the lower and middle Yukon River, and the knowledge of how and when to fish is still passed down from generation to generation.

Customary trade of fish is also an important part of continuing trade networks in rural areas of Alaska. Salmon fishing takes place in the summer and timing is based on the runs for various species. Local residents also use nets under the ice to fish for Northern Pike, whitefish, or Sheefish in the spring before breakup. Communities have used various types of nets and fish wheels to harvest fish through the generations. Fish wheels are used less now than they were in the past when people were catching more fish to feed sled dogs, but are still used in some areas, mainly to catch fish for human consumption (Brown et al. 2010). Chum Salmon, once primarily used for dog food, were caught using nets set from the shore but are now consumed in large quantities by people in the US and overseas that attain the resource through the commercial fishing industry. As more village runways were built, increasing air travel, and more snow machines were brought to the villages, the dependency on sled dogs was reduced, reducing the need for harvesting fish to feed dogs (Brown et al. 2015).

Gear types and their use have changed over time in response to conservation and management actions to protect Chinook salmon (see Regulatory History). Management goals have been to provide adequate subsistence salmon fishing opportunity while conserving Chinook Salmon stocks. According to a Federal in-season manager in 2017, local people have been actively engaged in finding solutions and have been "willing to try dip nets and beach seines and gear" that are selective and that allow the live release of Chinook Salmon (FSB 2017; p. 63). During their winter 2018 meeting, members of the Yukon-Kuskokwim Delta Council reiterated that dip nets could be useful in times of conservation need, but also that they provide additional opportunity that could be important to some people (YKDRAC 2018). One member additionally indicated that this method is traditionally used (YKDRAC 2018; p 227):

> Because historically my grandmother and I would go sit, when we used to have a fish camp on Flat Island, and we'd sit there for a week straight catching fall chum with a dip net on the banks of where our fish camp was and so, I guess I don't know where else to go from there.

There is some local concern however that allowing the use of dip nets in the Federal subsistence salmon fishery could lead to future restrictions on the use of gillnets. In some areas of the Yukon the ability to use gillnets may not result in additional harvest opportunity because of topography and hydrological conditions that prevent adequate access. Residents of the Kuskokwim River have reported that while use of dip nets is an option for harvest in times of Chinook conservation since it allows live release of Chinook Salmon , in most areas of the Kuskowkim River it is an inefficient method of harvesting Chum and Sockeye Salmon in large enough numbers to fill smokehouses as they would using gill nets. The concern expressed was that while dipnets could be viewed as a management tool for providing subsistence fishing opportunity during times of Chinook conservation, the reality is that for many locations and communities it is not a viable method for adequate subsistence salmon harvest in lieu of use of gill nets.

The use, harvest, and dependence of salmon resources can vary by community based on cultural practices, resource availability, economics and many other factors. Yukon River drainage residents exhibit these variations generally within the lower, middle, and upper stretches of the drainage. Communities present along the river and their populations over time, by fishing district, are represented in **Appendix 1**.

Effects of the Proposal

Adoption of this proposal as submitted will allow for more subsistence fishing opportunity for Federally qualified subsistence users on Federal public lands in the Yukon River Drainage. Effects on the salmon stocks would likely be negligible. Adoption of dip net usage may be slow in some communities, as some have expressed interest in its use while others have not.

Although this proposal would increase opportunities for subsistence harvest for Federally qualified users, there are some potential drawbacks. State and Federal regulations would no longer be aligned, complicating enforcement of these regulations and creating confusions about where and when the gear is legal.

Dip nets can be fairly effective at harvesting fish in the Yukon River. During times of lower abundance, managers would need to be aware of fishing effort with this gear type and manage appropriately. However, the selectivity of this gear type can make it an excellent tool when there is a conservation concern on one or more species while executing a mixed stock fishery.

If no change is made, the Federal subsistence fishery will not allow dip nets to be used to harvest salmon. However, Federally qualified subsistence users will still be allowed to harvest salmon with dip nets by emergency order from ADF&G during times of Chinook or Chum Salmon conservation.

OSM PRELIMINARY CONCLUSION

Support Proposal FP19-07 **with modification** to allow the Federal in-season manager to additionally require the live release of Chinook, Chum or Coho Salmon during times of low salmon abundance rather than only Chinook Salmon.

The modified regulation should read:

§___.27 Subsistence taking of fish

* * * *

(xiii) You may take salmon only by gillnet, beach seine, fish wheel, ***dip net*** *or rod and reel, subject to the restrictions in this section.*

****

(C) Salmon may be harvested by dip net at any time, except during times of

conservation, the Federal in-season manager may announce restrictions on time, area, and species.

* * * *

Justification

Adoption of this proposal would result in additional opportunity for Federally qualified subsistence users in the Yukon River drainage. The selective nature of this gear would allow for the release of species that need protection during times of low abundance while still allowing the harvest of species that are returning in large enough numbers to provide a harvestable surplus. The impact to the salmon stocks would likely be minimal.

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Appendix 1. Population data for communities within the Yukon River drainage fishing districts, 1960-2010.

U.S. CENSUS POPULATION							
Community	**1960**	**1970**	**1980**	**1990**	**2000**	**2010**	**2010 number of households**
Stebbins city	158	231	331	400	547	556	134
Outside drainage subtotal	**158**	**231**	**331**	**400**	**547**	**556**	**134**
Alakanuk city	278	265	522	544	652	677	160
Nunam Iqua city	125	125	103	109	164	187	43
Emmonak city	358	439	567	642	767	762	185
Kotlik city	57	228	293	461	591	577	128
District 1 subtotal	**818**	**1,057**	**1,485**	**1,756**	**2,174**	**2,203**	**516**
Mountain Village city	300	419	583	674	755	813	184
Pitkas Point CDP	28	70	88	135	125	109	31
Saint Marys city	260	384	382	441	500	507	151
Pilot Station city	219	290	325	463	550	568	121
Marshall city	166	175	262	273	349	414	100
District 2 subtotal	**973**	**1,338**	**1,640**	**1,986**	**2,279**	**2,411**	**587**
Russian Mission city	102	146	169	246	296	312	73
Holy Cross city	256	199	241	277	227	178	64
Shageluk city	155	167	131	139	129	83	36
District 3 subtotal	**513**	**512**	**541**	**662**	**652**	**573**	**173**
Anvik city	120	83	114	82	104	85	33
Grayling city	0	139	209	208	194	194	55
Kaltag city	165	206	247	240	230	190	70
Nulato CDP	183	308	350	359	336	264	92
Koyukuk city	128	124	98	126	101	96	42
Huslia city	168	159	188	207	293	275	91
Hughes city	69	85	73	54	78	77	31
Allakaket city	115	174	163	170	97	105	44
Alatna CDP				31	35	37	12
Bettles city	77	57	49	36	43	12	9
Evansville CDP	77	57	45	33	28	15	12
Wiseman CDP	0	0	8	33	21	14	5
Coldfoot CDP					13	10	6
Galena city	261	302	765	833	675	470	190
Ruby city	179	145	197	170	188	166	62
District 4 subtotal	**1,542**	**1,839**	**2,506**	**2,582**	**2,436**	**2,010**	**754**
Tanana city	349	120	388	345	308	246	100
Rampart CDP	49	36	50	68	45	24	10
Stevens Village CDP	102	74	96	102	87	78	26
Beaver CDP	101	101	66	103	84	84	36
Fort Yukon city	701	448	619	580	595	583	246
Chalkyitsik CDP	57	130	100	90	83	69	24

Continued on next page

Appendix 1. *Continued from previous page*

U.S. CENSUS POPULATION							
Community	**1960**	**1970**	**1980**	**1990**	**2000**	**2010**	**2010 number of households**
Arctic Village CDP	110	85	111	96	152	152	65
Venetie CDP	107	112	132	182	202	166	61
Birch Creek CDP	32	45	32	42	28	33	17
Circle CDP	41	54	81	73	100	104	40
Chicken CDP	0	0	0	0	17	7	5
Central CDP	28	26	36	52	134	96	53
Eagle Village CDP	0	0	54	35	68	67	31
Eagle city	92	36	110	168	129	86	41
District 5 subtotal	**1,769**	**1,267**	**1,875**	**1,936**	**2,032**	**1,795**	**755**
Livengood CDP					29	13	7
Manley CDP	72	34	61	96	72	89	41
Minto CDP	161	168	153	218	258	210	65
Whitestone CDP						97	22
Nenana city	286	362	470	393	402	378	171
Four Mile Road CDP					38	49	14
Healy CDP	67	79	334	487	1,000	1,021	434
McKinley Park CDP	0	0	60	171	142	185	109
Anderson city	341	362	517	628	367	246	90
Ferry CDP				56	29	33	17
Lake MinChumina CDP	0	0	22	32	32	13	6
Cantwell CDP	85	62	89	147	222	219	104
Delta Junction city	0	703	945	652	840	958	377
Fort Greely CDP	0	1,820	1,635	1,299	461	539	236
Deltana CDP					1,570	2,251	784
Healy Lake CDP	0	0	33	47	37	13	7
Big Delta CDP	0	0	285	400	749	591	206
Dry Creek CDP	0	0	0	106	128	94	29
Dot Lake CDP	56	42	67	70	19	13	7
Dot Lake Village CDP					38	62	19
Tanacross CDP	102	84	117	106	140	136	53
Tetlin CDP	122	114	107	87	117	127	43
Tok CDP	129	214	589	935	1,393	1,258	532
Northway CDP	196	40	73	123	95	71	27
Northway Jct. CDP	0	0	0	88	72	54	20
Northway Village CDP						98	
Alcan border CDP	0	0	0	27	21	33	16
Nabesna CDP						5	3
District 6 subtotal	**1,617**	**4,084**	**5,557**	**6,168**	**8,271**	**8,856**	**3,439**
TOTAL	**7,390**	**10,328**	**13,935**	**15,490**	**18,391**	**18,404**	**6,358**

CDP=Census Designated Place. Black cell=information is not available. Source: ADCCED 2014.

FP19–01 Executive Summary	
General Description	Proposal FP19-01 requests an expansion of the area and fishing time for the Federal subsistence drift gillnet fishery in Subdistricts 4B and 4C of the Yukon/Northern Federal Subsistence Fishery Management Area. The proponent also requests repealing the maximum mesh depth restriction of 35 meshes deep for drift gill nets used in Subdistricts 4B and 4C in the fishery. *Submitted by: Jack Reakoff.*
Proposed Regulation	*§___.27(e)(3)* ***Yukon-Northern Area*** * * * * *(xv) In Districts 4, 5, and 6, you may not take salmon for subsistence purposes by drift gillnets, except as follows:* *(A) In Subdistrict 4A upstream from the mouth of Stink Creek, you may take Chinook salmon by drift gillnets less than 150 feet in length from June 10 through July 14, and chum salmon by drift gillnets after August 2; unless closed by the Federal In-season Manager; from June 10 through August 2, the Federal In-season Manager may open fishing periods during which chum salmon may be taken by drift gillnets* *(B) In Subdistrict 4A downstream from the mouth of Stink Creek, you may take Chinook salmon by drift*

FP19–01 Executive Summary	
	gillnets less than 150 feet in length from June 10 through July 14; unless closed by the Federal In-season Manager; from June 10 through August 2, the Federal In-season Manager may open fishing periods during which chum salmon may be taken by drift gillnets. *(C) In the Yukon River mainstem, Subdistricts 4B and 4C~~: you may take Chinook salmon during the weekly subsistence fishing opening(s) by drift gillnets no more than 150 feet long and no more than 35 meshes deep, from June 10 through July 14.~~* ***(1) Chinook salmon may be taken by drift gillnets from June 10 through July 14, unless closed by special action by the Federal in-season manager;*** ***(2) From June 10 through August 2, the Federal in-season manager may open, by special action, fishing periods during which chum salmon***

FP19–01 Executive Summary	
	may be taken by drift gillnets; and ***(3) Chum salmon may be taken drift gillnets after August 2.*** ***(D) A person may not operate a drift gillnet that is more than 150 feet in length during seasons described in (C)(1), (2), and (3) of this subsection.***
OSM Preliminary Conclusion	**Support** Proposal FP19-01.
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	**None**

DRAFT STAFF ANALYSIS
FP19-01

ISSUES

Proposal FP19-01, submitted by Jack Reakoff of Wiseman, requests an expansion of the area and fishing time for the Federal subsistence drift gillnet fishery in Subdistricts 4B and 4C of the Yukon/Northern Federal Subsistence Fishery Management Area. The proponent also requests repealing the maximum mesh depth restriction of 35 meshes deep for drift gill nets used in Subdistricts 4B and 4C in the fishery.

DISCUSSION

The proponent states that adoption of this proposal would align Federal subsistence fisheries methods, means, seasons, and area regulations with recent State regulatory changes for the drift gillnet fisheries in Subdistricts 4B and 4C of the Yukon River drainage, and would mirror the States absence of a drift gillnet mesh depth limit. The proponent indicates adoption of this proposal will reduce the amount of travel time and associated expenses for subsistence users who choose to use drift gillnets to harvest salmon. The proponent indicates that removing the drift gillnet mesh depth maximum, combined with more liberal fishing season dates for fall Chum Salmon, would reflect recent changes made by the State and will increase compliance with regulations as well as reduce enforcement concerns.

The proponent also states adoption of this proposal will result in a negligible increase in salmon harvests and therefore, would not present a conservation concern. If this proposal is adopted, drift gill nets in this area may be utilized only if Chinook and/or Chum Salmon abundances allow for a harvestable surplus. The Western Interior Alaska Subsistence Regional Advisory Council (Council) submitted written comments to the BOF in support of Proposal 230, which lead to the submission of this proposal to the Federal Subsistence Board. Although the proponent is the Council's chair, Mr. Reakoff submitted the proposal as a private citizen.

Existing Federal Regulation

§___.27(e)(3) ***Yukon-Northern Area***

* * * *

(xv) In Districts 4, 5, and 6, you may not take salmon for subsistence purposes by drift gillnets, except as follows:

(A) In Subdistrict 4A upstream from the mouth of Stink Creek, you may take Chinook salmon by drift gillnets less than 150 feet in length from June 10 through July 14, and chum salmon by drift gillnets after August 2; unless closed by the Federal In-season

Manager; from June 10 through August 2, the Federal In-season Manager may open fishing periods during which chum salmon may be taken by drift gillnets

(B) In Subdistrict 4A downstream from the mouth of Stink Creek, you may take Chinook salmon by drift gillnets less than 150 feet in length from June 10 through July 14; unless closed by the Federal In-season Manager; from June 10 through August 2, the Federal In-season Manager may open fishing periods during which chum salmon may be taken by drift gillnets.

(C) In the Yukon River mainstem, Subdistricts 4B and 4C you may take Chinook salmon during the weekly subsistence fishing opening(s) by drift gillnets no more than 150 feet long and no more than 35 meshes deep, from June 10 through July 14.

Proposed Federal Regulation

§___.27(e)(3) ***Yukon-Northern Area***

* * * *

(xv) In Districts 4, 5, and 6, you may not take salmon for subsistence purposes by drift gillnets, except as follows:

(A) In Subdistrict 4A upstream from the mouth of Stink Creek, you may take Chinook salmon by drift gillnets less than 150 feet in length from June 10 through July 14, and chum salmon by drift gillnets after August 2; unless closed by the Federal In-season Manager; from June 10 through August 2, the Federal In-season Manager may open fishing periods during which chum salmon may be taken by drift gillnets

(B) In Subdistrict 4A downstream from the mouth of Stink Creek, you may take Chinook salmon by drift gillnets less than 150 feet in length from June 10 through July 14; unless closed by the Federal In-season Manager; from June 10 through August 2, the Federal In-season Manager may open fishing periods during which chum salmon may be taken by drift gillnets.

*(C) In the Yukon River mainstem, Subdistricts 4B and 4C**:*** ~~*you may take Chinook salmon during the weekly subsistence fishing opening(s) by drift gillnets no more than 150 feet long and no more than 35 meshes deep, from June 10 through July 14.*~~

(1) Chinook salmon may be taken by drift gillnets from June 10 through July 14, unless closed by special action by the Federal in-season manager;

(2) From June 10 through August 2, the Federal in-season manager may open, by special action, fishing periods during which chum salmon may be taken by drift gillnets; and

(3) Chum salmon may be taken drift gillnets after August 2.

(D) A person may not operate a drift gillnet that is more than 150 feet in length during seasons described in (C)(1), (2), and (3) of this subsection.

Existing State Regulation

5 AAC 01.220. Lawful Gear and Gear Specifications.

(a) Salmon may be taken only by gillnet, beach seine, a hook and line attached to a rod or pole, handline, or fish wheel, subject to the restrictions set out in this section, 5 AAC 01.210, and 5 AAC 01.225 – 5 AAC 01.249.

(e)In Districts 4, 5, and 6, salmon may not be taken for subsistence purposes by drift gillnets, except as follows:

(3) in Subdistricts 4-B and 4-C,

(A) king salmon may be taken by drift gillnets from June 10 through July 14, unless closed by emergency order;
(B) from June 10 through August 2, the commissioner may open, by emergency order, fishing periods during which chum salmon may be taken by drift gillnets; and
(C) chum salmon may be taken by drift gillnets after August 2.

(4) a person may not operate a drift gillnet that is more than 150 feet in length during the seasons described in (1) and (2) and (3) of this subsection.

Extent of Federal Public Lands

For purposes of this discussion, the phrase "Federal public waters" is defined as those waters described under 36 CFR 242.3 and 50 CFR 100.3. The Federal public waters addressed by this proposal are those portions of the Yukon River located within, or adjacent to, the external boundaries of the Nowitna National Wildlife Refuge (NWR) and the northern unit of the Innoko NWR within fishing Subdistricts 4B and 4C of the Yukon/Northern Federal Subsistence Fishery Management Area. This includes approximately 74 river miles of the Nowitna NWR and 16 river miles of the Innoko NWR (**Figure 1**).

Customary and Traditional Use Determinations

Rural residents of the Yukon River drainage and the community of Stebbins have a customary and traditional use determination for salmon other than Fall Chum Salmon in the Yukon River drainage.

Rural residents of the Yukon River drainage and the communities of Chevak, Hooper Bay, Scammon Bay have a customary and traditional use determination for Fall Chum Salmon in the Yukon River drainage.

Regulatory History

In 2003, the Council submitted fisheries Proposal FP04-05 (FWS 2003) to the Federal Subsistence Board (Board), which requested that the subsistence drift gillnet fishery on the Yukon River include Subdistricts 4B and 44C. The proposal requested that regulations allow Chinook Salmon to be harvested by drift gillnets less than 150 feet in length from June 10 through July 14, and Chum Salmon to be harvested by drift gillnets after August 2. The subsistence drift gillnet fishing area in Subdistrict 4A is about 30 miles downriver from Galena and is primarily utilized by the residents of the village of Koyukuk. However, fishers from Huslia, Galena, and Ruby also travel to Subdistrict 4A to drift gillnet fish because of the lack of legal drift gillnet fishing opportunities near their communities. In FP04-05, the Council argued that spreading the fishing pressure to other areas would help relieve the competition for the few desirable fishing sites in Subdistrict 4A, especially near the village of Koyukuk, without increasing the harvest of Chinook Salmon.

The Council supported its Proposal FP04-05, with modification, to include the conservation measure of limiting nets used for subsistence salmon fishing to a maximum of 7-inch stretch mesh, no deeper than 35 meshes (WIASRAC 2003). The Eastern Interior Alaska Subsistence Regional Advisory Council and Yukon-Kuskokwim Delta Regional Advisory Council opposed the original proposal to expand the use of drift gillnets. The proposal and the Western Interior Council's recommendation were considered, but rejected, by the Board in December 2003 (FSB 2003).

In 2004, the Council submitted Proposal (FP05-04), which again requested expansion of the subsistence drift gillnet fishery on the Yukon River to include Subdistricts 4B and 4C, as well as District 5 (FWS 2005). The Council recommended the Board adopt the proposal with modification to only apply to Subdistricts 4B and 4C; that it be limited to the harvest of Chinook Salmon from June 10 – July 14, to the harvest of Chum Salmon after August 2; and that drift gillnets could only be used during the final 18 hours of the Federal subsistence fishing periods. The Board adopted Proposal FP05-04 with modification to allow the harvest of only Chinook Salmon (and not Chum Salmon) by drift gillnet in the Federal public waters of Subdistricts 4B and 4C during the final 18 hours of the weekly regulatory openings under a Federal subsistence fishing permit (FSB 2005).

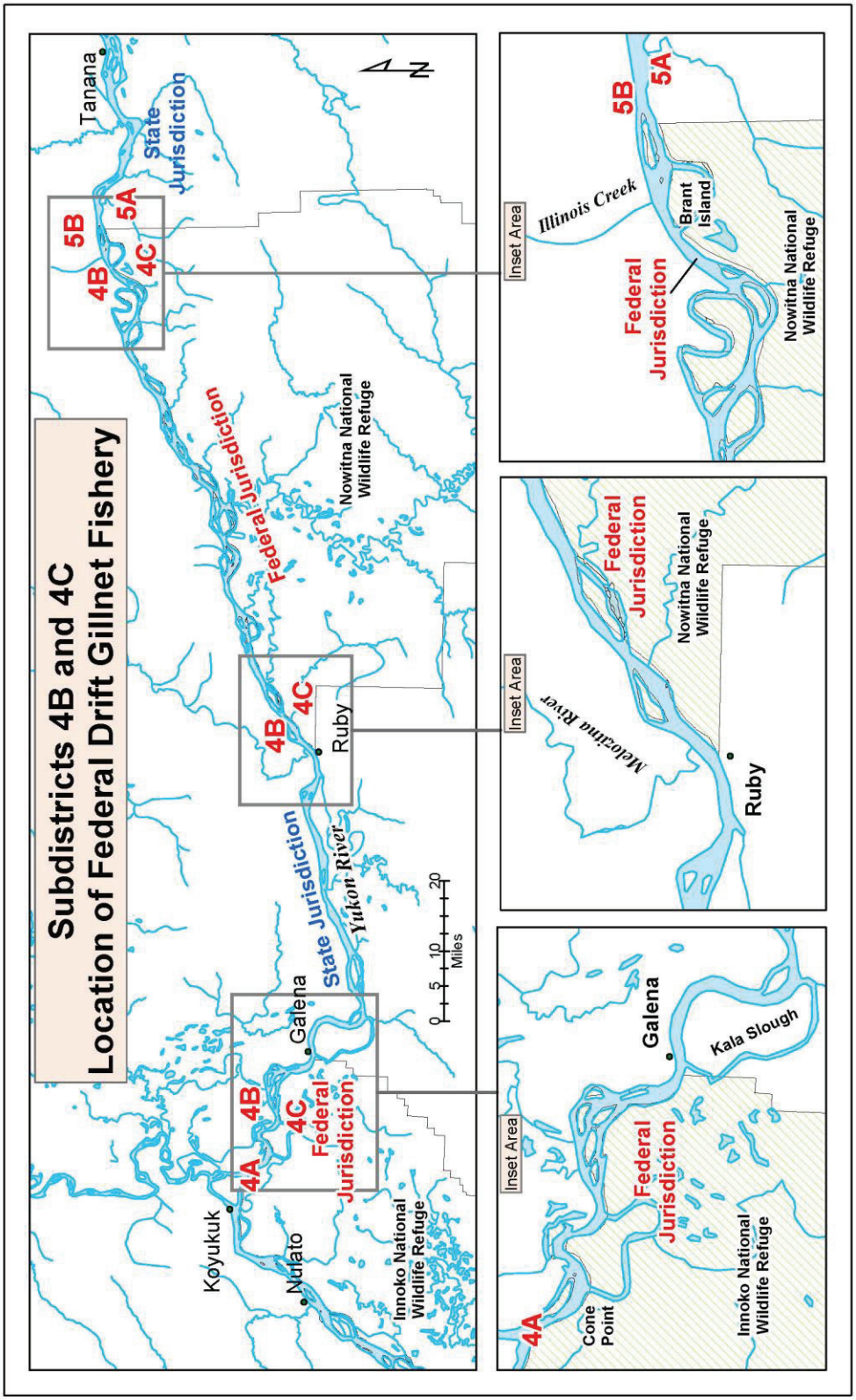

Figure 1. Map of the Subdistricts 4A, 4B, and 4C of the Yukon River. Inset area maps identify Federal subsistence fisheries jurisdiction.

During the 2007 fishing season, State and Federal subsistence fisheries in Subdistricts 4B and 4C were liberalized, by State emergency order and Federal special action, from two 48-hour openings per week to one 5-consecutive days opening per week beginning on July 1. Additionally, the Federal in-season manager liberalized the Federal subsistence drift gillnet fishing time (final 18 hours of the weekly regulatory openings) by a similar, pro-rated amount to two 22-hour periods per opening. On July 6, the State and Federal subsistence fisheries in Subdistricts 4B and 4C were further liberalized to 7 days per week by State emergency order and Federal special action. In addition, the Federal drift gillnet fishing time was liberalized by a similar pro-rated amount to two 31-hour periods for the week of July 8.

During its December 2007 public meeting, the Board adopted fisheries Proposal FP08-15, which requested the use of drift gillnets for Chinook Salmon harvest during the entire weekly subsistence opening(s) in Subdistricts 4B and 4C (FSB 2007). At the same time, the Board rejected FP08-16, which requested the elimination of the Federal drift gillnet fishery in Subdistricts 4B and 4C, finding no basis for such a request (FSB 2007).

During its January 2011 meeting, the Board voted to withdraw FP11-07, at the request of the proponent Mountain Village Working Group. The proponent had proposed the use of drift gillnets be prohibited for the harvest of salmon in Districts 4 and 5 of the Yukon Area. The Board's action to approve withdrawal of the proposal was based on public testimony, the proponent's request, and the fact all four Councils in the region opposed the proposal (FSB 2011).

In January 2013, the Board adopted fisheries Proposal FP13-01, which eliminated the requirement for a Federal subsistence permit for the Chinook Salmon drift gill net fishery for the Yukon River Subdistricts 4B and 4C. The two prominent concerns that resulted in the permit requirement for operating a drift gillnet in this area were that 1) Chinook Salmon harvest was already fully allocated and by allowing another gear type, there was the potential for attracting additional subsistence fishermen who may compete with those already participating in a long established fishery, and 2) the additional fishing gear type would target different Chinook Salmon stocks, with unknown, adverse consequences for upriver harvesters and escapement potential. By shifting some harvest to mid-stream locations, there was a possibility the harvest could be redirected to Canadian stocks, which may migrate further offshore and at greater depths. Due to the low participation and harvest in this fishery, the Board removed the permit requirement (FSB 2013).

Current Events Involving the Species

In March 2018, the Alaska Board of Fisheries (BOF) adopted modified Proposal 230, which was submitted by the Louden, Nulato, and Koyukuk Tribes, and authorized salmon to be taken with drift gillnets in this area during subsistence fishing periods, as abundance allows. The proponent indicates the adoption of the modified proposal allows subsistence users to save time and travel expenses associated with the use of drift gillnets for harvesting salmon, especially at locations that are distant from the user's community of residence.

The Council supported BOF Proposal 230 with the amendment to remove the maximum net depth limit and have the drift gillnet fishery area be expanded to the entirety of Subdistricts 4B and 4C. The Council

also passed a motion to have a Fisheries Special Action reflecting the above liberations automatically submitted to the Board for the 2018 season if the BOF passed Proposal 230 as modified. The Council also moved to submit a parallel proposal to the Board for the 2019/2020 fisheries regulatory cycle to ensure State and Federal regulations were parallel in this area. The Council Chair submitted Proposal FP19-01 as a private individual since the Council did not have a scheduled public meeting between the BOF final action on Proposal 230 and the deadline for Federal subsistence fisheries proposals (WSIRAC 2018).

Biological Background

Chinook Salmon

Recent analyses indicate that Yukon River Chinook Salmon stocks appear to be in the third year of increasing productivity after the low returns of 2015. Historically, the stocks showed periods of above-average abundance (1982-1997) and periods of below-average abundance (1998 onwards), as well as periods of generally higher productivity (brood years 1993 and earlier) mixed with years of low productivity (brood years 1994-1996 and 2002-2005; Schindler et al. 2013).

The 2014 run was expected to be the smallest on record, with a projected size of 64,000-121,000 fish. Despite initial concerns, the cumulative passage estimate at the mainstem Yukon River sonar project in Pilot Station were approximately 138,000±17,000 (90% CI) fish (**Figure 2**). The passage estimate was still below the historical average of 143,000 fish, and below the average of 195,800 fish for years with early run timing. As a result of very conservative management actions, all escapement goals that could be assessed were achieved, even with below average run sizes (JTC 2015).

The 2015 projected run size was 118,000-140,000 fish, which was once again below average yet higher than the previous year's projection. Cumulative passage estimates at the sonar station in Pilot Station were approximately 116,000±30,000 fish (90% CI) (**Figure 2**). As with the previous year, this number was still below the historical average. Very conservative actions were taken and all escapement goals were again met (JTC 2016).

The 2016 run outlook was a below-average run of 130,000–176,000 fish (JTC 2017). Cumulative passage estimates at the sonar station in Pilot Station were approximately 176,898±18,466 fish (90% CI) (Zach Liller 2018, pers. comm.). This number was near the recent historical average of 178,300 fish (ADF&G 2018), but is considered preliminary at this time. Conservative actions were relaxed slightly from previous years and all escapement goals were met (JTC 2016).

The 2017 run outlook was slightly larger, but still below average: 140,000-194,000 fish (JTC 2017). Cumulative passage estimates at the Pilot Station sonar were approximately 263,000±29,000 fish (90% CI) (ADF&G 2018), which was the largest since 2003 (JTC 2017). These estimates are still considered preliminary. Subsistence management restrictions were further relaxed which resulted in harvests of approximately two thirds of average and most escapement goals were met despite the poor water conditions that existed throughout the drainage.

The 2018 run outlook is larger than in recent years, with a run size of 173,000-251,000 fish (ADF&G 2018). The upper end of the range could supports an average subsistence harvest, while the low end of the range would likely warrant implementing subsistence fishing restrictions.

Summer Chum Salmon

Summer Chum Salmon runs in the Yukon River have provided a harvestable surplus in each of the last 15 years, 2003-2017. The 2018 projection is expected to be similar or slightly lower than the 2017 run of approximately 3.6 million fish (JTC 2018).

In 2016, approximately 1.92 million ±80,517 (90% CI) fish passed the Yukon River sonar project at Pilot Station, which was near the historical median for the project of 1.90 million fish. In 2017, the passage estimate at Pilot Station increased to 3.09 million ±138,259 (90% CI) (**Figure 3**). Most tributaries experienced average to above-average escapement in 2017 (JTC 2018). The Henshaw Creek weir counted a record number of Chum Salmon (360,687), which was only 13% smaller than the number counted at the Anvik River Sonar (415,139). Although all 2017 numbers are preliminary at this time, the 2018 run is anticipated to provide for escapement goals, normal subsistence harvest, and a surplus for commercial harvest (JTC 2018).

Fall Chum Salmon

Fall Chum Salmon runs in the Yukon River have provided a harvestable surplus in each of the last 8 years, 2010-2017. In 2016, approximately 994,760 million ±64,434 (90% CI) Fall Chum Salmon passed the Yukon River sonar project at Pilot Station, which was above the 1995-2016 median for the project of 688,057 fish. In 2017, the passage estimate at Pilot Station increased to 1.83 million ±54,179 (90% CI) and was the second largest run in 43 years (**Figure 4**). Most tributaries experienced average to above-average escapement in 2017 (JTC 2018) although all 2017 numbers are preliminary at this time. In 2017, the projected outlooks were for a run size of approximately 1.4-1.7 million fish, while the 2018 projection of 1.6-1.8 million fish is lower than the 2017 run of approximately 2.3 million fish (JTC 2018). The 2018 run is anticipated to provide for escapement goals, normal subsistence harvest, and a surplus for commercial harvest (JTC 2018).

Coho Salmon

In 2016 approximately 168,297 ± 11,180 (90% CI) Coho Salmon passed the Yukon River sonar project at Pilot Station, which was slightly above the historical median of 160,272 fish. In 2017, the passage estimate at Pilot Station increased to 166,330 ±20,300 (90% CI), which was also slightly above the historical median (**Figure 5**). All 2017 numbers are preliminary at this time. The Coho Salmon outlook is based upon parent year escapements assuming average survival. Since Coho Salmon predominately return as age 2.1 fish (4 year old fish), the major contributor to the 2018 returns are from the 2014 parent year. Therefore, the 2018 outlook is for average to above average returns in 2018.

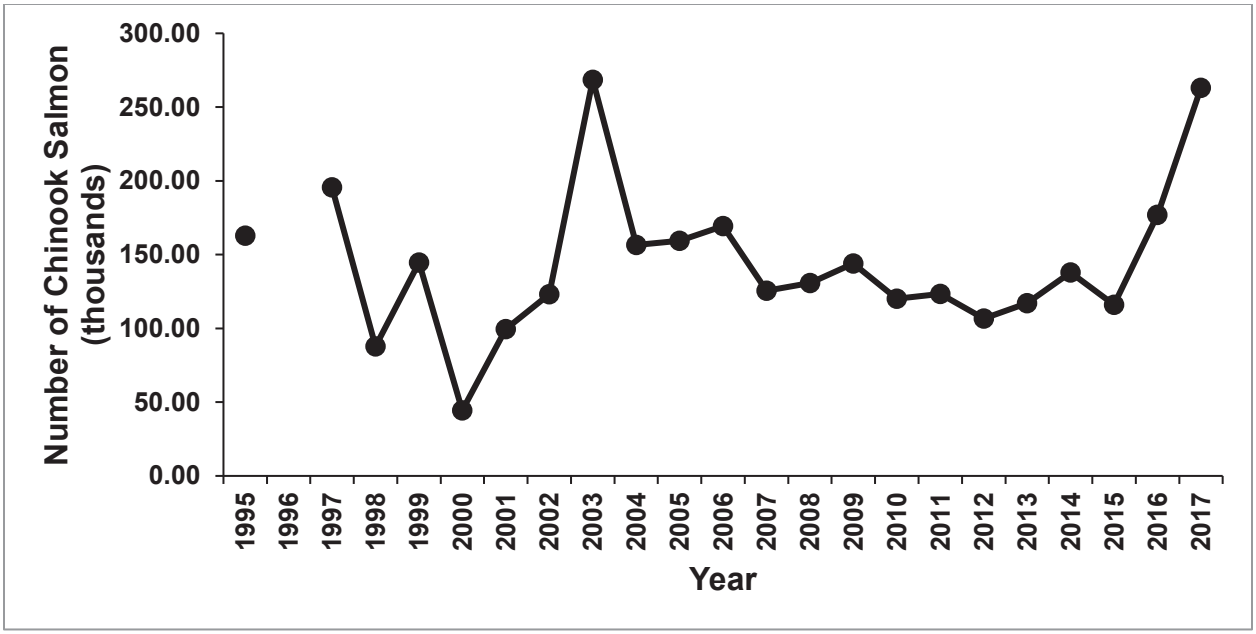

Figure 2. Chinook Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

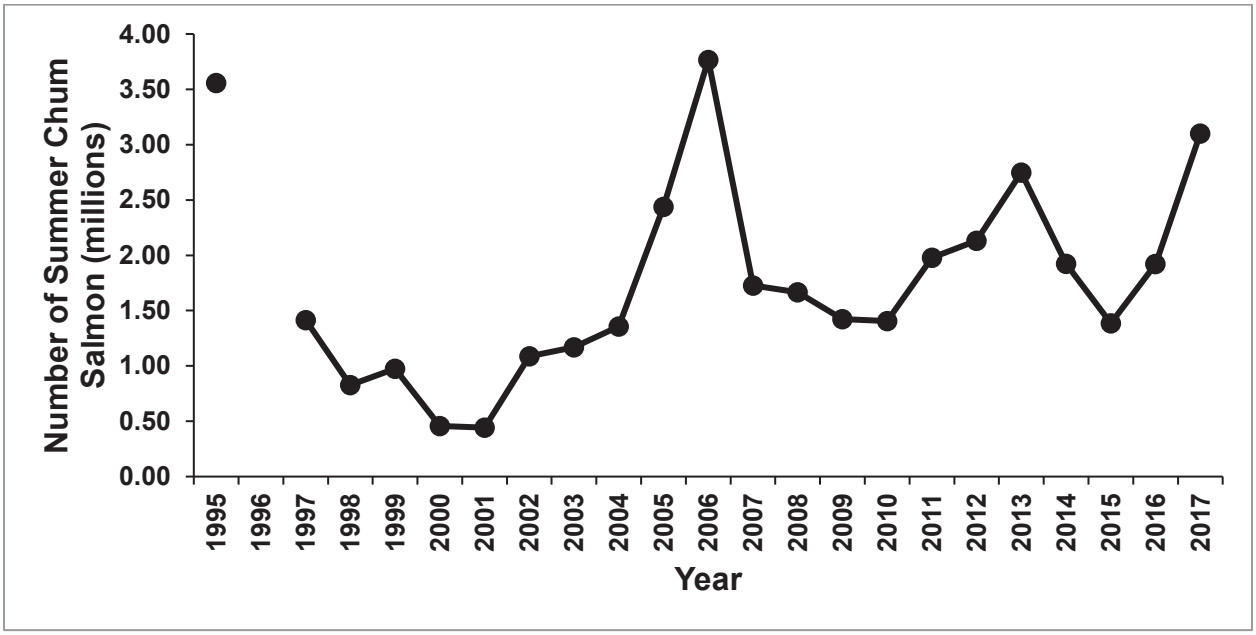

Figure 3. Summer Chum Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

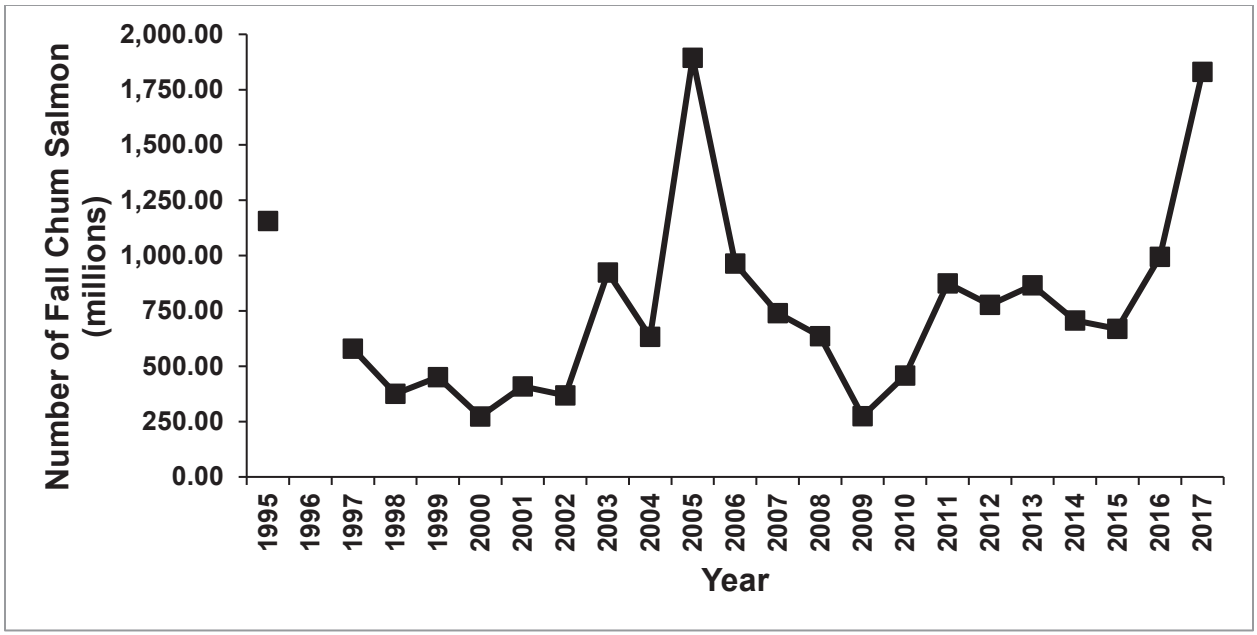

Figure 4. Fall Chum Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

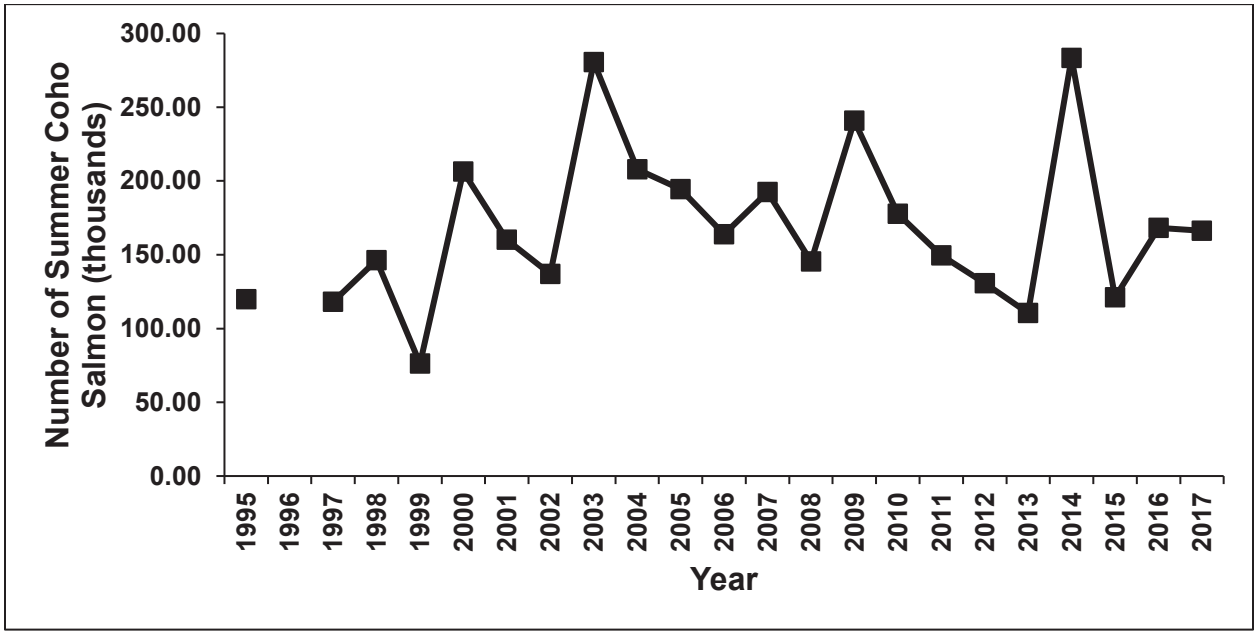

Figure 5. Coho Salmon passage estimates based on the mainstem Yukon River sonar near Pilot Station, Yukon River drainage, 1995 and 1997-2017 (JTC 2018). Data from 2016 and 2017 are preliminary at this time.

Harvest History

The Federal Subsistence drift gillnet fishery in 4B and 4C has been in place since 2005. In 2005, 70 Federal subsistence permits were issued and 9 permit holders fished for a total of 60 hours, resulting in a total harvest of 54 Chinook Salmon (**Table 1**). The catch per hours fished for Chinook Salmon was 0.9 (Holder et al. 2006). Feedback from Federal subsistence users indicated that productive drifting spots had not yet been located within the Federal public waters of Subdistricts 4B and 4C, but fishing effort would likely increase if productive drift sites were found. The 2005 Chinook Salmon harvest in the Federal drift gillnet fishery in 4B and 4C was not sufficient for ADF&G to conduct a special genetic sampling program which had been planned (Holder et al. 2006). The annual average Federal subsistence Chinook Salmon harvest in drift gill nets in this area was approximately 31 fish between 2005 and 2011, during which a total of 215 salmon was harvested in this fishery as reported on Federal subsistence permits when they were required.

Table 1. Subdistricts 4B and 4C summary of Federal permits issued, permittee post-season reporting, effort and harvest, 2005.

Residence	Number of permits issued	Number of permits returned	Total permits fished	Total hours fished	Harvests	
					Chinook Salmon	Chum Salmon
Galena	51	47	5	33	33	1
Ruby	13	12	3	22	21	0
Tanana	5	4	1	5	0	0
Koyukuk	1	1	0	0	0	0
Total	70	64	9	60	54	1

Source: Holder, et al. 2006

For 2005, the preliminary ADF&G Chinook Salmon post-season subsistence harvest estimates, encompassing all gear types, included 2,864 by Galena residents and 1,193 by Ruby residents for a total of 4,057 Chinook Salmon (Busher et. al. 2007). A high proportion of the Galena harvest came from Subdistrict 4A drift gillnetting. The 54 Chinook Salmon harvested by Galena and Ruby Federally qualified subsistence users with drift gillnets in Subdistricts 4B and 4C represented only 1.33% of the total estimated harvest.

In 2006, participation in this Federal subsistence fishing opportunity declined. Only 18 permits were issued: 16 to Galena residents, one to a Ruby resident, and one to a Koyukuk resident (**Table 2**). Of the 18 permittees who reported their fishing activity, 13 people did not fish; and five fished approximately18 hours, resulting in the harvest of 19 Chinook and 11 Chum Salmon. The catch per hour fished for Chinook Salmon was 1.7 (Holder et al., 2007).

Table 2. Subdistricts 4B and 4C summary of Federal permits issued, permittee post-season reporting, effort and harvest, 2006.

Residence	Number of permits issued	Number of permits returned	Total permits fished	Total hours fished	Harvest	
					Chinook Salmon	Chum Salmon and other species
Galena	16	16	4	10	4	0
Ruby	1	1	1	8	15	11
Koyukuk	1	1	0	0	0	0
Total	18	18	5	18	19	11

Source: Holder, et. al., 2007

In 2007, participation in this Federal subsistence fishing opportunity continued to be exploratory. A total of 12 permits were issued (8 Galena, 1 Koyukuk, and 3 Ruby) with 6 permits returned as of the end of July, and a reported harvest of 13 Chinook Salmon in 8.5 hours of fishing. The low harvest numbers and the reality that not all drift gillnet caught salmon are bound for Canada, minimized any preconceived notions about the impact of this fishery on U.S./Canada treaty obligations.

Subsistence post season harvest surveys conducted by ADF&G from 2007 through 2017 (Busher et al 2009, Jallen et al 2011, Jallen et al. 2012a, Jallen et al 2012b, Jallen et al. 2015, Jallen et al. 2017, Jallen et al 2017b, Jallen et al 2017c, Padilla, unpublished data 2018) indicated the communities of Galena and Ruby are the only two Yukon River drainage communities which are nearest to and consistently harvest salmon from all three Subdistricts 4A, 4B, and 4C (**Table 3**). This survey information also identifies the percentage of Chinook and Chum Salmon harvested by different gear type used in Subdistricts 4A, 4B, and 4C (**Table 4**). The lack of drift gillnet harvest in Subdistrict 4C from both communities' collected harvest information is due to the prohibition of use of drift gillnets for the harvest of Chinook Salmon due to conservation concerns in this area. Prior to the recent change in State regulations which authorized use of drift gillnet in Subdistricts 4B and 4C, subsistence users from Galena and Ruby who choose to use a drift gillnet to harvest fish other than Chinook Salmon had to travel to Subdistrict 4A and a portion of 4B. Distances traveled to favored drift gill net fishing spots required travel of over 100 river miles for some (**Map 1).**

Table 3. Subsistence salmon harvest by Yukon River subdistricts 4A, 4B, and 4C for the residents of Galena and Ruby from 2007-2017. (Busher et al 2009, Jallen et al 2011, Jallen et al 2012a, Jallen et al 2012b, Jallen et al 2015, Jallen et al 2017a, Jallen et al 2017b, Jallen et al 2017c, Padilla, unpublished data 2018)

		4A		4B		4C	
Salmon Species	Year	Galena	Ruby	Galena	Ruby	Galena	Ruby
Chinook	2007	1,936	-	472	219	103	1,375
	2008	813	-	404	21	1,014	616
	2009	965	-	290	42	115	500
Chinook	2010	549	-	255	87	547	1,015
	2011	662	108	195	302	537	72

		4A		4B		4C	
Salmon Species	**Year**	**Galena**	**Ruby**	**Galena**	**Ruby**	**Galena**	**Ruby**
	2012	99	-	296	-	347	1,316
	2013	145	-	15	-	-	357
	2014	-	-	-	5	1	2
	2015	99	-	141	-	126	68
	2016	636	67	81	128	276	-
	2017	1,091	-	328	174	827	97
Summer Chum	2007	242	-	216	69	113	347
	2008	105	-	121	449	532	206
	2009	126	-	1,088	47	504	556
	2010	22	-	498	-	958	1,971
	2011	46	-	3,043	728	325	47
	2012	20	-	583	-	115	3,891
	2013	127	-	52	-	-	681
	2014	-	-	377	29	-	-
	2015	559	-	500	-	-	88
	2016	588	19	16	303	940	356
	2017	14	-	979	98	236	-
Fall Chum	2007	476	-	130	868	865	1,091
	2008	48	-	26	233	1,290	424
	2009	108	-	2,382	84	1,816	50
	2010	46	-	317	20	1,284	1,006
	2011	198	-	902	592	1,458	-
Fall Chum	2012	92	-	2,393	-	462	4,408
	2013	29	-	533	-	40	2,505
	2014	1,450	-	676	369	947	603
	2015	381	-	1,054	324	1,107	389
	2016	211	-	449	526	2,659	-
	2017	345	-	2,868	-	1,561	-
Coho	2007	325	-	100	-	-	168
	2008	106	-	135	83	317	208
	2009	327	-	1,885	2	141	312
	2010	-	-	175	148	84	-
	2011	2	-	950	312	43	-
	2012	-	-	162	-	114	1,806
	2013	1	-	58	-	111	345
	2014	191	-	269	115	258	220
	2015	41	-	102	89	511	96
	2016	18	-	32	226	151	-

		4A		4B		4C	
Salmon Species	**Year**	**Galena**	**Ruby**	**Galena**	**Ruby**	**Galena**	**Ruby**
	2017	5	-	36	-	95	-

Table 4. Percentage of subsistence Chinook Salmon harvest for selected Yukon River communities by gear type for Subdistricts 4A, 4B, and 4C for the residents of Galena and Ruby from 2010-2015. (Busher et al 2009, Jallen et al 2011, Jallen et al 2012a, Jallen et al 2012b, Jallen et al 2015, Jallen et al 2017a, Jallen et al 2017b, Jallen et al 2017c, Padilla, unpublished)++

			Percentage of total harvest by gear type			
Year	**Subdistrict community located in**	**Commu-nity**	**Set Net**	**Drift Net**	**Fish Wheel**	**Other**
2010	4A	Anvik	36	64	0	0
		Grayling	1	99	0	0
		Kaltag	0	100	0	0
		Nulato	14	86	0	0
		Koyukuk	7	93	0	0
	4B	Galena	32	61	7	0
	4C	Ruby	45	0	55	0
2011	4A	Anvik	51	49	0	0
		Grayling	35	65	0	0
		Kaltag	0	100	0	0
		Nulato	7	93	0	0
		Koyukuk	10	90	0	0
	4B	Galena	57	43	0	0
	4C	Ruby	32	0	68	0
2012	4A	Anvik	52	48	0	0
		Grayling	13	87	0	0
		Kaltag	6	94	0	0
		Nulato	0	100	0	0
		Koyukuk	35	65	0	0
	4B	Galena	73	27	0	0
	4C	Ruby	72	0	28	0
2013	4A	Anvik	72	28	0	0
		Grayling	41	59	0	0
		Kaltag	0	100	0	0
		Nulato	0	100	0	0
		Koyukuk	62	38	0	0
	4B	Galena	6	94	0	0
	4C	Ruby	29	0	71	0
2014	4A	Anvik	–	–	–	–

			Percentage of total harvest by gear type			
Year	Subdistrict community located in	Commu-nity	Set Net	Drift Net	Fish Wheel	Other
		Grayling	0	100	0	0
		Kaltag	0	100	0	0
		Nulato	–	–	–	–
		Koyukuk	0	100	0	0
	4B	Galena	0	0	100	0
	4C	Ruby	100	0	0	0
	4A	Anvik	2	86	0	12
	4C	Grayling	7	93	0	0
2015	4A 4B 4C	Kaltag	0	100	0	0
		Nulato	0	100	0	0
		Koyukuk	50	50	0	0
		Galena	52	48	0	0
		Ruby	100	0	0	0

Cultural Knowledge

The use and importance of salmon for Yukon River communities has been documented through oral histories and harvest surveys conducted in the area. Historically, many Yukon communities followed a semi-nomadic, subsistence way of life, spending time at seasonal camps, migrating with the resources and harvesting various species of fish, along with hunting and gathering subsistence resources. Humans have likely lived in the Yukon area for over 10,000 years (Rainey 1940, Cinq-Mars 1979) and fishing was a family and community activity, deeply ingrained in the cultures of the people in this area. People traditionally used weirs and fish traps, and nets made of animal sinew and willow bark and more recently employed set nets along with fish wheels for salmon at their fish camps. Multi-generational family groups would travel to seasonal camps to harvest fish and wildlife. Although fewer young people spend time at seasonal camps now due to employment, school, and other responsibilities, subsistence fishing continues to be important for communities up and down the river. According to surveys, many older people recall whole families spending long hours at their fish camps, harvesting, processing, and preserving fish. Children learned about subsistence activities from their elders at fish camp (Brown et al. 2010; Brown et al. 2015).

Salmon is considered the most reliable and significant subsistence resource on the Lower Yukon River. Salmon has always been an important part of the culture, economically and socially, and the knowledge of how to catch, process, and preserve fish has been passed down from generation to generation. Before contact by outsiders, dried fish was regularly traded between Yukon villages along with other commodities such as furs and sea mammal products (Wolfe 1981).

Yukon River residents are dependent on the harvest of salmon, especially Chinook Salmon, for both subsistence and commercial uses. Starting in the late 1990s, Chinook Salmon began to decline so people harvested more summer and fall Chum Salmon along with other subsistence resources (Brown et al. 2015). In the 1960s, people started using gillnets to drift fish for salmon for personal and commercial use. Today fishing still plays an important cultural role in the communities along the lower and middle Yukon River, and the knowledge of how and when to fish is still passed down from generation to generation. Population characteristics of the four primary communities within or in proximity to Yukon River Subdistricts 4B and 4C from 1960 to 2010 are presented in **Table 5**.

Table 5. U.S. Census Bureau population estimates for communities within or in proximity to Yukon River Subdistricts 4B and 4C, 1960-2010 (ADCCED 2018).

Community	1960	1970	1980	1990	2000	2010	2010 No. Households
Nulato CDP	183	308	350	359	336	264	92
Koyukuk city	128	124	98	126	101	96	42
Galena city	261	302	765	833	675	470	190
Ruby city	179	145	197	170	188	166	62

Customary trade of fish is an important part of continuing trade networks in rural areas of Alaska. Salmon fishing takes place in the summer and timing is based on the runs for various species. Local residents also use gill nets under the ice to fish for pike, whitefish, or sheefish in the spring before breakup. Communities have used various types of nets and fish wheels to harvest fish through the generations. Fish wheels are used less now than they were in the past when people were catching more fish to feed sled dogs, but are still used in some areas, mainly to catch fish for human consumption (Brown et al. 2010). Chum Salmon, once primarily used for dog food, were caught using nets set from the shore but are now consumed largely by people in the US and overseas who purchase through the commercial market. As more village runways were built, increasing air travel, and more snow machines were brought to the villages, the dependency on sled dogs was reduced, reducing the need for harvesting fish to feed dogs (Brown et al. 2015).

ADF&G's Division of Subsistence occasionally undertakes comprehensive household surveys as time and resources allow. These document the use, harvest, and sharing of all wild foods harvested in a community in a given year and can thus provide insights on the importance of individual resources within the overall harvest and the cultural contexts of these harvests, including patterns of sharing. For the region represented by this proposal, comprehensive household surveys that include Chinook Salmon and Chum Salmon harvest were conducted in 1985 for Galena and in 2010 for Nulato, Galena, and Ruby (**Table 3**). No comprehensive household surveys have been conducted in Koyukuk to date.

The Chinook Salmon and Chum Salmon harvests and use in **Table 6** include all gear types including commercial retention, though the latter represents a small proportion of the harvest. A large percentage

of households in these communities used Chinook Salmon during the study years. Sharing of Chinook Salmon is common in these communities as is evidenced by the percentage of households giving away and receiving the resource. Sharing represents fish given away and received both within the community and with other communities.

Chum Salmon was used by fewer households as compared to Chinook Salmon in Nulato, Galena, and Ruby. Notably, the use of Chum Salmon declined substantially in Galena between 1985 (76% of households) and 2010 (43% of households) (Marcotte and Haynes, 1985). Sharing of Chum Salmon is also less prevalent in these communities compared to sharing of Chinook Salmon. In Galena, the percentage of households giving away Chum Salmon was consistent between 1985 (13.5%) and 2010 (16.3%), though the percentage of households receiving this resource declined substantially during the same period.

Table 6. Chinook Salmon and Chum Salmon harvest in communities located within or in proximity to Yukon River Subdistricts 4B and 4C as determined through available ADF&G household subsistence harvest surveys (ADF&G 2018).

Community		1985		2010	
		Chinook	Chum	Chinook	Chum
Nulato					
Household Participation	% Using	-	-	86.9	36.9
	% Giving Away	-	-	35.7	13.1
	% Receiving	-	-	45.2	14.3
Estimated Level of Harvest	Total Number Harvested	-	-	1,999.9	991.1
	Pounds per Capita	-	-	72.5	19.4
Galena					
Household Participation	% Using	74.4	75.7	67.5	42.5
	% Giving Away	10.8	13.5	30	16.3
	% Receiving	51.4	50	40	20
Estimated Level of Harvest	Total Number Harvested	3,057.0	70,180.0	1,688.5	5,360.2
	Pounds per Capita	61.1	483.2	37.5	64.2
Ruby					
Household Participation	% Using	-	-	76.6	55.3
	% Giving Away	-	-	31.9	17
	% Receiving	-	-	46.8	23.4
Estimated Level of Harvest	Total Number Harvested	-	-	1,530.3	2,735.5
	Pounds per Capita	-	-	90.4	77.4

Effects of the Proposal

Adoption of this proposal will have two effects. If the proposal were adopted, additional harvest opportunities would be provided to Federally qualified subsistence users by removing the depth restrictions on drift gill nets in Subdistricts 4B and 4C of the Yukon River. Increasing gillnet mesh depth

allows users to fish in deeper waters when targeting fish. Additionally, adoption of this proposal may increase the efficiency of subsistence users who have used legally permissible modified gill nets where users have reduced the number of meshes by binding up excess meshes to the legal limit onto the floating line of net. If this proposal is adopted, any depth net could be utilized.

If the proposal was adopted, a Federal subsistence drift gillnet Fall Chum Salmon fishing season within Subdistricts 4B and 4C of the Yukon River beginning August 2 would be provided. Currently only the State managed drift gillnet subsistence fishery for Fall Chum Salmon is authorized under State regulation but not in Federal subsistence regulation. If this proposal is adopted, Federally qualified users could drift gillnet fish under Federal regulations which would be independent to State regulations during the referenced time frame.

Aligning the Federal subsistence drift gillnet allowance with State regulations will likely result in less confusion by fishers and less administrative actions by the Federal In-season Manager. Adoption of this proposal will align State and Federal subsistence fishing regulations, which will reduce enforcement concerns and user confusion. If this proposal is not adopted, the Federal subsistence fishery in this area will be more restrictive than allowed under State of Alaska regulations. As such, it could be seen to not comply with the rural subsistence priority in Title VIII of the Alaska National Interest Lands Conservation Act.

The Federal in-season Manager, under the management authority delegated by the Board, will continue to have the authority to make in-season adjustments in fishing time and gear types in response to Chinook Salmon run strength.

OSM PRELIMINARY CONCLUSION

Support Proposal FP19-01.

Justification

This proposal was submitted to mirror recently adopted fisheries liberalizations by the State. Currently the Federal drift gillnet fishery in Subdistricts 4B and 4C of the Yukon River is more restrictive than the State managed fisheries.

Adoption of this proposal will allow Federally qualified users to fish deeper waters with drift gillnets in the identified area without mesh depth restrictions. Allowing the use of deeper nets may increase user efficiency by reducing the amount of time used to harvest the same number of fish in a deeper net in less time than it would take to do so with a shallower net.

Adoption of this proposal will also create a fall Chum Salmon drift gillnet Federal subsistence fishery beginning August 2 allowing users to target fall Chum Salmon if a harvestable surplus is determined by the inseason Federal fisheries managers with the management authority granted by the Federal Subsistence Board.

Adoption of this proposal is not expected to increase subsistence harvests as the fisheries in the affected subdistricts as participation and salmon harvest in this area has been consistently low. Although an increase in harvest is not expected, adoption of this proposal may affect management of other Federally qualified users harvesting salmon outside of Subdistricts 4B and 4C.

As the fisheries management for this area and species is abundance-based and experiences both low participation and harvest levels under Federal subsistence regulations, adoption of this proposal should not result in a conservation concern for any salmon species.

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FP19–06 Executive Summary	
General Description	Proposal FP19–06 requests that a new regulation be added for conservation protections to the first pulse of Yukon River Chinook Salmon in Federal public waters in Districts 1 through 5, submitted by Don Woodruff of Eagle.
Proposed Regulation	***§___.27(e)(3) Yukon-Northern Area* – Salmon** *(i) Unless otherwise restricted in this section, you may take fish in the Yukon-Northern Area at any time. In those locations where subsistence fishing permits are required, only one subsistence fishing permit will be issued to each household per year. You may subsistence fish for salmon with rod and reel in the Yukon River drainage 24 hours per day, 7 days per week, unless rod and reel are specifically otherwise restricted in paragraph (e)(3) of this section.* * * * * *(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.* * * * * ***(A) The first pulse of Chinook Salmon in Districts 1 through 5 will be protected in Federal public waters through systematic closures coordinated with the first pulse movement upstream as announced by the Federal in-season manager.***
OSM Preliminary Conclusion	**Oppose**
Yukon-Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Seward Peninsula Subsistence Regional Advisory Council Recommendation	

FP19–06 Executive Summary	
Eastern Interior Alaska Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	**None**

DRAFT STAFF ANALYSIS
FP19-06

ISSUES

Proposal FP19-06, submitted by Don Woodruff of Eagle, requests the Federal Subsistence Board (Board) revise Federal subsistence management regulations section §___.27(e)(3)(ii) by establishing a new regulation to add conservation protections to the first pulse of Yukon River Chinook Salmon in Federal public waters Districts 1 through 5.

DISCUSSION

The proponent notes that these fish are primarily Canadian bound stocks, and that it is the Boards responsibility to ensure food security throughout the Yukon River. The proponent states that one or two years of fair runs of fish does not mean that the fishery has recovered. In addition to this, the proponent raises concerns over recent actions by the Alaska Board of Fisheries (BOF) to open first pulse access (Proposal 231 – RC46) in Districts 1 and 2, which he believes to be counterproductive to recovery efforts.

The proponent suggests that the first pulse of Yukon River Chinook Salmon entering the river, be protected with systematic fishing closures as they travel up river starting with District 1 first pulse and continuing along the entire Yukon River to District 5 to ensure conservation and food security for future generations.

Existing Federal Regulation

§___.27(e)(3) Yukon-Northern Area

(i) Unless otherwise restricted in this section, you may take fish in the Yukon-Northern Area at any time. In those locations where subsistence fishing permits are required, only one subsistence fishing permit will be issued to each household per year. You may subsistence fish for salmon with rod and reel in the Yukon River drainage 24 hours per day, 7 days per week, unless rod and reel are specifically otherwise restricted in paragraph (e)(3) of this section.

(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.

Proposed Federal Regulation

§___.27(e)(3) Yukon-Northern Area

(i) Unless otherwise restricted in this section, you may take fish in the Yukon-Northern Area at

any time. In those locations where subsistence fishing permits are required, only one subsistence fishing permit will be issued to each household per year. You may subsistence fish for salmon with rod and reel in the Yukon River drainage 24 hours per day, 7 days per week, unless rod and reel are specifically otherwise restricted in paragraph (e)(3) of this section.

(ii) For the Yukon River drainage, Federal subsistence fishing schedules, openings, closings, and fishing methods are the same as those issued for the subsistence taking of fish under Alaska Statutes (AS 16.05.060), unless superseded by a Federal Special Action.

(A) The first pulse of Chinook Salmon in Districts 1 through 5 will be protected in Federal public waters through systematic closures coordinated with the first pulse movement upstream as announced by the Federal in-season manager.

Existing State Regulation

5 AAC 01.210. Fishing seasons and periods – Yukon Area

(a) Unless restricted in this section, or in 5 AAC 01.220 – 5 ACC 01.249, salmon may be taken in the Yukon Area at any time.

(b) When there are no commercial salmon fishing periods, the subsistence fishery in the Yukon River drainage will be based on a schedule implemented chronologically, consistent with migratory timing as the salmon run progresses upstream. The commissioner may alter fishing periods by emergency order, if the commissioner determines that preseason or in-season run indicators indicate it is necessary for conservation purposes. The fishing periods for subsistence salmon fishing in the Yukon River drainage will be established by emergency order as follow:

(1) Coastal District, Koyukuk River, Kantishna River, and Subdistrict 5D: seven days per week.

(c) Notwithstanding the provisions of (A) and (B) of this paragraph, if the commissioner determines it is necessary to ensure that reasonable opportunity for subsistence uses is being provided, the commissioner may, by emergency order, open a subsistence fishing period that may occur during times that are before, during, and after a commercial salmon fishing period.

5 AAC 05.360. Yukon River King Salmon Management Plan – Yukon Area

(1) In Districts 1 and 2, to account for the uncertainty in the preseason king salmon run projection, if the preseason king salmon forecast indicates insufficient abundance to meet escapement goal objectives and subsistence harvest needs, the department shall manage the king salmon subsistence fishery conservatively and not open any salmon subsistence fishing periods during the first pulse of king salmon entering the Districts.

Extent of Federal Public Lands

For purposes of this discussion, the phrase "Federal public waters" is defined as those waters described under 36 CFR §242.3 and 50 CFR §100.3. The Federal public waters under Federal subsistence fisheries jurisdiction addressed by this proposal are those portions of the Yukon River located within, or adjacent to, Arctic National Wildlife Refuge, National Wildlife Refuge, Koyukuk National Wildlife Refuge, Kanuti National Wildlife Refuge, Nowitna National Wildlife Refuge, Denali National Park and Preserve, White Mountains National Recreation Area, Steese National Conservation Area, Yukon-Charley Rivers National Preserve, Beaver Creek National Wild Rivers, Birch Creek National Wild and Scenic River, Delta National Wild & Scenic River, Fortymile National Wild & Scenic River, Tetlin National Wildlife Refuge, Yukon Flats National Wildlife Refuge, and Wrangell-St. Elias National Park and Preserve (**Figure 1**).

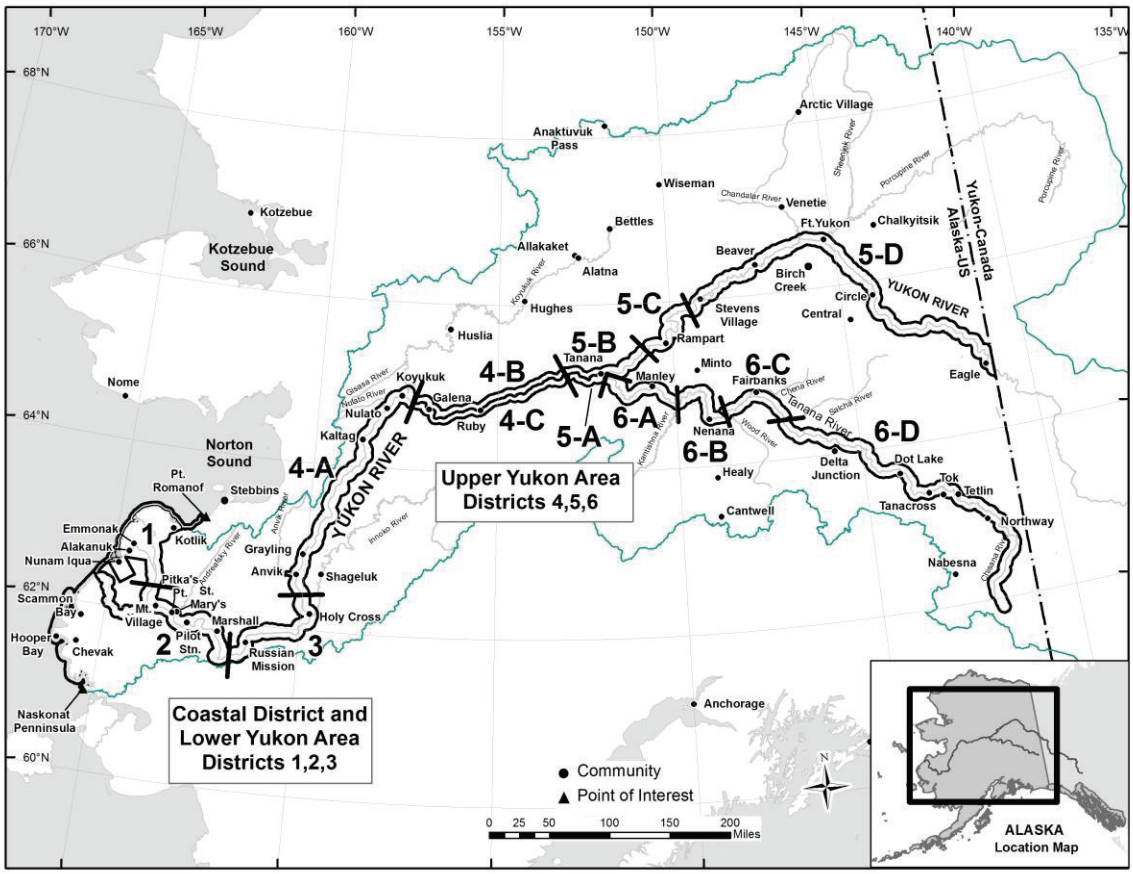

Figure 1. Yukon River Districts located within the U.S. portion of the drainage (ADF&G 2018).

Customary and Traditional Use Determinations

Rural residents of the Yukon River drainage and the community of Stebbins have a customary and traditional user determination for Chinook Salmon in the Yukon Northern Area.

Regulatory History

State Regulatory History

Since 2001, the Yukon River Chinook Salmon stock has been categorized as a "stock of yield concern" by the BOF in accordance with the State's *Policy for the management of sustainable salmon fisheries* (5 AAC 39.222). This designation identifies a chronic inability to maintain expected yields or harvestable surpluses above a stock's escapement needs despite restrictive management actions. Directed commercial fishing for Yukon River Chinook Salmon has been discontinued since 2007 and subsistence fishing opportunities have become increasingly more restrictive in an effort to conserve Chinook Salmon.

During 2001, subsistence fishing windows were established during times of conservation and were implemented throughout the entire Yukon River area when commercial fishing is closed. Districts 1-3 windows allowed subsistence salmon fishing for two 36 hour periods per week. Districts 4 and Subdistrics 5-B and 5-C were open to subsistence fishing for two 48-hour periods per week. Commercial fishing in Subdistrict 4-A was further regulated in 2004 with Chinook Salmon fishing only allowed during two 48 hour drift netting periods per week by emergency order.

Commercial fishing for Chum Salmon during times of Chinook Salmon conservation is permitted with fish wheels by emergency order in Subdistrict 4-A beginning in 2012. Fishermen are required to be present at the fish wheel, and immediately release all Chinook Salmon alive.

In March 2015, the BOF adopted a new regulation that allowed the use of drift gillnets to harvest summer Chum Salmon for subsistence purposes during times of Chinook conservation from June 10 through August 2, by emergency order, in the upper portion of Subdistrict 4A.

In January 2016, the BOF adopted the same regulations for the lower portion of Subdistrict 4A.

In March of 2018, the BOF adopted a new regulation. If inseason run assessment information indicates insufficient abundance of Chinook Salmon to meet escapement objectives on specific components of the run and subsistence harvest needs, the Department will not open any subsistence fishing periods during the first pulse implemented chronologically in the applicable district, consistent with migratory timing as the Chinook Salmon run progresses upstream; If inseason run assessment information indicates sufficient abundance of king salmon to meet escapement objectives on specific components of the run and subsistence harvests needs, subsistence fishing will revert to back to standard fishing periods.

Federal Regulatory History

Since October 1999, Federal subsistence management regulations for the Yukon-Northern Area stipulated that, unless otherwise restricted, rural residents may take salmon in the Yukon-Northern Area at any time by gillnet, beach seine, fish wheel, or rod and reel unless exceptions are noted.

In 2002, the Board delegated some of its authority to manage Yukon River drainage subsistence salmon fisheries to the Branch Chief for Subsistence Fisheries, U.S. Fish and Wildlife Service, in Fairbanks, Alaska. The Federal Subsistence Board's delegation allows the Federal manager to open or close Federal subsistence fishing periods or areas provided under codified regulations, and to specify methods and means.

In 2017, the Board modified regulations in Subdisctrict 4-A to allow the Federal In-season Manager to open fishing periods during which Chum Salmon may be taken by drift gillnets from June 10 through August 2. This regulation change was made to match existing ADF&G regulations that were modified in 2015 and 2016. The Board also added an additional regulation in Subdisctrict 5-D to allow salmon to be harvested for subsistence use once the mid-range of the Canadian Interim Management Escapement Goal (IMEG) and the total allowable catch goal are projected to be achieved.

Management Perspectives

For management purposes, the summer season refers to the fishing associated with Chinook and summer Chum Salmon migrations and the fall season refers to the fishing associated with the fall Chum and Coho Salmon migrations. During the fishing season, management is based on preseason projections and the in-season run assessments. Since 1995 the main river sonar project at Pilot Station has provided in-season estimates of salmon passage for fisheries management. The level of commercial, subsistence, and personal use harvests can be adjusted through the use of State emergency orders and Federal special actions to manage time, gear, and area of openings and closures. Since 2001, an Arctic Yukon Kuskokwim Sustainable Salmon Research action plan has been developed through a public process that includes goals, objectives, and provisions necessary to research and help rebuild Chinook Salmon runs (Munro and Tide 2014).

Currently the Canadian Interim Management Escapement Goal (IMEG) is set at 42,500-55,000 Chinook Salmon. Each year the Yukon River Joint Technical Committee (JTC 2018) reevaluates the need to modify the Chinook Salmon IMEG, however this range has been acceptable since 2010. Subsistence fishing on the Yukon River in Districts 1 through 5 is open seven days a week, 24 hours/day using rod and reel with no harvest limit for salmon, unless closed by the in-season managers for conservation purposes. Additionally, Districts 1, 2, and 3 have special provisions for harvest before July 15, and after the opening of the State commercial salmon fishing season, subsistence salmon fishing is closed for 18 hours immediately before, during, and for 12 hours after each State commercial salmon fishing period. After July 15, subsistence salmon fishing is closed for 12 hours immediately before, during, and for the 12 hours after each State commercial salmon fishing period. In Subdistrict 4A, after the State commercial salmon

fishing season opens, you may not subsistence fish for salmon for 12 hours immediately before, during, and for 12 hours after each State commercial salmon fishing period. However, you may subsistence fish (using drift gillnets only) for Chinook Salmon during the State commercial fishing season from 6:00 p.m. Sunday until 6:00 p.m. Tuesday; and from 6:00 p.m. Wednesday until 6:00 p.m. Friday.

Current Events

In 2015 the Yukon River was reevaluated to determine if the Yukon River Chinook Stock should be removed from the Stock of yield concern designation; however it was determined that the stock has yet to return to historical levels and will remain a stock of yield concern as it has been for the last 18 years. Recently during the March 2018 Alaska Board of Fisheries meeting, Proposal 231 was adopted with additional language (RC46) to repeal the current closures on first pulse fishing in Districts 1 and 2. However, managers would still retain the authority to close or restrict the fishery if the preseason forecast was insufficient to meet escapement goals and/or harvest levels.

During the commercial Chum fishery in 2017, subsistence fisherman had the opportunity to sell incidentally caught Chinook Salmon. There may be a similar opportunity in 2018 if fisheries managers deem it appropriate.

Preliminary management objectives for 2018 as stated in the 2018 Yukon River Salmon Fisheries Outlook include allowing 7.5-inch or smaller mesh gillnets 24 hours per day, 7 days per week prior to the first pulse arriving. As the Chinook Salmon enter each District, subsistence salmon fishing will be provided on a reduced regulatory schedule with 7.5-inch or smaller mesh gillnets during the early part of the run. If the confidence is high that the Chinook Salmon run is adequate and escapement goals are likely to be met, the use of 7.5-inch gillnets on a full regulatory schedule will be considered. If in-season assessment indicates a poorer than anticipated run, subsistence fishing time may be reduced or gear may be limited to selective gear types with no retention of Chinook Salmon allowed.

Biological Background

<u>Chinook Salmon</u>

Recent analyses indicate that Yukon River Chinook Salmon stocks appear to be in the third year of increasing productivity after the low returns of 2015. Historically, the stocks show periods of above-average abundance (1982-1997) and periods of below-average abundance (1998 onwards), as well as periods of generally higher productivity (brood years 1993 and earlier) mixed with years of low productivity (brood years 1994-1996 and 2002-2005; Schindler et al. 2013).

The 2014 run was expected to be the smallest on record, with a projected size of 64,000-121,000 fish. Despite initial concerns, the cumulative passage estimate at the mainstem Yukon River sonar project in Pilot Station was approximately 138,000±17,000 (90% CI) fish (**Figure 2**). The passage estimate was still below the historical average of 143,000 fish and below the average of 195,800 fish for years with early run

timing. Even with below average run sizes, all escapement goals that could be assessed were achieved (JTC 2015).

The 2015 projected run size was 118,000-140,000 fish, which was once again below average but higher than the previous year's projection. Cumulative passage estimates at the sonar station in Pilot Station were approximately 116,000±30,000 fish (90% CI) (**Figure 2**). As with the previous year, this number was still below the historical average. All escapement goals were again met (JTC 2016).

The 2016 run outlook was a below-average run of 130,000–176,000 fish (JTC 2017). Cumulative passage estimates at the sonar station in Pilot Station were approximately 176,898±18,466 fish (90% CI) (JTC 2018). This number was near the recent historical average of 178,300 fish (ADF&G 2018), but is considered preliminary at this time. All escapement goals were again met (JTC 2016).

The 2017 run outlook was slightly larger, but still for a below average run of 140,000-194,000 fish (JTC 2017). Cumulative passage estimates at the Pilot Station sonar were approximately 263,000±29,000 fish (90% CI) (ADF&G 2018), the largest since 2003 (JTC 2017). Most escapement goals were met except for 2007, 2008, 2010, 2012 and 2013 (JTC 2017).

The 2018 Yukon River Chinook Salmon fisheries outlook is for a run size of 173,000 to 251,000 fish (**Figure 2**, ADF&G 2018). The upper end of this range is less than the total estimated run observed in 2017 which was 263,000±29,000 fish. The 2018 Yukon River Salmon Fisheries Outlook states that the 2018 run may be large enough to provide for normal subsistence harvests;, however, a cautionary approach will be taken early in the season, and in-season management strategies will be based on run assessment information once fish begin entering the river. If assessment indicates the Chinook Salmon run size is near the upper end of the range, and goals are projected to be met, subsistence fishing restrictions would likely be relaxed. If that occurs, commercial Chum Salmon fishermen may be given the opportunity to sell Chinook Salmon incidentally-caught in the Chum Salmon fishery, but this would likely be at the tail end of the run, when the majority of the Chinook Salmon have passed upriver for escapement and subsistence harvest purposes.

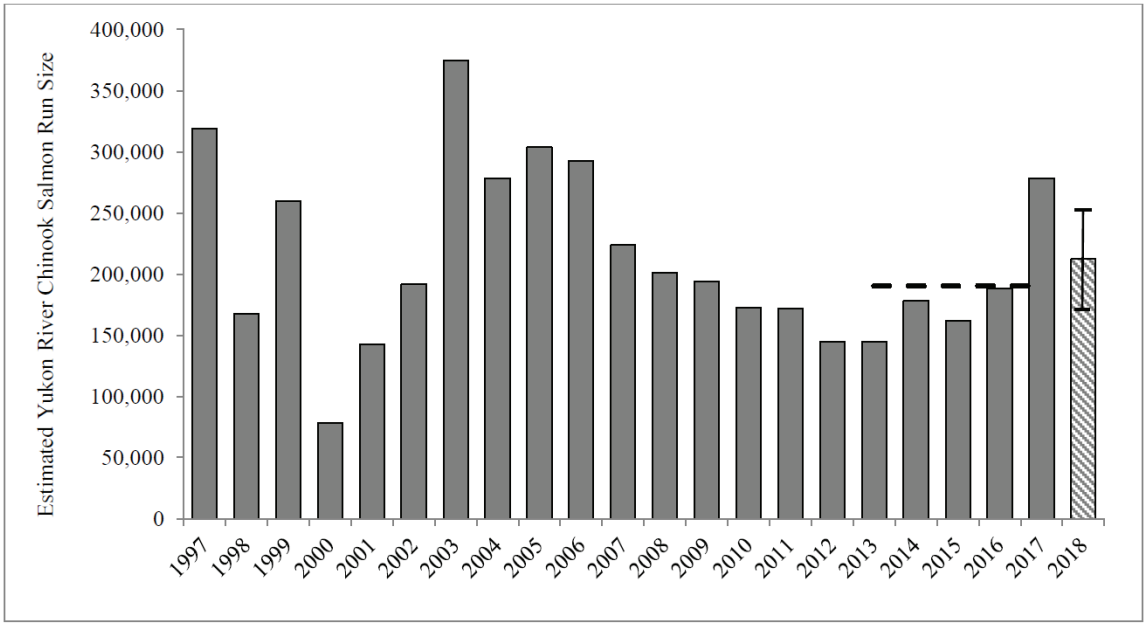

Figure 2. Historical (1997-2017) and forecasted 2018 estimated Yukon River Chinook Salmon total run size with respective 95% confidence interval. Dashed line indicates last five-year average near 200,000 Chinook Salmon (ADF&G 2018).

Harvest History

Subsistence

The entire Yukon River drainage has more than 50 communities, most of which participate in subsistence fisheries. Subsistence salmon fishing activities in the Yukon River drainage typically begin in late May and continue through early October. Currently the primary method for estimating the subsistence harvest is through an annual subsistence salmon harvest survey program that the Alaska Department of Fish & Game, Division of Commercial Fisheries administers, which conducts a survey of 33 communities (including the coastal communities of Scammon Bay and Hooper Bay) during the fall and after the fishing season (Jallen et al. 2017). In recent years, subsistence fishing has increasingly targeted other species of salmon and non-salmon fish. In order to allow continued subsistence opportunity throughout the season, subsistence fishing activity has been managed to avoid the take of Chinook Salmon while allowing for the harvest of other fish species.

Between 2006 and 2016, the ten year average Chinook Salmon subsistence harvest was approximately 41,200 fish annually in the Alaskan portion of the Yukon River. The five year average from 2011-2016 was 18,000 fish (**Figure 3**). Subsistence harvest levels of Chinook Salmon have declined since 1997 due to declining run abundance and resultant harvest restrictions (Schindler et al. 2013). Both survey and permit data for the 2017 subsistence salmon harvests in the Alaska portion of the Yukon River drainage was estimated to be 36,992 Chinook Salmon. The harvest levels during 2017 for Chinook Salmon were below levels defined by the BOF as Amounts Reasonably Necessary for Subsistence (ANS 45,500-66,704

Chinook; Jallen 2012). Additionally, 2017 was the fourth highest subsistence harvest level for the last ten years with 2008 being number one at 43,700 fish harvested.

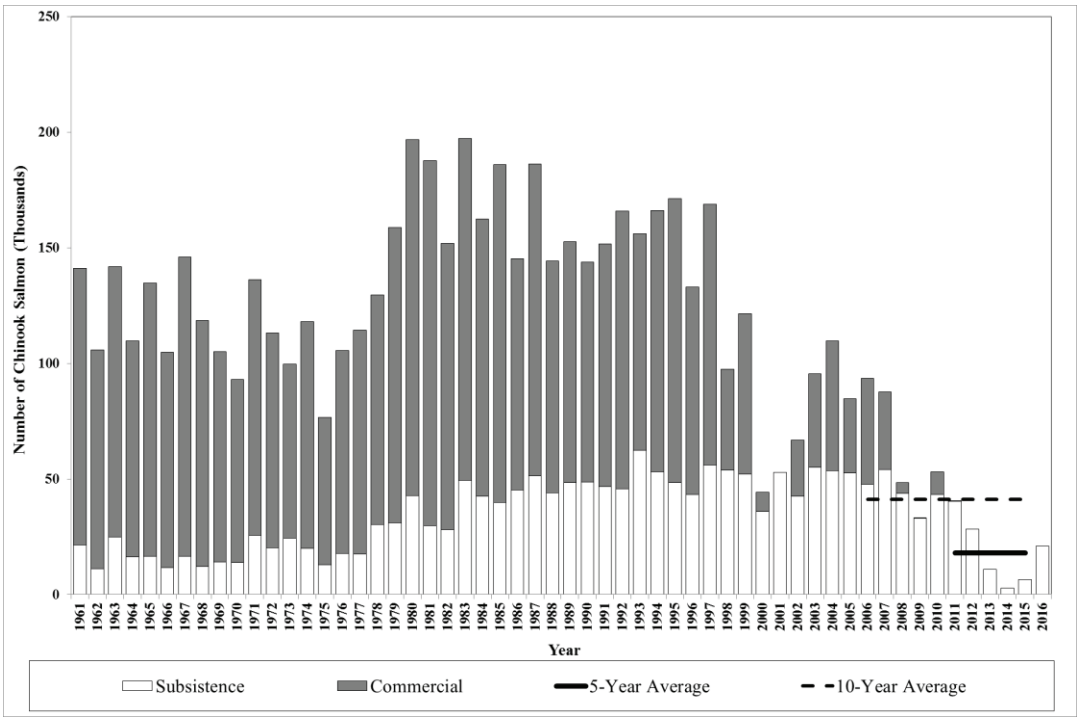

Figure 3. Historical subsistence (hollow bars) and commercial (grey bars) harvest of Chinook Salmon in the Yukon River from 1961 – 2016. Solid black line indicates last 5 year average and dashed black line indicates last 10 year average subsistence harvest (JTC 2017).

Commercial

A commercial fishery directed towards Chinook Salmon has taken place since 2008. Retention and sale of incidental caught Chinook Salmon was allowed during two opportunities since 2008. Directed commercial harvest for Chinook Salmon was prohibited for the seventh consecutive year during the 2017 summer season. During the fall fishing seasons of 2011 and 2017, 82 and 168 fish were sold commercially in Districts 1 and 2, respectively. The 1961-2005 average commercial harvest is 98,000 and the 2006-2016 average harvest of 15,700 (JTC 2018).

Sport

Sport fishing harvest of Chinook Salmon are generally low in the Yukon River drainage. The 2012-2016 average sport fishing harvest within the Alaska portion of the Yukon River was estimated to be 105 Chinook Salmon (JTC 2018). The majority of sport fishing effort in the drainage occurs in the Tanana River drainage (District 6). Outside of the Tanana River, the Andreafsky (in District 2) and Anvik (in

District 4) rivers receive the bulk of the remaining effort. During 2017, sport fishing was allowed after June 20, and allowed for a bag limit of 1 Chinook Salmon 20-inches or greater (JTC 2018).

Cultural Knowledge and Traditional Practices

The use and importance of salmon and other non-salmon species for Yukon River communities has been documented through oral histories and harvest surveys conducted in the area. Historically, many Yukon communities followed a semi-nomadic, subsistence lifestyle, spending time at seasonal camps, migrating with the resources and harvesting various species of fish, along with hunting and gathering subsistence resources. Humans have lived in the Yukon area for over 10,000 years (Rainey 1940, Cinq-Mars 1979) and fishing was a family and community activity, deeply ingrained in to the cultures of the people in this area. People traditionally used weirs and fish traps, and nets made of animal sinew and willow bark and more recently employed set nets along with fish wheels for salmon at their fish camps. Multi-generational family groups would travel to seasonal camps to harvest fish and wildlife. Although fewer young people spend time at seasonal camps now due to employment, school, and other responsibilities, subsistence fishing continues to be important for communities up and down the river. According to surveys, many older people recalled whole families spending long hours at their fish camps, harvesting, processing, and preserving fish. Children learned about subsistence activities from their elders at fish camp (Brown et al. 2010; Brown et al. 2015).

Salmon is considered the most reliable and significant subsistence resource on the Lower Yukon River. Salmon has always been an important part of the culture, economically and socially, and the knowledge of how to catch, process, and preserve fish has been passed down from generation to generation. Before contact by outsiders dried fish was regularly traded between Yukon villages along with other commodities such as furs and sea mammal products (Wolfe 1981).

Yukon River residents are dependent on the harvest of salmon, especially Chinook Salmon, for both subsistence and commercial uses. Starting in the late 1990s, Chinook Salmon began to decline so people harvested more summer and fall Chum Salmon along with other subsistence resources (Brown et al. 2015). In the 1960s, people started using gillnets to drift fish for salmon for personal and commercial use. Today fishing still plays an important cultural role in the communities along the lower and middle Yukon River, and the knowledge of how and when to fish is still passed down from generation to generation.

Customary trade of fish is also an important part of continuing trade networks in rural areas of Alaska. Salmon fishing takes place in the summer and timing is based on the runs for various species. Local residents also use nets under the ice to fish for Northern Pike, whitefish, or Sheefish in the spring before breakup. Communities have used various types of nets and fish wheels to harvest fish through the generations. Fish wheels are used less now than they were in the past when people were catching more fish to feed sled dogs, but are still used in some areas, mainly to catch fish for human consumption (Brown et al. 2010). Chum Salmon, once primarily used for dog food, were caught using nets set from the shore but are now consumed by people in the United States and overseas. As more village runways were built, increasing air travel, and more snow machines were brought to the villages, the dependency on sled dogs was reduced, reducing the need for harvesting fish to feed dogs (Brown et al.2015).

The use, harvest, and dependence of salmon resources can vary by community based on cultural practices, resource availability, economics and many other factors. Yukon River drainage residents exhibit these variations generally within the lower, middle, and upper stretches of the drainage. Communities present along the river and their populations over time, by fishing district, are represented in **Appendix A**.

Other Alternative(s) Considered

The proponent of this proposal raises both conservation and future subsistence use concerns due to the opening of Districts 1 and 2 to harvest first pulse Chinook Salmon. The proposal could employ an alternative approach during the first pulse by reducing the level of harvest though gear or fishing time restrictions. This practice is already standard for the in-season managers when run size forecasts look to be insufficient to meet escapement goals and subsistence needs. This option still allows for an opportunity to fish first pulse fish, when the in-season manager feels the preseason Chinook Salmon forecast indicates sufficient abundance to meet escapement goal objectives and subsistence harvest needs. The amended language (RC46) added in the BOF proposal 231 allows this flexibility for the in-season managers to still restrict the access of Districts 1 and 2 if the forecasts indicates insufficient abundance to meet escapement goal objectives and subsistence harvest needs. This alternative approach to managing the first pulse of Chinook Salmon is, however, more restrictive on Federally qualified subsistence users than State regulations. However the State regulations do allow for flexibility in the inseason management decision to close or restrict harvest if the run seems to be insufficient to meet escapement and harvest goals.

Effects of the Proposal

If FP19-06 were adopted, Federally qualified subsistence users fishing under Federal Subsistence regulations in Federal public waters in all Yukon River Districts would have a complete closure to the harvest of first pulse Chinook Salmon. This proposal would directly contradict recent BOF proposal 231, allowing subsistence fishing opportunity for Districts 1 and 2 to fish first pulse Chinook Salmon, if the preseason Chinook Salmon forecast indicates sufficient abundance to meet escapement goal objectives and subsistence harvest needs. FP19-06 has the potential to limit subsistence harvest opportunities during times of higher abundance levels. If adopted, this proposal would also make Federal subsistence management regulations more restrictive than State fishing regulations. If adopted, there could be excessive harvest on later arriving females, since males are known to primarily make up the first pulse.

Federally qualified subsistence users prefer to put up fish earlier in the summer when the weather is better for drying fish and decreases chances of spoilage. This proposal has the potential to increase the focus of fishing effort later in the summer during times of poorer weather which could in return increase spoilage. Some or most of the fisherman are mobile enough that the benefit of a closure in Federal public waters could be offset by harvest in non-Federal public waters, rendering this proposal ineffective at achieving its stated intent.

If FP19-06 is not to be adopted, Districts 1 and 2 may be allowed conditional subsistence harvest opportunity to fish first pulse Chinook Salmon. However, if the preseason Chinook Salmon forecast indicates insufficient abundance to meet escapement goal objectives and subsistence harvest needs, the Federal and State in-season managers shall manage the Chinook Salmon subsistence fishery conservatively

and not open any salmon subsistence fishing periods during the first pulse of Chinook Salmon entering the Districts.

OSM PRELIMINARY CONCLUSION

Oppose Proposal FP19-06.

Justification

Adoption of this proposal will reduce opportunities for Federally qualified subsistence users during years when escapement goals and objectives are projected to be met or exceeded. In-season managers currently attempt to manage this fishery conservatively. During years where abundance of Chinook Salmon will not be able to meet escapement needs, harvest objectives or the Canadian Interim Management Escapement Goal objectives, the in-season managers still retains authority to limit harvest through gear or time restrictions, or completely close the fishery in a conservation effort. Therefore, this proposal will only add complexity to this fishery and remove some of the in-season management flexibility the fisheries managers currently have to allow subsistence harvest opportunities. The BOF proposal 231 with amended language from RC46, allows in-season managers to close Districts 1 and 2 subsistence harvest on first pulse Chinook Salmon if the forecast is too weak. Additionally, adoption of this proposal would also make Federal subsistence management regulations more restrictive than State subsistence fishing regulations, and thus fail to provide a meaningful rural subsistence priority.

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Appendix A. Population data for communities within the Yukon River drainage fishing Districts, 1960-2010.

U.S. CENSUS POPULATION							
Community	**1960**	**1970**	**1980**	**1990**	**2000**	**2010**	**2010 number of house-holds**
Stebbins city	158	231	331	400	547	556	134
Outside drainage subtotal	**158**	**231**	**331**	**400**	**547**	**556**	**134**
Alakanuk city	278	265	522	544	652	677	160
Nunam Iqua city	125	125	103	109	164	187	43
Emmonak city	358	439	567	642	767	762	185
Kotlik city	57	228	293	461	591	577	128
District 1 subtotal	**818**	**1,057**	**1,485**	**1,756**	**2,174**	**2,203**	**516**
Mountain Village city	300	419	583	674	755	813	184
Pitkas Point CDP	28	70	88	135	125	109	31
Saint Marys city	260	384	382	441	500	507	151
Pilot Station city	219	290	325	463	550	568	121
Marshall city	166	175	262	273	349	414	100
District 2 subtotal	**973**	**1,338**	**1,640**	**1,986**	**2,279**	**2,411**	**587**
Russian Mission city	102	146	169	246	296	312	73
Holy Cross city	256	199	241	277	227	178	64
Shageluk city	155	167	131	139	129	83	36
District 3 subtotal	**513**	**512**	**541**	**662**	**652**	**573**	**173**
Anvik city	120	83	114	82	104	85	33
Grayling city	0	139	209	208	194	194	55
Kaltag city	165	206	247	240	230	190	70
Nulato CDP	183	308	350	359	336	264	92
Koyukuk city	128	124	98	126	101	96	42
Huslia city	168	159	188	207	293	275	91
Hughes city	69	85	73	54	78	77	31
Allakaket city	115	174	163	170	97	105	44
Alatna CDP				31	35	37	12
Bettles city	77	57	49	36	43	12	9
Evansville CDP	77	57	45	33	28	15	12
Wiseman CDP	0	0	8	33	21	14	5
Coldfoot CDP					13	10	6
Galena city	261	302	765	833	675	470	190
Ruby city	179	145	197	170	188	166	62
District 4 subtotal	**1,542**	**1,839**	**2,506**	**2,582**	**2,436**	**2,010**	**754**
Tanana city	349	120	388	345	308	246	100
Rampart CDP	49	36	50	68	45	24	10
Stevens Village CDP	102	74	96	102	87	78	26
Beaver CDP	101	101	66	103	84	84	36
Fort Yukon city	701	448	619	580	595	583	246
Chalkyitsik CDP	57	130	100	90	83	69	24

Continued on next page

Appendix A. *Continued from previous page*

U.S. CENSUS POPULATION							
Community	**1960**	**1970**	**1980**	**1990**	**2000**	**2010**	**2010 number of house-holds**
Arctic Village CDP	110	85	111	96	152	152	65
Venetie CDP	107	112	132	182	202	166	61
Birch Creek CDP	32	45	32	42	28	33	17
Circle CDP	41	54	81	73	100	104	40
Chicken CDP	0	0	0	0	17	7	5
Central CDP	28	26	36	52	134	96	53
Eagle Village CDP	0	0	54	35	68	67	31
Eagle city	92	36	110	168	129	86	41
District 5 subtotal	**1,769**	**1,267**	**1,875**	**1,936**	**2,032**	**1,795**	**755**
Livengood CDP					29	13	7
Manley CDP	72	34	61	96	72	89	41
Minto CDP	161	168	153	218	258	210	65
Whitestone CDP						97	22
Nenana city	286	362	470	393	402	378	171
Four Mile Road CDP					38	49	14
Healy CDP	67	79	334	487	1,000	1,021	434
McKinley Park CDP	0	0	60	171	142	185	109
Anderson city	341	362	517	628	367	246	90
Ferry CDP				56	29	33	17
Lake MinChumina CDP	0	0	22	32	32	13	6
Cantwell CDP	85	62	89	147	222	219	104
Delta Junction city	0	703	945	652	840	958	377
Fort Greely CDP	0	1,820	1,635	1,299	461	539	236
Deltana CDP					1,570	2,251	784
Healy Lake CDP	0	0	33	47	37	13	7
Big Delta CDP	0	0	285	400	749	591	206
Dry Creek CDP	0	0	0	106	128	94	29
Dot Lake CDP	56	42	67	70	19	13	7
Dot Lake Village CDP					38	62	19
Tanacross CDP	102	84	117	106	140	136	53
Tetlin CDP	122	114	107	87	117	127	43
Tok CDP	129	214	589	935	1,393	1,258	532
Northway CDP	196	40	73	123	95	71	27
Northway Jct. CDP	0	0	0	88	72	54	20
Northway Village CDP						98	
Alcan border CDP	0	0	0	27	21	33	16
Nabesna CDP						5	3
District 6 subtotal	**1,617**	**4,084**	**5,557**	**6,168**	**8,271**	**8,856**	**3,439**
TOTAL	**7,390**	**10,328**	**13,935**	**15,490**	**18,391**	**18,404**	**6,358**

CDP=Census Designated Place. Black cell=information is not available. Source: ADCCED 2014.

ANNUAL REPORTS

Background

ANILCA established the Annual Reports as the way to bring regional subsistence uses and needs to the Secretaries' attention. The Secretaries delegated this responsibility to the Board. Section 805(c) deference includes matters brought forward in the Annual Report.

The Annual Report provides the Councils an opportunity to address the directors of each of the four Department of Interior agencies and the Department of Agriculture Forest Service in their capacity as members of the Federal Subsistence Board. The Board is required to discuss and reply to each issue in every Annual Report and to take action when within the Board's authority. In many cases, if the issue is outside of the Board's authority, the Board will provide information to the Council on how to contact personnel at the correct agency. As agency directors, the Board members have authority to implement most of the actions which would effect the changes recommended by the Councils, even those not covered in Section 805(c). The Councils are strongly encouraged to take advantage of this opportunity.

Report Content

Both Title VIII Section 805 and 50 CFR §100.11 (Subpart B of the regulations) describe what may be contained in an Annual Report from the councils to the Board. This description includes issues that are not generally addressed by the normal regulatory process:

- an identification of current and anticipated subsistence uses of fish and wildlife populations within the region;
- an evaluation of current and anticipated subsistence needs for fish and wildlife populations from the public lands within the region;
- a recommended strategy for the management of fish and wildlife populations within the region to accommodate such subsistence uses and needs related to the public lands; and
- recommendations concerning policies, standards, guidelines, and regulations to implement the strategy.

Please avoid filler or fluff language that does not specifically raise an issue of concern or information to the Board.

Report Clarity

In order for the Board to adequately respond to each Council's annual report, it is important for the annual report itself to state issues clearly.

- If addressing an existing Board policy, Councils should please state whether there is something unclear about the policy, if there is uncertainty about the reason for the policy, or if the Council needs information on how the policy is applied.
- Council members should discuss in detail at Council meetings the issues for the annual report and assist the Council Coordinator in understanding and stating the issues clearly.

- Council Coordinators and OSM staff should assist the Council members during the meeting in ensuring that the issue is stated clearly.

Thus, if the Councils can be clear about their issues of concern and ensure that the Council Coordinator is relaying them sufficiently, then the Board and OSM staff will endeavor to provide as concise and responsive of a reply as is possible.

Report Format

While no particular format is necessary for the Annual Reports, the report must clearly state the following for each item the Council wants the Board to address:

1. Numbering of the issues,
2. A description of each issue,
3. Whether the Council seeks Board action on the matter and, if so, what action the Council recommends, and
4. As much evidence or explanation as necessary to support the Council's request or statements relating to the item of interest.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
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INFORMATION BULLETIN - July 2018

Cooperative Salmon Escapement Monitoring Projects. Contact: Pat Walsh
ADF&G has monitored Chinook, chum and sockeye salmon escapement on the Middle Fork Goodnews River since 1980. Togiak Refuge has worked with ADF&G since 1992 to assist in staffing the weir until 2017, during which reduced Refuge funding prevented providing staff assistance.

On the Kanektok River, ADF&G, Native Village of Kwinhagak, Coastal Villages and Togiak Refuge have worked cooperatively to monitor salmon and Dolly Varden runs since 2001. However, this project has been cancelled for the past three years (2016-2018) due to lack of funding.

Mulchatna Caribou Contact: Andy Aderman
Togiak Refuge assisted ADF&G with telemetry monitoring flights, radiocollar deployment, satellite data acquisition, data entry and database management. A composition survey conducted October 14-15, 2017 estimated ratios of 32 bulls and 27 calves per 100 cows. Both the bull to cow and calf to cow ratios were slightly below their management objectives (Neil Barten, ADF&G, personal communication). Results of a photocensus conducted July 6, 2018 are forthcoming.

Nushagak Peninsula Caribou Contact: Andy Aderman
A composition survey conducted October 13, 2017 estimated ratios of 30 bulls and 42 calves per 100 cows. The bull to cow ratio declined to its second lowest level while the calf to cow ratio was slightly below the previous 5-year average of 45.8 calves per 100 cows. For the 2017-2018 season, hunters reported harvesting 95 caribou (53 bulls and 42 cows) on the federal permit hunt while an additional 5 bulls were reported on the state RC501 permit which was open for the area immediately north of the federal hunt (Neil Barten, ADF&G, personal communication).

A photocensus of the Nushagak Peninsula Herd on July 3, 2018 found a minimum of 709 caribou in 4 groups which resulted in a total population estimate of 787 +/- 114 (673-901) caribou at the 95% confidence interval (Dominic Demma, ADF&G, personal communication). A similar effort in 2017 found a minimum of 786 caribou in 5 groups resulting in an estimate of 968 +/- 217 (751-1185) caribou.

The Nushagak Peninsula Caribou Planning Committee met July 27, 2018 to review results of previous hunts, population and lichen monitoring and the harvest strategy. Average lichen cover on the Nushagak Peninsula has declined from 48% estimated in 2002 down to 30% in 2017. There was consensus among the Committee members to support the harvest objective of 150 caribou and an initial harvest limit of 2 caribou per hunter for the 2018-2019 hunt.

Moose Contact: Andy Aderman
Togiak Refuge has been engaged in developing a moose survey method that does not rely on complete snow cover, and preliminary results suggest that 1) the method is succeeding, and 2) that the Togiak Refuge moose population has continued the growth we have documented over the past 20 years. The results that follow should be considered tentative, pending a statistical peer review currently underway by ADF&G.

A Refuge-wide survey conducted in October 2016 with no snow cover estimated 2,590 (+504 at 80% confidence) moose. Sightability trials involving radio-collared moose indicated 72.7% detection which equates to a sightability correction factor (SCF) of 1.375. Applying the correction increases the estimate to 3,561 moose. A similar effort in March 2017 with complete snow cover estimated 3,071 (+503 at 80% CI) moose. Sightability improved to 83.3% (or a SCF of 1.2) resulting in a Refuge-wide estimate of 3,685 moose. The most recent survey in October 2017, estimated 2,368 (+441 at 80% confidence) moose. Sightability trials involving radio-collared moose indicated 71.0% detection which equates to a SCF of 1.409. Applying the correction increases the estimate to 3,337 moose.

In mid-March 2018, a one day survey with two Refuge aircraft found a minimum of 173 moose in the Kanektok and Arolik River drainages. In 2011, only 5 moose were observed in a survey of these two drainages. Aircraft and pilot support was provided by the Alaska Peninsula/Becharof NWR.

In May 2018, 19 of 30 (63.3%) radio-collared adult cows produced 31 calves suggesting a production rate of 103.3 calves per 100 adult cows which is down from the previous 5 year average of 111.2 calves per 100 adult cows. The twinning rate was 63.2% which is similar to the previous 5 year average of 63.5%.

The reported moose harvest in Unit 17A for 2017-2018 was 73 (55 bulls and 18 cows) with the following breakdown: 42 bulls reported in the fall RM573 hunt; 3 bulls in the fall DM 570 hunt; 7 bulls in the winter RM575 hunt and 3 bulls and 18 cows in the winter RM576 hunt (Neil Barten, ADF&G, personal communication). Note: both the RM575 and RM576 hunts got extended to February 20, 2018.

The relationships of wolf and brown bear predation with moose population density and growth at Togiak National Wildlife Refuge and BLM Goodnews Block, Alaska Contact: Pat Walsh
In summer 2014, Togiak Refuge, the USFWS Genetics Lab, ADF&G, and BLM initiated a study to understand the effects of wolf and brown bear predation in regulating the populations of moose. The study relies on radio telemetry and stable isotope analysis. Our approach is to relate the predation impact by wolves and bears on moose at varying levels of moose population

density. We will use existing population estimates for brown bears, and through the use of radio telemetry, we will estimate the number and composition of wolf packs on the Refuge. We will model wolf and bear predation on moose based on the quantity of wolves and bears and diet composition of both species determined through analysis of carbon and nitrogen isotopes occurring in bear and wolf hair. Hair is being collected from wolves when captured during radio collaring operations, and has been collected from brown bears using break-away hair snares. So far, we have captured and radioed 27 wolves from seven packs. During summers 2014-2016, we deployed over 400 snares, and collected over 200 brown bear hair samples. Laboratory analyses have been completed for bear and most wolf samples, and data are being reviewed to determine where sampling gaps exist.

Walrus Contact: Doug Holt

The Togiak Refuge has annually monitored the number and timing of Pacific walruses at haul-outs since 1985, using ground counts (1985-2008), aerial surveys (2003-2011) and time lapse photography (2010-2017). Overall, walrus numbers have declined, with the greatest declines at Cape Peirce and Cape Newenham. Peak counts in the most current year when every day was counted (2015) were 722 at Cape Peirce, 682 on Hagemeister Island, and 437 at Cape Newenham. Walrus using haul-outs in Bristol Bay are typically recorded from late spring to late fall but have been observed at Cape Newenham every month except one since cameras were deployed in fall of 2014.

Seabirds Contact: Kara Hilwig

The abundance and reproductive success of black-legged kittiwakes, common murres, and pelagic cormorants has been monitored annually at Cape Peirce from 1990-2014, and intermittently at Cape Newenham from 1990-2009. Seabird studies resumed at Cape Peirce in 2016 to present. In 2015 and 2016, large seabird mortality events were observed along North America's west coast. Population counts and reproductive success of kittiwakes, murres, and cormorants at Cape Peirce in 2016-2018 were among the lowest recorded since the initiation of the monitoring. During the last three years, reproductive failure was observed for all three species monitored at Cape Peirce. In 2018, nesting was attempted but no hatchlings were observed. However, crews observed attempts by black-legged kittiwakes and common murres to renest and will return to Cape Peirce in late July/early August to observe the outcome. Population and productivity monitoring will continue in June 2019.

Invasive Aquatic Plant Surveys Contact: Kara Hilwig

Elodea spp. is a highly invasive and difficult to control aquatic plant implicated in the degradation and loss of fish habitat across the world. It was confirmed present in Alaska in 2009 and is now found in several waterbodies across the State, although it has not been reported from Bristol Bay waters. Elodea infestations in salmon streams and lakes can reduce the quality of salmon spawning and rearing habitat. Elodea surveys have never been conducted on Togiak Refuge, Wood-Tikchik State Park or the surrounding areas. Early detection and removal of Elodea from pristine waters of Bristol Bay will be the least expensive and most effective method of protecting one of the largest salmon fisheries in the world from the detrimental effects of this invader. Funding to conduct surveys on the Refuge and Park was awarded this year with surveys currently underway. To date, Elodea spp. has not been detected.

Water Temperature Monitoring Contact: Doug Holt
Stream temperature monitoring was conducted at 21 locations on 14 rivers in Togiak National Wildlife Refuge from August 2001 until July 2016. Continuous hourly water temperatures were recorded at each site. Over 2.1 million temperature records were collected, quality-graded, and digitally stored in a relational database. The warmest month each year was July. The maximum recorded mean daily summer temperatures varied by location, with median values of 9.8–22.9°C across sites. The warmest temperatures were observed in the Kukaktlim Lake outlet and the coolest temperatures were observed in the Weary River. Based on differences in maximum daily mean temperature, the four warmest sites were each located near a lake outlet. Recorded temperature measurements at each site except the Weary River exceeded the Alaska Department of Environmental Conservation's 13°C temperature criteria for fish habitat two or more years, with temperature readings at Gechiak Lake outlet, Kukaktlim Lake outlet, Middle Fork Goodnews Lake outlet, and Nichols Lake outlet exceeding these criteria annually. The warmest year observed was 2004. Previous analyses of data collected on these sites indicated a cooling trend but recently a warming trend has been observed. More monitoring is required to determine if differences in previous and current trend observations are the result of cyclical patterns or a long-term warming trend.

Temperature was monitored at 2 lakes with temperature loggers equally spaced from surface to the lake bottom and temperature recorded every hour. Both lakes exhibited similar patterns of turnover and surface freezing in winter beginning near the end of November and thawing near the end of April each year. Data from each lake showed evidence of multiple freeze/thaw events during the winter of 2015-2016.

Quantifying River Discharge Contact: Pat Walsh
Togiak Refuge and the USFWS Water Resources Branch have worked cooperatively since 1999 to acquire baseline hydrologic data of the flow regime (magnitude, duration, timing, frequency, and rate of change) and water quality. A network of stream discharge gages collected stream flow data from 1999-2005 at 20 locations. A subset of five of these stations continued to collect data through fall 2009, after which three of the five stations were removed. We will monitor discharge in the Togiak and Kulukak Rivers indefinitely. Each gage is instrumented with pressure sensors that measure water level every 15 minutes. On-grounds discharge measurements are made 3 to 6 times a year. In 2014, satellite transmitters were added to the stream gages that allow remote monitoring of the equipment.

Education and Outreach Contact: Terry Fuller
Togiak Refuge has an active education and outreach program, conducting an average of 60+ classroom visits throughout 12 Bristol Bay villages annually. Classroom visits include lessons about the Migratory Bird Calendar; National Wildlife Refuge Week; careers in natural resource conservation, and numerous teacher requested classroom presentations. The refuge works with several school districts and private schools including the Southwest Region, Lower Kuskokwim, Dillingham City school districts and the Dillingham 7th Day Adventist School. Field trips with area students for the 2017-2018 school year included bird walks, animal tracks and ID, archery,

salmon life cycles, aquatic resources and bear safety. The refuge website is also an education tool and is available at http://togiak.fws.gov.

The refuge, in partnership with Alaska Department of Fish and Game and the Southwest Region School District, has also conducted 7 hunter safety courses throughout western Bristol Bay Villages, impacting more than 100 students in Manokotak, Dillingham, Twin Hills, Togiak, Aleknagik and Quinhagak. The refuge plans to continue these courses in 2018 and will be adding the National Archery in School Program to its offerings in the future.

The refuge education program also produces Bristol Bay Field Notes, an award-winning weekly radio program on KDLG 670 AM that covers an array of outdoor-related topics (past episodes can be found on KDLG's website. Togiak Refuge has an active and heavily followed Facebook page which disseminates information on a daily basis to a rapidly growing global audience.

Outreach programs for the community continued in the fall and winter. The refuge hosted a family bird feeder building program and Christmas Bird Count pancake breakfast. These efforts resulted in doubling the participation for the Christmas bird count.

Also, the refuge partners with others to conduct three environmental education camps described below:

Cape Peirce Marine Science and Yup'ik Culture Camp Contact: Terry Fuller
In July 2018 an enthusiastic group of eight area junior high students representing two villages (Dillingham and Goodnews Bay) traveled to Cape Peirce for this camp. Students were able to observe seabirds, marine mammals, and learn how field work is conducted, as well as learning about the food webs and ecological relationships found at the Cape Peirce area. Students also learned about traditional Yup'ik uses of animals and plants and about Native survival skills. This camp is designed to help students gain a better understanding of the biological diversity of a marine ecosystem. It also strengthens their sense of stewardship for local natural resources. Other topics at this camp included tide pools, wilderness survival skills, archery, bear safety, Leave No Trace camping practices and careers with USFWS. Refuge Interpreter Jon Dyasuk spoke with students about traditional resource uses. Reporter Isabelle Ross of KDLG participated in the camp and will prepare a feature story about the camp for the KDLG website and the Bristol Bay Times. Traditional councils and school districts from throughout western Bristol Bay are cooperators with this camp.

Southwest Alaska Science Academy (Salmon Camp) Contact: Terry Fuller
In July 2018, Togiak Refuge helped with the 18th year of a summer camp aimed at teaching middle and high school students about fisheries science and the importance of salmon to our ecosystem. Students were selected from the Bristol Bay region. During the camp students worked in the field alongside fisheries professionals. Cooperators with the refuge on this project included the Bristol Bay Economic Development Corporation, Bristol Bay Science and Research Institute, University of Alaska, University of Washington School of Fisheries, the Dillingham City and Southwest Region school districts, and ADF&G.

Summer Outdoor Skills and River Ecology Float Camp Contact: Terry Fuller
The 2017 Float Camp took place on the Ongivinuk River. At this camp, nine high school students (three from Anchorage, two from Quinhagak, one from Manokotak and three from Dillingham) learned about river ecosystems and how to enjoy them safely and responsibly while taking part in a float trip conducted on a refuge river. Students observed and learned about the many fish, wildlife and plant species found on the Ongivinuk. Rafting skills, water safety, different angling practices (Catch and Release), Leave No Trace camping practices and bear safety were topics during the trip. Students also participated in other outdoor activities such wilderness survival skills. This camp helps students grasp the biological diversity of riparian ecosystems and the importance of salmon as a nutrient source, while developing a deeper sense of stewardship for local natural resources. Traditional councils and school districts in western Bristol Bay are cooperators with this camp. Note: the 2018 float camp is set to happen during the week of August 6-10; details will be available in future bulletins.

River Ranger Program Contact: Allen Miller
The Refuge River Ranger Program was conceived during the public use management planning process and was first implemented in 1991. The program serves many purposes. River Rangers are the main contact source for sport fishermen and local residents. Information distributed to the public includes Service policies, regulations, resource management practices, State sport fish regulations, bear safety, wilderness ethics, Leave-No-Trace camping and information about private lands to prevent trespass. Rangers document public use occurring on the rivers along with the location and timing of activities, conflicts between users, and sport fish catch/harvest per unit effort. Rangers also assist Refuge staff with biological studies. In addition, Rangers patrol campsites for litter, monitor compliance of sport fishing guides and offer assistance as needed. In recent years, continuing into 2018, the Refuge Information Technicians (RITs) and River Rangers have also recruited local volunteers to assist them in river patrols. This helps build capacity and partnership within the villages. River Ranger volunteers donated nearly 100 hours of their time over the 2017 summer. During the summer of 2018, there is one Refuge River Ranger on the Kanektok River.

The Village of Goodnews Bay has developed its own River Ranger Program, and Togiak Refuge has been working closely with their two rangers, Cathy Evan and Paul Bright. Paul took park in the Refuge annual seasonal training in June 2018, particularly in motorboat operation and bear and firearms safety. Paul and Cathy are assisting with some of the logistics for Refuge administrative float trips on the Goodnews River during August 2018.

Staff Update
Togiak RIT Keemuel Kenrud resigned in December 2017. The job vacancy was advertised in the spring of 2018 and an announcement of the new RIT for Togiak is expected very soon. New Federal Wildlife Officer Derek Thompson arrived in Dillingham mid-December 2017. In February 2018, Visitor Services Manager Amanda Cochran moved to Bryce Canyon National Park and accepted the Deputy Chief of Interpretation position. Her position remains vacant for budgetary reasons.

Winter 2019 Regional Advisory Council Meeting Calendar

Due to travel budget limitations placed by Department of the Interior on the U.S. Fish and Wildlife Service and the Office of Subsistence Management, the dates and locations of these meetings will be subject to change.

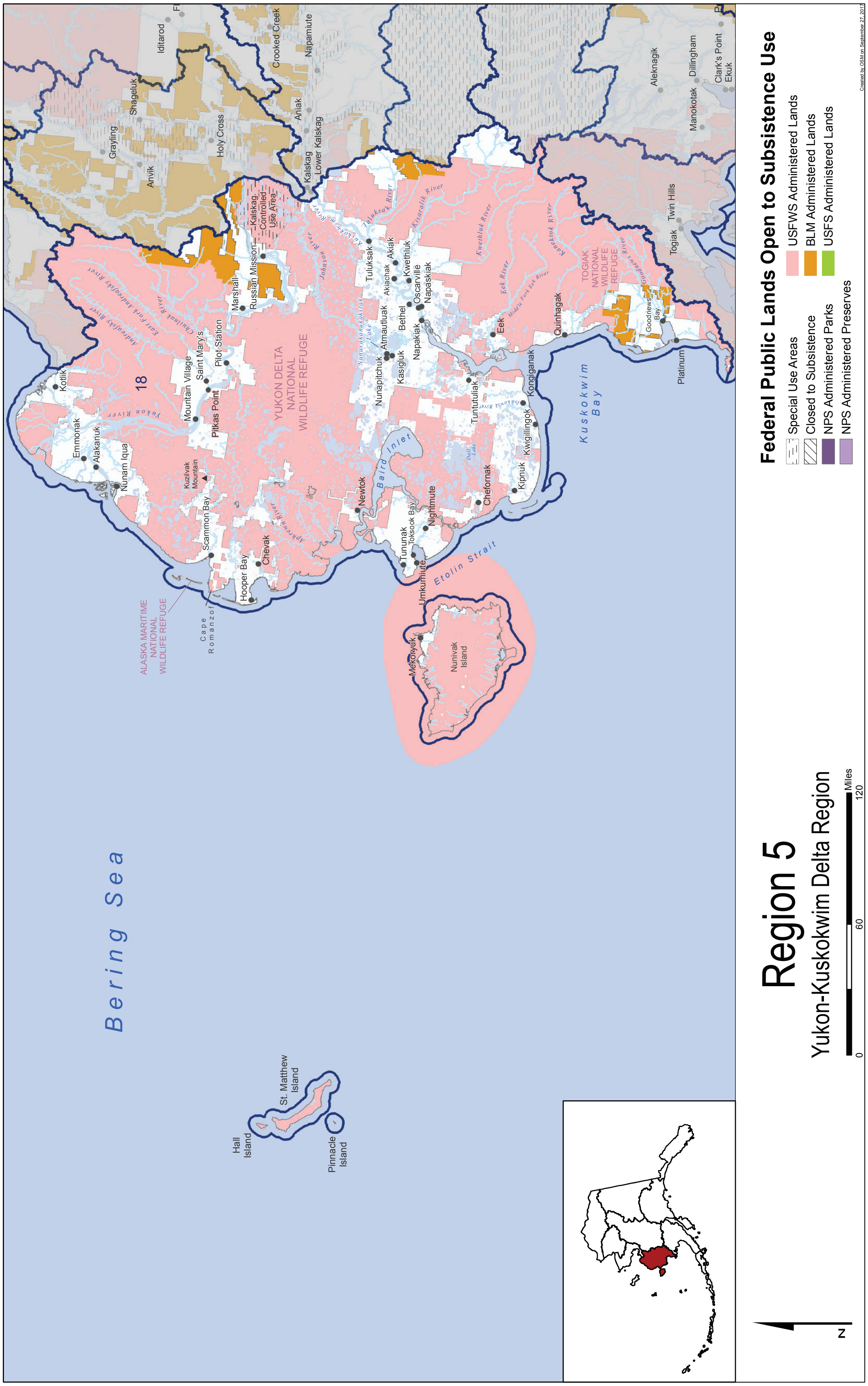
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Feb. 3	*Feb. 4* *Window Opens*	*Feb. 5* **BB — Naknek**	*Feb. 6*	*Feb. 7*	*Feb. 8*	*Feb. 9*
Feb. 10	*Feb. 11*	*Feb. 12* **SE — Wrangell**	*Feb. 13* **NS — Utqiaġvik**	*Feb. 14*	*Feb. 15*	*Feb. 16*
Feb. 17	*Feb. 18* ***PRESIDENT'S DAY*** ***HOLIDAY***	*Feb. 19*	*Feb. 20* **WI — Fairbanks**	*Feb. 21* **KA — Kodiak**	*Feb. 22*	*Feb. 23*
Feb. 24	*Feb. 25*	*Feb. 26* **SC — Anchorage**	*Feb. 27* **NWA — Kotzebue**	*Feb. 28*	*Mar. 1*	*Mar. 2*
Mar. 3	*Mar. 4*	*Mar. 5* **EI — Fairbanks** **SP — Nome**	*Mar. 6*	*Mar. 7*	*Mar. 8*	*Mar. 9*
Mar. 10	*Mar. 11*	*Mar. 12* **YKD — Bethel**	*Mar. 13*	*Mar. 14*	*Mar. 15* *Window Closes*	*Mar. 16*

Fall 2019 Regional Advisory Council Meeting Calendar

Due to travel budget limitations placed by Department of the Interior on the U.S. Fish and Wildlife Service and the Office of Subsistence Management, the dates and locations of these meetings will be subject to change.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Aug. 18	*Aug. 19*	*Aug. 20*	*Aug. 21*	*Aug. 22*	*Aug. 23*	*Aug. 24*
Aug. 25	*Aug. 26*	*Aug. 27*	*Aug. 28*	*Aug. 29*	*Aug. 30*	*Aug. 31*
Sept. 1	*Sept. 2* **LABOR DAY HOLIDAY**	*Sept. 3*	*Sept. 4*	*Sept. 5*	*Sept. 6*	*Sept. 7*
Sept. 8	*Sept. 9*	*Sept. 10*	*Sept. 11*	*Sept. 12*	*Sept. 13*	*Sept. 14*
Sept. 15	*Sept. 16*	*Sept. 17*	*Sept. 18*	*Sept. 19*	*Sept. 20*	*Sept. 21*
Sept. 22	*Sept. 23*	*Sept. 24*	*Sept. 25*	*Sept. 26*	*Sept. 27*	*Sept. 28*
Sept. 29	*Sept. 30*	*Oct. 1*	*Oct. 2*	*Oct. 3*	*Oct. 4*	*Oct. 5*
Oct. 6	*Oct. 7*	*Oct. 8*	*Oct. 9*	*Oct. 10*	*Oct. 11*	*Oct. 12*
Oct. 13	*Oct. 14* **COLUMBUS DAY HOLIDAY**	*Oct. 15*	*Oct. 16*	*Oct. 17*	*Oct. 18*	*Oct. 19*
Oct. 20	*Oct. 21*	*Oct. 22*	*Oct. 23*	*Oct. 24*	*Oct. 25*	*Oct. 26*
Oct. 27	*Oct. 28*	*Oct. 29*	*Oct. 30*	*Oct. 31*	*Nov. 1*	*Nov. 2*
Nov. 3	*Nov. 4*	*Nov. 5*	*Nov. 6*	*Nov. 7*	*Nov. 8*	*Nov. 9*

AFN — Fairbanks


Region 5
Yukon-Kuskokwim Delta Region
Federal Public Lands Open to Subsistence Use
Special Use Areas
Closed to Subsistence
NPS Administered Parks
NPS Administered Preserves
USFWS Administered Lands
BLM Administered Lands
USFS Administered Lands
0
60
120
Miles
N
Bering Sea
Kuskokwim Bay
Etolin Strait
YUKON DELTA NATIONAL WILDLIFE REFUGE
ALASKA MARITIME NATIONAL WILDLIFE REFUGE
TOGIAK NATIONAL WILDLIFE REFUGE
Kalskag Controlled Use Area
18
Nunivak Island
Mekoryuk
St. Matthew Island
Hall Island
Pinnacle Island
Cape Romanzof
Kotlik
Emmonak
Alakanuk
Nunam Iqua
Mountain Village
Saint Mary's
Pilot Station
Pitkas Point
Marshall
Russian Mission
Scammon Bay
Hooper Bay
Chevak
Newtok
Tununak
Toksook Bay
Nightmute
Umkumiute
Chefornak
Kipnuk
Kwigillingok
Kongiganak
Tuntutuliak
Eek
Quinhagak
Goodnews Bay
Platinum
Napakiak
Napaskiak
Oscarville
Bethel
Kasigluk
Nunapitchuk
Atmautluak
Tuluksak
Akiachak
Akiak
Kwethluk
Kalskag
Lower Kalskag
Aniak
Holy Cross
Anvik
Grayling
Shageluk
Iditarod
Crooked Creek
Napamiute
Aleknagik
Dillingham
Manokotak
Clark's Point
Ekuk
Twin Hills
Togiak
Kuzilvak Mountain
Yukon River
Kuskokwim River
Baird Inlet
Created by OSM on September 27, 2013

Department of the Interior
U. S. Fish and Wildlife Service

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Charter

1. **Committee's Official Designation.** The Council's official designation is the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council (Council).

2. **Authority.** The Council is renewed by virtue of the authority set out in the Alaska National Interest Lands Conservation Act (ANILCA) (16 U.S.C. 3115 (1988)), and under the authority of the Secretary of the Interior, in furtherance of 16 U.S.C. 410hh-2. The Council is regulated by the Federal Advisory Committee Act (FACA), as amended, 5 U.S.C. Appendix 2.

3. **Objectives and Scope of Activities.** The objective of the Council is to provide a forum for the residents of the Region with personal knowledge of local conditions and resource requirements to have a meaningful role in the subsistence management of fish and wildlife on Federal lands and waters in the Region.

4. **Description of Duties.** Council duties and responsibilities, where applicable, are as follows:

   a. Recommend the initiation of, review, and evaluate proposals for regulations, policies, management plans, and other matters relating to subsistence uses of fish and wildlife on public lands within the Region.

   b. Provide a forum for the expression of opinions and recommendations by persons interested in any matter related to the subsistence uses of fish and wildlife on public lands within the Region.

   c. Encourage local and regional participation in the decision-making process affecting the taking of fish and wildlife on the public lands within the Region for subsistence uses.

   d. Prepare an annual report to the Secretary containing the following:

      (1) An identification of current and anticipated subsistence uses of fish and wildlife populations within the Region.

      (2) An evaluation of current and anticipated subsistence needs for fish and wildlife populations within the Region.

      (3) A recommended strategy for the management of fish and wildlife populations within the Region to accommodate such subsistence uses and needs.

(4) Recommendations concerning policies, standards, guidelines, and regulations to implement the strategy.

e. Make recommendations on determinations of customary and traditional use of subsistence resources.

f. Make recommendations on determinations of rural status.

g. Provide recommendations on the establishment and membership of Federal local advisory committees.

h. Provide recommendations for implementation of Secretary's Order 3347: Conservation Stewardship and Outdoor Recreation, and Secretary's Order 3356: Hunting, Fishing, Recreational Shooting, and Wildlife Conservation Opportunities and Coordination with States, Tribes, and Territories. Recommendations shall include, but are not limited to:

(1) Assessing and quantifying implementation of the Secretary's Orders, and recommendations to enhance and expand their implementation as identified;

(2) Policies and programs that:

(a) increase outdoor recreation opportunities for all Americans, with a focus on engaging youth, veterans, minorities, and other communities that traditionally have low participation in outdoor recreation;

(b) expand access for hunting and fishing on Bureau of Land Management, U.S. Fish and Wildlife Service, and National Park Service lands in a manner that respects the rights and privacy of the owners of non-public lands;

(c) increase energy, transmission, infrastructure, or other relevant projects while avoiding or minimizing potential negative impacts on wildlife; and

(d) create greater collaboration with states, tribes, and/or territories.

i. Provide recommendations for implementation of the regulatory reform initiatives and policies specified in section 2 of Executive Order 13777: Reducing Regulation and Controlling Regulatory Costs; Executive Order 12866: Regulatory Planning and Review, as amended; and section 6 of Executive Order 13563: Improving Regulation and Regulatory Review. Recommendations shall include, but are not limited to:

Identifying regulations for repeal, replacement, or modification considering, at a minimum, those regulations that:

(1) eliminate jobs, or inhibit job creation;

(2) are outdated, unnecessary, or ineffective;

(3) impose costs that exceed benefits;

(4) create a serious inconsistency or otherwise interfere with regulatory reform initiative and policies;

(5) rely, in part or in whole, on data or methods that are not publicly available or insufficiently transparent to meet the standard for reproducibility; or

(6) derive from or implement Executive Orders or other Presidential and Secretarial directives that have been subsequently rescinded or substantially modified.

At the conclusion of each meeting or shortly thereafter, provide a detailed recommendation meeting report, including meeting minutes, to the Designated Federal Officer (DFO).

5. **Agency or Official to Whom the Council Reports.** The Council reports to the Federal Subsistence Board Chair, who is appointed by the Secretary of the Interior with the concurrence of the Secretary of Agriculture.

6. **Support.** The U.S. Fish and Wildlife Service will provide administrative support for the activities of the Council through the Office of Subsistence Management.

7. **Estimated Annual Operating Costs and Staff Years**. The annual operating costs associated with supporting the Council's functions are estimated to be $190,000, including all direct and indirect expenses and 1.15 staff years.

8. **Designated Federal Officer**. The DFO is the Subsistence Council Coordinator for the Region or such other Federal employee as may be designated by the Assistant Regional Director – Subsistence, Region 7, U.S. Fish and Wildlife Service. The DFO is a full-time Federal employee appointed in accordance with Agency procedures. The DFO will:

(a) Approve or call all of the advisory committee's and subcommittees' meetings;

(b) Prepare and approve all meeting agendas;

(c) Attend all committee and subcommittee meetings;

(d) Adjourn any meeting when the DFO determines adjournment to be in the public interest; and

(e) Chair meetings when directed to do so by the official to whom the advisory committee reports.

9. **Estimated Number and Frequency of Meetings.** The Council will meet 1-2 times per year, and at such times as designated by the Federal Subsistence Board Chair or the DFO.

10. **Duration.** Continuing.

11. **Termination.** The Council will be inactive 2 years from the date the Charter is filed, unless, prior to that date, it is renewed in accordance with the provisions of section 14 of the FACA. The Council will not meet or take any action without a valid current charter.

12. **Membership and Designation.** The Council's membership is composed of representative members as follows:

Thirteen members who are knowledgeable and experienced in matters relating to subsistence uses of fish and wildlife and who are residents of the Region represented by the Council.

To ensure that each Council represents a diversity of interests, the Board in their nomination recommendations to the Secretary will strive to ensure that nine of the members (70 percent) represent subsistence interests within the Region and four of the members (30 percent) represent commercial and sport interests within the Region. The portion of membership representing commercial and sport interests must include, where possible, at least one representative from the sport community and one representative from the commercial community.

The Secretary of the Interior will appoint members based on the recommendations from the Federal Subsistence Board and with the concurrence of the Secretary of Agriculture.

Members will be appointed for 3-year terms. A vacancy on the Council will be filled in the same manner in which the original appointment was made. Members serve at the discretion of the Secretary.

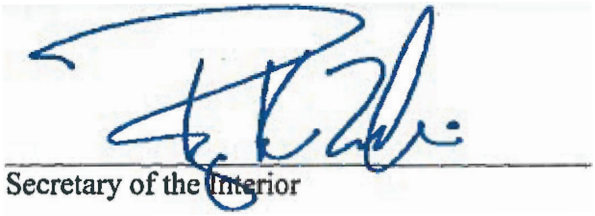
Council members will elect a Chair, Vice-Chair, and Secretary for a 1-year term.

Members of the Council will serve without compensation. However, while away from their homes or regular places of business, Council and subcommittee members engaged in Council, or subcommittee business, approved by the DFO, may be allowed travel expenses, including per diem in lieu of subsistence, in the same manner as persons employed intermittently in Government service under section 5703 of title 5 of the United States Code.

13. **Ethics Responsibilities of Members.** No Council or subcommittee member will participate in any Council or subcommittee deliberations or votes relating to a specific party matter before the Department or its bureaus and offices including a lease, license, permit, contract, grant, claim, agreement, or litigation in which the member or the entity the member represents has a direct financial interest.

14. **Subcommittees.** Subject to the DFOs approval, subcommittees may be formed for the purpose of compiling information and conducting research. However, such subcommittees must act only under the direction of the DFO and must report their recommendations to the full Council for consideration. Subcommittees must not provide advice or work products directly to the Agency. Subcommittees will meet as necessary to accomplish their assignments, subject to the approval of the DFO and the availability of resources.

15. **Recordkeeping.** Records of the Council, and formally and informally established subcommittees or other subgroups of the Council, shall be handled in accordance with General Records Schedule 6.2, and other approved Agency records disposition schedule. These records shall be available for public inspection and copying, subject to the Freedom of Information Act, 5 U.S.C. 552.



Secretary of the Interior

DEC 0 1 2017

Date Signed

DEC 0 4 2017

Date Filed

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