

YUKON-KUSKOKWIM DELTA Subsistence Regional Advisory Council



USFWS

Sunset in the field. A view of the Kigigak Island field camp after a late afternoon rain shower.

Meeting Materials

October 2–3, 2013

Bethel, Alaska

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YUKON-KUSKOKWIM DELTA SUBSISTENCE REGIONAL ADVISORY COUNCIL

Yupit Piciryarait Cultural Center
420 Eddie Hoffman Highway
Bethel, Alaska
October 2-3, 2013
9:00 a.m. – 5:00 p.m. each day

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: 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. **Roll Call and Establish Quorum** (*Secretary*)..... 4
- 2. **Call to Order** (*Chair*)
- 3. **Welcome and Introductions** (*Chair*)
- 4. **Review and Adopt Agenda*** (*Chair*)..... 1
- 5. **Election of Officers** (*Council*)
 - A. Chair
 - B. Vice Chair
 - C. Secretary
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- 10. **New Business** (*Chair*)

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NOTE: Council will recess on first day prior to receiving a briefing on this issue. There will be a public hearing in the evening, at which time the rural determination issue will be briefed to the Council and public. Meeting will be facilitated by LT lead, ISC member and/or Board member. Council will conduct its own deliberations on the issue on second day.

- E. Presentation of 20-Year Service Award (FSB member)**
- F. Council Compensation (Robert Aloysius)**
- G. Invasive Plants Update**
 - 1. Elodea (Pat Samson - Kuskokwim River Watershed Council)
 - 2. Other invasive species
- H. Identify Issues for 2013 Annual Report**

11. Agency Reports

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2. Kuskokwim Native Association (KNA)	
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Confirm date and location of winter 2014 meeting on Mar 5-6, 2014 in Bethel, Alaska	
Select date and location of fall 2014 meeting	
13. Closing Comments	
14. Adjourn (Chair)	

To teleconference into the meeting, call the toll free number: 1-866-560-5984, then when prompted enter the passcode: 12960066

The U.S. Fish and Wildlife is committed to providing access to this meeting for those with a disability who wish to participate. Please direct all requests for accommodation for a disability to the Office of Subsistence Management at least five business days prior to the meeting. If you have any questions regarding this agenda or need additional information, please contact Alex Nick, Council Coordinator at 907-543-1037, alex_nick@fws.gov, or contact the Office of Subsistence Management at 1-800-478-1456 for general inquiries.

REGION 5—Yukon-Kuskokwim Delta Regional Advisory Council

Seat	Yr Apptd <i>Term Expires</i>	Member Name & Address
1	2004 2013	William Frank Brown Eek, Alaska
2	1997 2013	James Aiagiak Charles Tuntutuliak, Alaska
3	2010 2013	Noah M. Andrew Tuluksak, Alaska
4	2010 2013	Evan Kus Polty Sr. Pilot Station, Alaska
5	1996 2014	Lester Wilde (Sr.) Hooper Bay, Alaska Chair
6	2011 2014	Paul J. Manumik, Sr. Nunam Iqua, AK
7	2011 2014	Vacant
8	1993 2014	Harry O. Wilde Sr. Mountain Village, Alaska
9	1999 2014	Mary M. Gregory Bethel, Alaska
10	2012 2015	Raymond J. Oney Alakanuk, Alaska
11	2003 2015	Greg J. Roczicka Bethel, Alaska
12	2003 2015	Robert E. Aloysius Kalskag, Alaska
13	2006 2015	David Bill, Sr. Toksook Bay, Alaska

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

Meeting Minutes

February 27-28, 2013

Yupiit Piciryarait Cultural Center

Bethel, Alaska

Meeting was called to order by Greg Roczicka at 1:09 p.m.

Roll call was done by the Council Coordinator.

Member Present

Greg J. Roczicka
William F. Brown
James A. Charles
Noah M. Andrew, Sr.
Evan K. Polty, Sr.
Robert E. Aloysius
Harry O. Wilde, Sr.
David A. Bill, Sr.
Lester Wilde
Mary Gregory

Members Absent

Raymond J. Oney, - Excused
Paul J. Manumik, Sr. - Excused
Andrew Brown, Sr. - Excused

Meeting Participants

Alex Nick, Dr. David Jenkins, Chris McKee (online), Pippa Kenner (online) OSM; Daniel Sharp, (online) BLM; Glenn Chen, BIA; Fred Bue (online), FWS; Eric Newland, Hiruko Ikuta, Drew Crawford, Travis Elison, ADF&G; Kevin Bartley, University of Alaska; Gerald Mashmann, USFWS; James Nicholai, Atmauthluak; Joe Asuluk, Sr., Yukon Delta NWR; Jackson Williams, Akiak; Roberta Chavez, ONC; Nick Ayapen, Andrew Jimmy, Kwethluk.

Invocation

Mr. Harry Wilde provided an invocation.

Welcome and Introduction

Greg Roczicka welcomed all meeting participants to Bethel on behalf of Bethel based Orutsararmiut Tribal Council. Because Council meeting had a late start time Council need to move along with the agenda items.

Housekeeping Items

Alex Nick reported the reasons why certain Council members were absent. He informed Council in the meeting packet there is a new Council Operations Manual.

Review and Adopt Agenda

Mr. Robert Aloysius made a motion to adopt revised agenda. Motion was seconded by James Charles.

Under discussion Mr. Aloysius added on the agenda compensation for Council members that reside in a meeting location because hosting Council members are not reimbursed for their expense while attending Council meetings. Mr. Aloysius felt that it would be fair for Council members be paid a per diem or compensation to offset expenses incurred and lead to substantial losses while attend Council meeting. Alex Nick brought up Ms. Mary Gregory wanted to add Invasive Species on the agenda for Council discussion.

Dr. David Jenkins informed the Council agenda Item B. WCR12-07 may have been added on the agenda erroneously.

Motion carried.

Election of Officers

Council tabled Election of Officers until time comes most members are in attendance. Council felt it fair to other members do this.

Appointments

Council reviewed Lower Yukon Coordinating Fisheries Committee membership status briefly. Current committee members in the Lower Yukon comprised of Paul J. Manumik, Sr. from Nunam Iqua and Even K. Polty, Sr. from Pilot Station.

Robert Aloysius made a motion to reappoint current members Mr. Paul Manumik, Sr. and Mr. Evan K. Polty, Sr. on the Lower Yukon Coordinating Fisheries Committee.

Motion was seconded by James Charles.

Motion carried.

After Council reviewed current membership status for the Lower Kuskokwim Coordinating Fisheries Committee Council took following action was taken.

Motion

Robert Aloysius made a motion to reappoint Mr. James Charles and Mr. Robert Aloysius as Lower Kuskokwim Coordinating Fisheries Committee. Motion was seconded by Evan Polty, Sr.

Motion carried.

Kuskokwim River Salmon Management Working Group Representative

Council reviewed membership status on the Kuskokwim River Salmon Management Working Group. Current Kuskokwim River Salmon Management Working Group members representing Yukon-Kuskokwim Delta Subsistence Regional Advisory Council is Robert Aloysius.

Mr. William F. Brown made a motion to reappoint Mr. Robert Mr. Aloysius as a member on the Kuskokwim River Salmon Management working Group representing the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council.

Motion was seconded by Mr. Robert Aloysius.

Motion carried.

Review and Approve Previous Meeting Minutes from February 23, 2012 Meeting

Alex Nick informed the Council the draft meeting minutes were sent out to all Council members for their review via mail. Chair asked Council to take a few minutes to review these draft minutes.

Motion

Mr. Noah Andrew made a motion to adopt minutes from February 23, 2012 as written.

Motion was seconded By Mr. Robert Aloysius.

Motion carried.

Draft Minutes from October 10-11, 2012 Meeting

Motion

Mr. Robert Aloysius made a motion to adopt minutes from October 10-11, 2012 as written.

No discussion on the motion.

Motion carried.

Reports

Council members did not have any reports.

805(c) Report/Summary of Board Action on fisheries Proposals

Alex Nick informed Council 805(c) letter is Federal Subsistence Board (FSB) action report and it shows what actions the Board took on the Federal regulatory change proposals Council previously reviewed and made its recommendations for actions. Mr. Nick said 805(c) letter is signed by FSB Chair.

Mr. Don Rivard, fisheries biologist with the Office of Subsistence Management (OSM) gave a brief synopsis of the Federal Subsistence Board actions at its recent meeting relating to Yukon Delta region, as well as crossover and statewide proposals. Proposal FP13-01 was supported by this Council. FSB adopted this proposal. Proposal FP13-02, this Council recommended revision on marking requirements in Yukon River District 1, 2, and 3. FSB adopted this proposal. Proposal FP13-03 Council was opposed this proposal. FSB rejected this proposal.

Dr. David Jenkins reported on other FSB actions on the proposals Council made its recommendations for FSB action. The Board adopted customary trade proposal FP13-06 which would limit customary trade only to those with a positive customary and traditional use for Chinook salmon. The Board took no action on the remaining customary trade proposals FP13-07, FP13-08, FP13-09, FP13-10, and FP11-08.

Public and Tribal Comments on Non-Agenda Items

Mr. Brian Williams with Alakanuk Native Corporation provided comments stating he would like to see subsistence and commercial fishing continue in districts 1, 2, and 3 in Lower Yukon and it should be left as was before. On behalf of younger generations Mr. Williams would like to see local lifestyle of fishing for salmon to continue. Restricting subsistence fishing would affect future generations because it's local people's way of life. It is getting to the point where it is more and more difficult to fish for Chinook salmon. Mr. Williams asked the Council to protect subsistence way of life for future generations.

Mr. Jackson Williams noted that in the past, especially this past summer, subsistence fishers have experienced hardships. He shared information about Yup'ik nomadic subsistence activities that required moving from one camp to another while harvesting subsistence resources available in the field at that time. Change in the current subsistence way of life is affecting local people. He attended all kinds of resource and related meetings including the Federal Subsistence Board meeting at which time he provided public testimony. Local elders advised local people to go out and harvest needed salmon last summer for subsistence use while fishery was closed. He shared when water level is high like it was last summer, Chinook salmon harvest would be limited and fishers would harvest only a few Chinook salmon at a time.

Mr. Harry Wilde reported a meeting was held in community of Mountain Village at which he learned subsistence users will need to use different fishing techniques this summer of which is seine and dip nets. Fishers in the past harvested salmon while using drift gillnets and about a 100 chums was harvested each drift in Yukon River Districts 1, 2, and 3. He said he has been involved with resource management decision making through his participation and he supported recommendations made at that time. He did not realize some of the actions were in contrary to subsistence needs of his own people. He is now 83 years of age and if he was aware that he was supporting the wrong side of management decisions at that time he would not have supported those actions that would affect subsistence uses of salmon. Several times he was asked by elderly people why he is in support of the new methods and means for harvesting subsistence fish. Seine and dip

nets are new techniques and are not familiar methods to local people. Fishery managers wanted these techniques used for both commercial and subsistence salmon fishing this coming summer. He referred to the bycatch Chinook salmon and others species issues in the Ocean that are being disposed of. He hopes resource fishery managers understand the new techniques are not going to be easy to use for elderly and those who cannot afford new methods and means for harvesting subsistence fish.

Noah Andrew thanked Mr. Williams for providing his comments. Chinook salmon and Coho are Yup'ik people's main diet while freshwater species like pike and whitefish are supplemental subsistence resources. Mr. Williams' comments provide Council encouragement to go on and provide their recommendations for management of the subsistence resources.

Ms. Mary Gregory appreciated Mr. Brian Williams and Mr. Jackson Williams' comments and she thanked them for participating on Council meeting. Council listens to participants although Council experiences hard time convincing fish and wildlife resource managers. Fish and wildlife resource managers should assist users to maintain subsistence way of life.

Mr. Ivan Ivan from Akiak provided his comments online and he stated people depends on the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council for protection of their subsistence fishing rights such as Chinook salmon. Federal agencies such as the Service carries out trust their responsibility and deal with tribes on government to government basis. Ivan thanked the government for providing tribal consultations for subsistence issues and regulatory change proposals. He indicated elders and younger generation need to eat Chinook salmon dry fish during a long hard winter season because it is more filling than eating pizza. Another concern brought up is that local elders are not comfortable with gillnet mesh sizes allowed for harvest of salmon. An eight inch or over mesh size had preserved Chinook salmon from the past to this day. Four inch mesh size gillnet is not recognized as good harvest method for salmon according to the elder's knowledge. Smaller mesh size gillnets is known to kill king salmon jack fish that are believed to return back to the Ocean to grow up before it returns to spawn according to elder's knowledge. He said a couple of month ago when government scientists looked at famine issue they reported there is no problem with any fish species in the Kuskokwim River. But they couldn't speak for the Yukon River salmon species. Ivan referred to indicators for salmon returns such as continuous rain, winds, waves that drive fish into the river channels. Key point here is tribal consultation by regulatory decision makers as people can't survive without harvesting Chinook. If elders don't eat what they are used to it could affect them physically, mentally, and emotionally.

Mr. Evan Polty stated it is true Chinook salmon while migrating upriver in the drainages when water level is high takes a short cut through sloughs that are usually shallow instead of using its usual migration route when water level is low. Chinook salmon takes short cuts even through a shallow water level when water level is very high.

Mr. Joseph Manuchuak from Kwigillingok (telephonic) said that he appreciates others' comments. Although he doesn't participate on the salmon commercial fishery he participates when subsistence salmon fishing is allowed. He does not agree with salmon fishing closures because there weren't any restriction on salmon fishing in the historical past in the Kuskokwim River.

James Nicholai from Atmauthluak commented that in the past, Yup'ik salmon subsistence fishers used to be told by their local leaders to harvest salmon as much as they could and avoid wanton waste while harvesting fish. Elders told hunters and fishers when subsistence resources are not harvested there will be decline of the resources numbers. Example he used was muskrats which used to be abundant in the past when people hunted muskrats for subsistence and trade. Nowadays, muskrat numbers declined to the point there is hardly any left on Tundra ponds and drainages. Subsistence fisherman harvests only what they need while being conservatively harvesting what is available. Mr. Nicholai advised people should conserve Chinook salmon because its numbers has declined. In the past use of an eight inch mesh gear was introduced. A certain elder stated at that time the Chinook salmon would bump into the net and return back to the Ocean because of the mesh size being used for fishing.

Mr. Joe Asuluk commented this is the first time he is providing comments in front of a group like this. He said in the past years there have been some discussions about ever declining but Chinook salmon are not only specie that is declining in numbers. Other species including halibut in Nelson Island are also declining in its numbers. He said fish harvested in Nelson Island are getting smaller in size. He used an example when other fish and wildlife resources like birds or big game is illegally harvested there would be citations issued. He asked what about trawl fisheries that harvest salmon as a bycatch. What happens when enforcement personnel become aware of that? Wanton waste left by fishers lead to a fine for each specie and number of fish wasted. What consequences are imposed on trawlers for disposing bycatch species? He said others make fun of Eskimos eating seal blubber but it's not funny because he and David Bill personally witnessed when others made fun of them. It is not good feeling when one becomes hungry. He does not want to see his children and grandchildren go hungry without food. All of what he mentioned leads to hardship. He mentioned bycatch issues caused by the Bering Sea trawl fisheries causing hardship for salmon subsistence users. If local people are found guilty of any wanton waste of the resource, why trawlers are not guilty of disposal of salmon resources?

Mr. David Bill, Sr. said there is two kinds of trawlers in the Bering Sea, one is mid water trawler and other is bottom trawler. The issue of bycatch of salmon started about 2009. He used an example of Yup'ik people speaking different languages while testifying whenever issue comes up. Yukon River people testified what they want to see and recommended different number of bycatch figures while Kuskokwim River representatives used different ways of providing their comments and coastal representatives do the same thing. He said that is why Yukon-Kuskokwim Delta including the coast lost when they try to advocate for something. He said people of the Delta need to focus on same testimony if they wish to get what they want done. These

days issues are salmon resources. He said one of the elders who passed away indicated a long time ago there was abundant numbers of reindeer in Hooper Bay and Nelson Island area. People made a big issue of reindeer and reindeer declined; the resource is now eliminated from existence.

Collaborative Management Project

Kevin Bartley with University of Alaska informed the Council he is going to be doing a project examining collaborative management between subsistence users and resource agency managers. Since June 2012, he prepared over 150 pages of notes while observing a couple of dozens of fisheries management meetings, and couple of Yukon-Kuskokwim Delta Subsistence Regional Advisory Council meetings. In the last seven weeks he visited six communities in the Delta and interviewed 16 individuals averaging nearly two hours each interview. He realizes Yup'ik people are also qualified scientists. He explained how he understands science. He asked the Council if possible to move his report to winter 2014 meeting because start time for this project was later than anticipated. He hopes to identify factors and be able to provide his recommendations toward better management of fish and wildlife resources.

Call for Federal Regulatory Proposals

Dr. David Jenkins referred to page 57 of Council's workbook and informed Council this is time at which OSM ask for Federal wildlife regulatory change proposals for subsistence hunting and trapping. Deadline for submitting proposals is March 29, 2013.

Greg Roczicka brought up need to extend moose hunting season in lowest Yukon River from Mountain Village on downriver. He said a proposal can be put as a placeholder.

William Brown commented he understands that management agencies assist toward meeting subsistence needs. He wondered why these agencies work against subsistence interests. He is a member on multiple agency and organization committees. He is a leader in his community and deals with local issues relating to substance abuse.

Mr. Harry Wilde wondered how moose population level is in the lower Kuskokwim River. He thought local people were trying to conserve moose long enough.

Greg Roczicka explained the Lower Kuskokwim River Moose Moratorium lasted was just five years while lower Yukon Moose Moratorium took about 7 years. Moose population in the lower Kuskokwim River is rebounding and there is limited permit hunt in fall season.

James Charles stated Unit 18 is large unit that stretches from Kuskokwim River beyond Yukon River. He said last season in lower Kuskokwim River, hunters were allowed to harvest 7 moose on Federal lands and approximately 80 bulls on State managed lands. He said Unit 18 also consists of Alaska Native Claims Settlement Act (ANCSA) corporation lands which are managed by the State. He wondered why agency managers were playing with the subsistence users. He said in the past Federal managers allowed harvest of about 10 animals while State allowed nearly 100 animals. He indicated ANCSA corporations

should step in and begin to restrict harvest of moose within private lands. He said there is no tribal consultation done by the State managers regarding regulatory changes affecting corporation lands which have an affect on hunters. It is frustrating to him when State allows other users to hunt on corporation land. He hunts moose and other animals all over this area even in Unit 21E.

Alex Nick informed Council last couple of months he and Ms. Paula Hartzell with the Yukon Delta National Wildlife Refuge worked with community of Lower Kalskag and some people from community to switch two drainages that were identified incorrectly on the maps. Johnson River was identified as Crooked Creek while Crooked Creek was identified as Johnson River on the map.

After much discussion and much information exchange Council took following action.

Motion

Robert Aloysius made a motion Council to submit a proposal to extend moose hunting season in lowest Yukon River in Unit 18 from August 1 to March 31. And the hunt boundary should follow Kashunak River out to Yukon River, following Yukon River downriver to Andreafski River and then the North Fork of Andreafski River to headwaters as proposed boundary. And bag limit would be two moose.

Motion was seconded by Ms. Mary Gregory.

Motion passed.

Old Business

Approve Draft Annual Report

Alex Nick informed Draft Council 2012 Annual is in their workbook on page 35 and if they haven't review the document he ask they should review for a few minutes. He also informed Council Dan Gillikin with Yukon Delta National Wildlife Refuge has some concerns about an issues listed and a message was left in his voice mail. Mr. Gillikin thought perhaps Council has misunderstanding relating to Issue 2 and Issue 3 of this annual report.

Greg Roczicka commented since he brought up these issues last meeting , it's not Federal Subsistence Board he was concerned about, it's the Secretary of the Interior's member agencies Board members that do not hold the same accountability of the Regional Advisory Council's recommendations when taking discretionary action using existential value system of the lower 48 states and urban mentality. He went on to explain what's been reflected in determinations coming from the Secretary in the past.

Ms. Mary Gregory wanted to add confiscation of nets as one of the issues. She argued taking away personal property like nets without owner's permission is grand larceny in consideration of the cost of nets. Ms. Gregory also stated wildlife protection personnel commits a crime protecting subsistence food resources instead of giving an opportunity to

harvest what is needed for food. She said when someone commits first offense pursuant to criminal offense charges usually a warning is given to offender, not jail time. She said her subsistence way of life needs to be protected by the agency managers.

Mr. James Charles commented when he reviewed draft annual report he couldn't help but call to remember one of the issues that was in past annual reports, that is Tribal consultation. He said Tribal consultation should be for resource management. Through tribal consultation, resource managers should assist local people. He said if for example, nets are going to be confiscated, resource managers should consult with tribes first. Noah Andrew commented that the recommendations made to State and Federal management agencies are not taken seriously. He said that he argued about several issues since he became a member on the Council mainly on fisheries issues. Kuskokwim River is one of the major fisheries producers in the world. Kuskokwim tributaries are much need for salmon fishery to rebound in terms of salmon population level of which much of it is already lost. Conservation measures are strong in Yup'ik communities. What he is not happy with is, salmon harvest was not enough for winter. Chinook salmon are major Yup'ik diet.

Robert Aloysius would like to see abandoned beaver dams in the annual report which he emphasized over and over again in the past. He said subsistence food don't consist of only salmon. There are other local species like sheefish, burbot, pike, whitefish, rainbow trout, Dolly Varden, grayling, blackfish, and needlefish. There is nothing in the annual reports that indicate elimination of abandoned beaver dams that chock up spawning grounds. Beaver dams restrict migration of salmon and freshwater fish species. What's the use of the Federal Subsistence Board if it is not going to address beaver dam issues?

Alex Nick wanted Council identify its members who would be willing to assist toward putting issues in a correct wording.

Motion

Robert E. Aloysius made a motion to direct Council Coordinator work with concerned Council members add, and edit draft annual report.

Motion was seconded by Ms. Mary Gregory.

Motion carried.

New Business

Request for Comments on Rural Determination Process (OSM)

Dr. David Jenkins with the Office of Subsistence Management explained rural determination process news release and he referred to page 54 in Council workbook as he went through issue by issue. During fall Council meetings rural determinations process will be one of the agenda topics for discussion. This is a five-year rework and review rural determination process and now OSM have gone a year on this work. November 1st is the deadline to provide public comments on issues mentioned in the news release and

OSM would like to gather as much comments as possible. Alex Nick translated in summary what rural and nonrural status means. He used Bethel and nearby villages as an example. Should Bethel become a nonrural community those residing in Bethel as a primary residence would not be eligible to subsistence hunt or fish under the Federal subsistence harvest regulations. Sport hunting and fishing regulations would apply to the residents of Bethel.

There was much discussion about rural determination process between Council and agency staff.

Review and Comment on Draft Tribal Consultation Implementation Guidelines

Jack Lorrigan with OSM presented the development of tribal consultation policy and referred to page number where the implementation guidelines. He informed the Council that government staff will work with tribes in consultations in fall meetings. He also informed the Council OSM is still working on the Alaska Native Claims Settlement Act corporation tribal consultation policy. There has been good feedback from both organizations when consultations take place in the past. There was good information exchange and answers to Council's questions.

Southeast Alaska Subsistence Regional Advisory Council letter regarding customary and traditional use determinations

Dr. David Jenkins with OSM presented the Southeast Alaska Subsistence Regional Advisory Council letter and explained what Southeast Council is asking other Councils to do. In January 2013, the Southeast Council Chair sent a letter to all Council Chairs and invited Councils to review the current customary and traditional use determinations process. The Southeast Council urged other Councils to engage in a thorough review of customary and traditional use determinations and its adequacy under Title VIII of ANILCA at their fall 2013 meeting. Council requested in its fall 2013 meeting more information on customary and traditional use determination should be provided.

Council Member Compensation

Robert Aloysius brought up a need to compensate Council members who reside in a meeting location because they do not receive any per diem or stipend to offset their expenses. Council members living in a community where Council chooses and holds its meetings held have not been reimbursed for their expenses to attend Council meetings in the past. Mr. Aloysius said Council members living in a community where Council meeting are being held usually spends their own money for gas. Office of Subsistence Management could label reimbursements however they see fit for Council members that spend their own money for Council meetings because it bothers him to see others not being reimbursed for their personal expenses for attending Council meetings. Similar travel policies do apply for other agencies such as the State of Alaska committees.

Alex Nick informed members of the Council this issue has been dealt with in the past. If Council wants this item be placed on fall meeting agenda it will be included.

Invasive Species

Mary Gregory brought up invasive species she saw in one of the programs in television. She wanted to know whether or not subsistence resources as pike fish might have some contaminants that might affect human health because pike fish eats just about anything. Dan Gillikan with the Yukon Delta National Wildlife Refuge explained fortunately invasive species like Elodea hasn't gotten this far although they are found in other areas. There are no invasive fish species in the area like Atlantic salmon and shad that potentially could show up in our system. Methyl mercury is what could be present in large pike fish because pike is a predator. Older fish may have higher contaminants in the system. Travis Elison with Alaska Department of Fish and Game corrected pike fish is not invasive specie in Yukon-Kuskokwim Delta. Pike fish is local specie and has coexisted with other species like salmon for long time. In Susitna drainage pike fish was planted to that area about three decades ago by some individuals. There was much information exchange about this topic between Council and agency staff.

Agency Reports

Office of Subsistence Management

Budget Update

Dr. David Jenkins gave an update on budget and informed Council we are operating under a continuing resolution. He explained OSM is operating on reduced budget and travel restrictions. If proposed sequester actually goes forward, reductions will be even greater. OSM is making all effort to support the Regional Advisory Councils including staff support, providing travel to meetings, funding conference lines to all meetings.

Staffing update

Dr. David Jenkins updated Council that Assistant Regional Director Pete Probasco has moved on to another position with the Migratory Birds and State Programs. Kathy O'Reilly-Doyle took over Acting Assistant Regional Director for the Subsistence Program. Selection process for vacant position is currently underway. Helen Armstrong and Michelle Chivers are retiring from OSM.

Request for Fisheries Monitoring Plan Proposals

Dr. David Jenkins updated Council the requests for proposals for Fisheries Monitoring Plan can be submitted before April 4, 2013. Funding in the amount of \$3.7 million is anticipated. Funding would be contingent upon what happens to sequestration. All investigation plans addressing Federal fisheries will be considered.

Partners Program Update

Dr. Jenkins said he does not have an update on the Partners Programs.

Council Appointments

Dr. Jenkins informed the Council that Council appointment process has been significantly delayed. Delay was in Washington D.C. level and OSM couldn't find out why Council appointments are delayed.

Regulatory Cycle Update

Dr. Jenkins said the Federal Subsistence Board has heard from many Regional Advisory Councils about the Board meeting dates, fisheries regulatory cycle, and fall Council meeting. The Board will address Council recommendations after Interagency Staff Committee has had opportunity to review Council recommendations.

Memorandum of Understanding (MOU) Update

Dr. Jenkins said the Board heard feedback from Councils on Memorandum of Understanding but has not given final approval for revised MOU to go forward.

Briefing on Consultation with Tribes and Alaska Native Claims Settle Act (ANCSA) Corporations

Jack Lorrigan with OSM updated Council about Tribal and ANCSA Corporation consultation policy for the Federal Subsistence Board. He referred to page 60 of Council workbook and said in January 2011 the Federal Subsistence Board was directed by the Secretary of the Interior to consult with Federally recognized tribes actions that have significant direct impact on tribal interests. The Board commenced development of a tribal consultation policy and formed working group consisting of seven members. In June 2012 eight more members were added to incorporate ANCSA Corporation viewpoints. Within 18 month from the start time the group consulted 16 consultations with over 200 tribes including more than 15 ANCSA corporations. Draft ANCSA Corporation consultation policy is being worked on. Mr. Lorrigan went on with his update and answered questions Council asked.

Yukon Delta National Wildlife Refuge

Spencer Rearden with the Yukon Delta National Wildlife Refuge gave a brief Refuge update. From October through December 2012 Refuge staff traveled to communities in lower Yukon River and provided information on moose biology, mainly on moose population numbers. Refuge staff spoke with communities about potential regulatory changes in Unit 18 remainder. Villages were informed there will be data collection on moose status and that was just completed. Refuge indicated moose population numbers are growing and season can be liberalized if people agreed to that to allow cow harvest by submitting a proposal in that matter. When asked by one of the Council members what bull to cow and calf to cow ratio is in Unit 18 remainder, Rearden responded bull/cow ratio data was not done in 2012 it was done in November 2010. Calf to cow ratio was something like 60 calves to 100 cows and this show production level is high. Rearden indicated that last time he reported there were 40 bulls to 100 cows. Refuge feels moose population in Unit 18 remainder is healthy.

Mr. Harry Wilde commented that in lowest Yukon River moose population is high. People in Mountain Village has invited upriver communities to hunt in lowest Yukon area but local people does not want to see hunters being dropped off by aircrafts. Mr. Wilde's main concern is hunters that are being dropped off by transporters and other aircrafts. He, including local residents does not want to see aircrafts landing and taking off in the area because they drop hunters off elsewhere. He indicated it is dangerous business for aircrafts to land and take off in the area. He shared how much was sacrificed by local people to allow moose numbers increase in the area. Rearden responded Refuge Manager Gene Peltola is well aware of that. Mr. Peltola allows commercial operators drop off hunters to avoid conflicts between other user groups. When asked Rearden said in the Lower Kuskokwim moose hunt area last count was just under a thousand moose. Management goal is to reach two thousand moose and at the same time there has been moose hunting allowed with limited harvest quota. He guessed in 2012 season 81 moose was allowed to be harvested on State managed lands while on Federally managed lands harvest of 19 moose was allowed. Same quota was kept from previous year because there was no data available on moose numbers. There were much discussion between Council and Refuge and ADF&G staff on resource management issues.

Dan Gillikan with Yukon Delta National Wildlife Refuge updated Council on Refuge fisheries. He reminded Council fisheries management issues mainly enforcement issues raised but protections of the resources was needed at the time working with the State. Mr. Gillikan referred to Refuge handout relating to Yukon Delta National Wildlife Refuge programs and projects.

Togiak Refuge

Alex Nick informed Council members the Togiak Refuge provided its Refuge bulletin and is in the workbook. He explained how far Unit 18, Yukon-Kuskokwim Delta Subsistence Regional Advisory Council region extends. He also referred to page 123 of the Council workbook where Mulchatna caribou is mentioned. On page 124 where moose is also mentioned briefly in the bulletin.

U.S. Fish and Wildlife Service

Gerald Maschmann with U.S. fish and Wildlife Service provided information on lower Yukon River preliminary preseason outlook for 2013. Current run sizes are about half of the historic numbers this makes it difficult to meet escapement goals and provide subsistence use in the Yukon River. Total Chinook run sizes have been greatly reduced since year 2000 and Chinook salmon runs have been below management expectations and Chinook escapements into Canada have not been met in three of the five years. Although extreme harvest restrictions were imposed in 2012 numbers still fall short and did not meet escapement goals. Over half of Chinook salmon harvested in Alaska are Canadian origin. Yukon River salmon fisheries management needs Council's support to carry out Yukon River salmon management strategies and management options for 2013 season. 2013 salmon management strategies will be similar to that of 2012 season and

this will be in effort to conserve Chinook salmon. Mr. Maschmann answered Council's questions and provided additional fisheries information.

Alaska Department of Fish and Game

Mr. Eric Newland, acting Yukon area summer season manager provided information on Board of Fish actions relating to Yukon area fisheries. 2013 preliminary chum run forecast is about a half million fish which would provide subsistence and commercial fishing opportunity. Ability to capitalize fishery surplus will depend on management decisions to protect Chinook run. Fall chum return prediction is similar to 2012 which is approximately 1.1 million fish with q range of 900,000 to 1.2 million. Fall chum run size will meet escapement goals and provide surplus that will provide subsistence and commercial harvest opportunity. Coho salmon return is expected to be between below average and average which is similar to 2012 run size. Commercial harvest opportunity will depend on run size. If Coho salmon return is less than expected, commercial fishing opportunity could be conservative. Mr. Newland went on and provided Board of Fish action results on Board of Fish proposals and answered Council member's questions.

Native Organizations

Association of Village Council Presidents (AVCP)

Mr. Timothy Andrew with AVCP brought up issues he is concerned about. First issue he brought up was the Council meetings that used to occur in the villages. He said Council meetings in the villages were extremely valuable to the local people. Council meetings held in the villages encouraged public participation as was in Hooper Bay, Alakanuk, Emmonak, and Aniak. Because of bureaucracy agency prevent Council meetings in the villages and allows meetings to be held in Bethel. Mr. Andrew thinks holding meetings in Bethel discourage local people from villages to apply for Council membership. Second concern Mr. Andrew brought up was muskox, animals that settled in the mainland. Several years ago there were group of muskox sighted on the mainland that was highly publicized and animals were illegally harvested. Currently there is muskox in the Askinuk Mountains, Mud Volcanoes on south of the Yukon River, on north of the Yukon, and upriver near McGrath. In Unit 18 under Federal wildlife harvest regulations there is no Federal season, no muskox management plan, and no harvestable surplus. In the current Federal regulatory booklet in Unit 18 there is no subsistence priority. AVCP is putting pressure on the Yukon Delta National Wildlife Refuge to develop musk ox management plan in the region. Last year during AVCP convention in month of October 2012 a resolution was submitted to the Alaska Federation of Natives asking to host a Congressional hearing on subsistence. One hearing would be held in Bethel and other hearing would be held in ATNA region. Mr. Andrew reported AVCP is currently working on the Yukon and Kuskokwim Inter-Tribal Fisheries Commission. AVCP is making effort to identify at least five individuals from each river system to travel to the Pacific Northwest and visit the Northwest Indian Fisheries Commission hoping to launch Fisheries Commission within the State of Alaska. Mr. Andrew went on and updated Council on the issues that relates to transporters of moose hunters. Mr. Andrew said there has to be consultation in the placement of transporters in the lower Yukon area. Mr.

Andrew reported AVCP is working on identification of salmon mortality and has looked at what is being done in other areas. He also mentioned local fisherman court trials at which three cases were lost. Finally, he brought up elimination of Tuluksak River escapement goals and that his opinion is that there is downside to it. Mr. Andrew answered Council's questions and exchanged information with the Council.

Orutsararmiut Native Council (ONC)

Ms. Roberta Chavez with ONC presented an update on ONC fisheries projects. Ms. Chavez was hired in time to work as inseason volunteer for subsistence fishery survey that was conducted from October – November. Subsistence harvest survey goal was 1,034 households in Bethel of which about 90% was done with assistance of ADF&G along with two ONC technicians. There were issues while conducting fisheries subsistence harvest surveys because some people were not happy with salmon fisheries closures last summer that led to spoilage of drying fish due to weather factors. Next subsistence fisheries harvest survey will be done beginning month of May 2013.

Greg Roczicka updated Council ONC partnered with some of the villages in lower Yukon River and allowed hunters to harvest moose under designated hunt/proxy hunt program for local public service centers like Senior Center and others. Fuel was donated by Crowley Fuel Company and local airlines donated freight to bring back moose meat from the villages.

Kuskokwim Native Association

No report.

Yukon River Drainage Fisheries Association

No update.

Tribal Representatives

Mr. James Nicholai from Atmauthluak provided his comments. Mr. Nicholai thanked Council for their hard work toward benefitting younger generation in regards to management of fish and wildlife resources. Mr. Nicholai said Alaska lands were used and still is being used to harvest fish and wildlife for personal use. In the past any regulations to harvest resources did not exist or apply in terms of hunting and fishing. People hunted and fished for food and clothing. This is the first time he attend Council meeting and appreciate what Council is doing. He said local elders know the land and fish and wildlife habitat. Local indigenous elders should be invited not only to Council meetings but including other resource meetings to provide their input on resource management issues because of their past experiences on hunting and fishing.

Future Meetings

Ms. Mary Gregory made a motion to suspend rules and take care of this item while quorum is present. Motion was seconded by Robert Aloysius.

Motion passed.

Fall 2013 Meeting Date and Location

Council reviewed its next meeting and confirmed to meeting on October 2-3, 2013 in Saint Mary's.

Robert Aloysius moved next Council meeting be on September 25-26, 2013 in Saint Mary's, Alaska. Motion was seconded by Mary Gregory.

During discussion of the motion Council wanted to stay with its dates and location.

Motion passed

Winter 2014 Meeting Date and Location

Council discussed its original choice of meeting location that is Quinhagak. After brief discussion Council took following action.

Robert Aloysius made a motion to hold winter 2014 meeting on March 5-6, 2013 in Bethel, Alaska.

Motion passed.

Closing Comments

- Mr. Harry Wilde commented he heard some salmon fisherman dries king salmon for use as dog food upriver Yukon. He was made aware that in Subdistrict 1, 2, and 3 seine and dipnets are going to be used for subsistence and commercial harvest of salmon. He said use of seine and dipnets for salmon fishing is unfamiliar to local people in lower Yukon. He referred to what is being allowed by the North Pacific Fisheries Management Council when salmon is harvested as a bycatch species and are discarded in the Bering Sea. The Alaska Department of Fish and Game, Bering Sea Fisherman's Association and other organizations were aware of the bycatch issues. He among others was not made aware of the bycatch issues when he was a member of U.S./Canada negotiation team. If he was aware of all of the bycatch issues he would not have supported fisheries management on their decision-making process that would have an adverse impact on his own people. He said that lot of subsistence salmon harvest problems originated from further upriver Yukon. Realizing adverse impact being imposed on his people, Mr. Wilde made a decision to step down from Council membership and make this meeting his last. Mr. Wilde also mentioned Lower Yukon River Moose Moratorium and sacrifice people made. He appreciated people of Russian Mission and Marshall who allowed lower Yukon people to hunt moose in the

past. Now in the lowest Yukon River moose numbers has increased to a comfortable population level.

- Mr. Noah Andrew commented that Mr. Harry Wilde worked for a long time and it would be loss to see him step down because Mr. Wilde's comments and recommendations will carry on. Mr. Andrew said if he continues as Council member he will carry on that tradition. Mr. Andrew thanked Mr. Wilde for being part of the organizers of Regional Advisory Council to where it is now. Mr. Andrew said that he recently heard about a small beaver dam in Mekoryuk and if that is true it's going to be something that will be detrimental later on. Mr. Andrew pointed out importance of Kuskokwim River and its drainages because Kuskokwim River has been identified by elders as their dinner plate. He said barges has transported gravel up and down Kuskokwim River and gravel bars are emerging and channels are being destructed from Bogus Creek to community of Akiachak. Traditional Councils need to work together to resolve the problem with gravel spread. In his community there have been community efforts to clear Tuluksak River channel by use of floaters and excavators. As he mentioned in the previous meetings beavers cause problems because beavers are not mechanical and could cause problems in fish spawning areas.
- David Bill commented he is thankful for being a member on the Council because by participation he could assist people. He is a member on the Bering Sea Association since 1980. Recently he attended a meeting in Canada and Western Alaska was not represented. Bering Sea Fisherman's Association and Mr. Bill endorsed Mr. Henry Misleton for a seat on IPHC Commissioners as a representative for Western Alaska. Mr. Bill asked Council for their support because deadline is February 28, 2013. Mr. Middleton is a former member on the North Pacific Fishery Management Council.
- Ms. Mary Gregory thanked Harry Wilde for being a brain on the Council for many years and for being a model for her to continue on vying for her seat on the Council. Because Mr. Wilde has an ability to foresee the future, inspired her to reapply for her seat, and for enlightening this Council with his abundant knowledge. Ms. Gregory said that she heard muskox and other ungulate animals are going toward the ocean. In the past a couple of elders indicated that when famine is on the horizon all animals would be going toward the ocean. An elder now deceased used to say when famine is near, whitefish and sheefish would dominate other spawning fish in spawning area. Another elder shared with Ms. Gregory that fish and wildlife resources follow their food sources elsewhere. Ms. Gregory wanted biologists and researchers to pay attention to what she shared relating to resource survival. Ms. Gregory wanted to be well informed of the issues that she is expected to cast her votes on because she makes her own decisions how she votes on Council actions. Ms. Gregory wants Federal and State management agencies to practice utmost courtesy because local people will be affected by new regulations. There should not be any surprises in terms of

resource management regulations. Ms. Gregory wanted Council Coordinator to make certain all presenters during Council meetings are on the Council agenda.

- James Charles thanked agency staff for information on the resource issues including good information provided to the Council.
- Greg Roczicka commented being Council member is frustrating job. One of the frustrations people expressed is resource harvest regulatory issues that became more prevalent and harder to deal with. An example is should decision making process is not done carefully resources intended to be protected could be destroyed. What has been done with respect to the resources in the lower 48 states should not be repeated in this area. In consideration of millions of buffalo that was killed in the past. Use of snowmachine for hunting in 1970s, 1980s contributed to the decrease of moose population in the area before Kuskokwim Moose Moratorium was put in place.
- Alex Nick, Council Coordinator thanked Mr. Harry Wilde for his involvement and participation on the Council since about 1993/1994. Mr. Nick, on behalf of the Federal Subsistence Program passed on his condolences to Mr. Wilde for loss of his wife. Mr. Nick wanted to continue to dialogue with Mr. Wilde as a Coordinator for this Council on issues he is concerned about. Mr. Nick wanted to respond to Ms. Gregory's request and agreed there needs to be presenters name on Council's meeting agenda. Mr. Nick informed Council there have been times when he and Council member Mr. James Charles participate on English and Yup'ik radio talk show and shared some important issues and encouraged public to attend Council meetings. Mr. Nick stated agencies Staff need to work with their agencies or organizations before they make commitment to attend Council meetings and give presentations. This makes it difficult to meet materials deadlines and submit meeting materials on time. This is why there is a placeholder for agencies and organizations on the draft agendas.

Benediction

Mr. James Charles provided a closing prayer for Council meeting.

Adjournment

Council meeting was adjourned at 2:30 p.m.

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

Alex Nick, DFO

USFWS Office of Subsistence Management

Lester Wilde, Sr., Chair

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

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

DRAFT

GUIDANCE ON 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 C.F.R. 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.

Yukon-Kuskokwim Delta Subsistence Regional Advisory Council

c/o U.S. Fish and Wildlife Service

Yukon Delta National Wildlife Refuge

Office of Regional Council Coordinator

P.O. Box 346

Bethel, Alaska 99559

Phone: (907) 543-1037, Fax: (907) 543-4413

Toll Free: 1-800-621-5804

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Mr. Tim Towarak, Chair
Federal Subsistence Board
c/o U.S. Fish and Wildlife Service
Office of Subsistence Management
1011 East Tudor Road, MS 121
Anchorage, Alaska 99503

Dear Mr. Towarak:

The Yukon-Kuskokwim Delta Subsistence Regional Advisory Council (Council) appreciates the opportunity to submit this annual report to the Federal Subsistence Board (Board) under the provisions of Section 805(a)(3)(D) and Section 805(c) of the Alaska National Interest Lands Conservation Act (ANILCA). At its public meeting in Bethel on October 10-11, 2012, the Council identified concerns and recommendations for its FY 2012 Annual Report, then finalized and approved the report at its February 27-28, 2013 public meeting in Bethel. The Council understands and supports the importance of addressing fish and wildlife resource topics annually, expressing its concerns, and addressing long term planning needs that are not addressed through the regulatory cycles throughout the year. The Council looks forward to your continued guidance and support on the issues listed below.

Issue 1: Subsistence Salmon Fisheries Closures

Subsistence users in the region consider last summer's salmon fisheries closures by Federal and State fisheries management teams to be abusive to subsistence users. Regional residents viewed these management actions as abusive because the effect of the actions was to prevent subsistence users from stocking up on their much-needed winter food supply. Additionally, while salmon harvest for subsistence users was restricted on the Kuskokwim River, sport users in Kuskokwim River tributaries and spawning streams were allowed to harvest salmon throughout the subsistence salmon fisheries closing. This constitutes a disparate and discriminatory treatment of subsistence users compared to sport users. As a representative and voice of the subsistence users

Tim Towarak

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of salmon, the Council insists that subsistence harvest of salmon be permitted on the Kuskokwim River and its tributaries at any time when sport users are allowed to harvest salmon in the same watershed.

Recommendation:

The Council recommends the Federal Subsistence Board work with and encourage Federal fisheries managers to use information about the average annual subsistence harvest of salmon as a tool to allow and manage subsistence harvest of salmon when considering limited restrictions of subsistence harvest of salmon. It is apparent salmon closures cause adverse effects on subsistence users, contrary to the purpose of ANILCA. Allowing other user groups, such as sport fishers, to continue to fish under State regulations is also viewed as not being in compliance with the intent and purpose of ANILCA.

Issue 2: Salmon Test Fishery in Bethel

The Bethel test fishery area has been in the same location since the early 1980s. Kuskokwim River channels have changed frequently over the years and, as a result, fish migration routes have changed because formerly shallow channels have become deep channels, and vice versa. The Council recognizes and understands that these channel changes may adversely affect the accuracy of fisheries information data gathering.

Recommendation:

The Council recommends that alternative sites or methods (such as set gillnets) for the Bethel Test Fishery be considered or added for data gathering and be put in place for more accurate in-season fisheries information data. Enhancing fishery data gathering would benefit fisheries managers in obtaining crucial information of salmon passage and escapement estimates, and hopefully minimize restrictions on reasonable subsistence harvest opportunity.

Issue 3: Confiscation of Subsistence Fishing Gear

During the 2012 subsistence salmon fishing season, fishing was restricted for up to 12 days on the Kuskokwim River to allow for the escapement of Chinook salmon. These closures imposed considerable hardship and had an adverse effect on all Kuskokwim River subsistence users who depend on salmon for their winter food supply. During the closure periods, when subsistence users were only permitted to use 4 inch or less mesh gillnets to harvest other fish, the salmon processing and drying season passed by. If salmon are not harvested early in the season, the later periods are too wet for salmon to dry. During the closures, at least three Kuskokwim River communities – at the direction of their respective elders and councils – chose to engage in salmon fishing within their fishery boundary with their preferred gear. Subsequently, law enforcement officers confiscated expensive gillnets, which have reportedly not yet been returned to the legal owners in the villages.

Tim Towarak

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Recommendation:

The Council recommends that the Federal Subsistence Board declare that gear may not be confiscated from a subsistence user when there is an allegation of violation of state or federal laws related to subsistence hunting, fishing, and trapping, until final rulings are made on charges of illegal take of subsistence resources. Additionally, if such gear is confiscated, it should be returned to its owners at the soonest possible time.

Thank you for the continued opportunity to assist the Federal Subsistence Management Program in meeting its obligations to protect subsistence uses of fish and wildlife resources on Federal lands in our region. The Council looks forward to continued discussions about the issues and concerns of subsistence stakeholders of the Yukon-Kuskokwim Delta Region. If you have questions about this report, please contact me via Alex Nick, Council Coordinator, with the Office of Subsistence Management, at 1-800-621-5804 or (907) 543-1037.

Sincerely, 

Lester Wilde
Chair

cc: Federal Subsistence Board
Yukon-Kuskokwim Delta Alaska Subsistence Regional Advisory Council
Kathleen M. O'Reilly-Doyle, Acting Assistant Regional Director, OSM
David Jenkins, Acting Deputy Assistant Regional Director, OSM
Carl Johnson, Council Coordination Division Chief, OSM
Interagency Staff Committee
Administrative Record



U.S. FISH and WILDLIFE SERVICE
BUREAU of LAND MANAGEMENT
NATIONAL PARK SERVICE
BUREAU of INDIAN AFFAIRS
FWS/OSM 13054.CJ

Federal Subsistence Board
1011 E. Tudor Rd., MS 121
Anchorage, Alaska 99503-6199



SEP 09 2013

Lester Wilde, Sr., Chair
Yukon-Kuskokwim Delta Subsistence
Regional Advisory Council
c/o U.S. Fish & Wildlife Service
1011 E. Tudor Road, MS 121
Anchorage, Alaska 99503

Dear Chairman Wilde:

This letter responds to the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council's (Council) 2012 Annual Report as approved at its winter 2013 meeting. The Secretaries of the Interior and Agriculture have delegated the responsibility to respond to these reports to the Federal Subsistence Board (Board). The Board appreciates your effort in developing the Annual Report and values the opportunity to review the issues brought forward concerning your region. Annual Reports allow the Board to become more aware of the issues that fall outside of the regulatory process and affect subsistence users in your region.

The Board has reviewed your Annual Report and offers the following responses:

Issue 1: Subsistence Salmon Fisheries Closures

Subsistence users in the region consider last summer's salmon fisheries closures by Federal and State fisheries management teams to be abusive to subsistence users. Regional residents viewed these management actions as abusive because the effect of the actions was to prevent subsistence users from stocking up on their much-needed winter food supply. Additionally, while salmon harvest for subsistence users was restricted on the Kuskokwim River, sport users in Kuskokwim River tributaries and spawning streams were allowed to harvest salmon throughout the subsistence salmon fisheries closing. This constitutes a disparate and discriminatory treatment of subsistence users compared to sport users. As a representative and voice of the subsistence users of salmon, the Council insists that subsistence harvest of salmon be permitted on the Kuskokwim River and its tributaries at any time when sport users are allowed to harvest salmon in the same watershed.

Recommendation:

The Council recommends the Federal Subsistence Board work with and encourage Federal fisheries managers to use information about the average annual subsistence harvest of salmon

as a tool to allow and manage subsistence harvest of salmon when considering limited restrictions of subsistence harvest of salmon. It is apparent salmon closures cause adverse effects on subsistence users, contrary to the purpose of ANILCA. Allowing other user groups, such as sport fishers, to continue to fish under State regulations is also viewed as not being in compliance with the intent and purpose of ANILCA.

Response:

Under Alaska National Interest Land Conservation Act (ANILCA), the taking on public lands of fish and wildlife for non-wasteful subsistence uses is accorded priority over the taking on such lands of fish and wildlife for other purposes. Also under ANILCA, the Federal Subsistence Board has both the authority and responsibility to restrict the taking of populations of fish and wildlife on such lands for subsistence uses in order to protect the continued viability of such populations.

In 2012, Federal and State in-season managers, with concurrence from the Kuskokwim River Salmon Working Group, determined a target Chinook salmon escapement goal of 127,000 for the Kuskokwim River. Early indications showed that the Chinook salmon run timing was later than average and the run much weaker (less fish) than forecasted, which meant that the likelihood of reaching the escapement goal was very low. In response to this information, and to protect the continued viability of Kuskokwim River Chinook salmon populations, the in-season managers deemed it necessary to close Chinook salmon fishing for as much as 12 days on some portions of the river. The Kuskokwim River Salmon Working Group concurred with the first 7 days of that closure. Post-season preliminary estimates show that the 2012 Kuskokwim River Chinook salmon run of approximately 100,000 fish (80,000 escapement and 20,000 subsistence harvest) was the lowest on record. The long-term subsistence harvest average is approximately 80,000. The Board recognizes that there was a great burden to subsistence fishermen in 2012, because they were not allowed to harvest Chinook salmon. However, if they had been allowed to fish without any restrictions in 2012, and harvested the average 80,000 Chinook salmon, the viability of Chinook salmon populations would have been put in jeopardy.

Summary of 2012 management actions:

- On June 1st, 2012 sport fishing for King salmon was closed on the Kisaralik, Kasigluk, and Kwethluk drainages to their confluence with Kuskokuak Slough and included all waters of Kuskokuak slough between Alaska Department of Fish and Game (ADF&G) regulatory markers in the slough. Additionally, this closure included the Tuluksak River drainage including its confluence with the Kuskokwim and downstream to the upstream side of Mishevik Slough, the Aniak River drainage to ADF&G regulatory markers at its confluence with the Kuskokwim River, and the George River drainage including its confluence with the Kuskokwim River and downstream approximately one-half mile to an ADF&G regulatory marker.

- On June 13th, 2012 sport fishing for King salmon was closed on the main stem of the Kuskokwim river and bag and possession limit was reduced to one king salmon in all tributaries of the Kuskokwim River that are not previously closed by emergency order.
- On June 22nd, 2012 sport fishing for King salmon was closed on the entire Kuskokwim River drainage.
- Rolling closures to subsistence salmon fishing was implemented in a stepwise progression up the Kuskokwim River consistent with salmon run timing. A summary of closures to subsistence salmon fishing by river section were as follows:

Section 1: June 10-21

Section 2: June 13-24

Section 3: June 17-28

Section 4: June 22-July 3

Section 5: June 27-July 8

During subsistence salmon fishing closures, 4-inch or less mesh size gillnets not to exceed 60-feet in length were allowed to harvest non-salmon species such as whitefish.

Following the rolling closures, subsistence salmon fishing using 6-inch or less mesh sized gillnets were allowed.

Subsistence salmon fishing with unrestricted gillnet mesh size re-opened in sections 1,2,3,4, and 5 on July 16th,19th, 23rd, 23rd, and 23rd respectively.

Issue 2: Salmon Test Fishery in Bethel

The Bethel test fishery area has been in the same location since the early 1980s. Kuskokwim River channels have changed frequently over the years and, as a result, fish migration routes have changed because formerly shallow channels have become deep channels, and vice versa. The Council recognizes and understands that these channel changes may adversely affect the accuracy of fisheries information data gathering.

Recommendation:

The Council recommends that alternative sites or methods (such as set gillnets) for the Bethel Test Fishery be considered or added for data gathering and be put in place for more accurate in-season fisheries information data. Enhancing fishery data gathering would benefit fisheries managers in obtaining crucial information of salmon passage and escapement estimates, and hopefully minimize restrictions on reasonable subsistence harvest opportunity.

Chairman Wilde

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Response:

The Bethel test fishery, managed and conducted by the Alaska Department of Fish and Game (ADF&G), has been conducted in the same location approximately three miles upstream of Bethel since 1984.

The Bethel test fishery provides an in season catch per unit effort (CPUE) index comparable to historic test-fish CPUE indices that fishery managers use to address in season salmon run timing and relative abundance. The current year test-fish CPUE index can be compared to prior year indices and, along with associated subsistence reports and weir, sonar, and aerial survey data, can be used to assess salmon run strength.

The two primary objectives for the Bethel test fishery are to:

1. Determine a daily mean index expressed as catch per unit effort or CPUE and a cumulative daily mean CPUE index for Chinook, sockeye, chum and coho salmon at the Bethel test-fish site from June 1 through August 24; and
2. Estimate relative run abundance and timing of Chinook, sockeye, chum and coho salmon at the Bethel test-fish site by comparison with historical test-fish information.

The methods and location currently used to achieve the objectives of this project are similar to previous years. Following each high tide, a series of gillnet drifts are conducted by the test-fish crew in the Kuskokwim River approximately 3 miles upstream of Bethel, just below where Straight Slough diverges from the main river channel.

Kuskokwim River subsistence and commercial fishery salmon managers believe the Bethel test fishery provides an accurate index of the relative abundance and migratory timing of salmon runs. Fishery managers require timely in season assessment of salmon run abundance in order to effectively conduct in season management. Due to the great river distances between areas of harvest and escapement project locations throughout the drainage, escapement projects provide limited usefulness early in the salmon runs. As the runs progress, a relationship can be seen between in season index information and escapement project information.

In order for the Bethel test fishery to successfully achieve its objectives, project methods and procedures must be performed consistently between tides throughout the season and between years. This provides managers with reliable data sources so they can compare the current year's data with the more recent historical years' data in order to observe and manage those factors that impact the population over time.

The Bethel test fishery has evolved into the primary in season salmon management tool for the Kuskokwim River. Consistency in methods, completeness of a historical database, frequency of operation, and timeliness of results contribute to the success of this program. The test fishery, by itself, is an imperfect tool that requires experienced staff to interpret the information

Chairman Wilde

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effectively. When used in conjunction with other in season assessment tools, the test fishery can provide managers with insight into salmon run abundance and migratory timing to provide for sustained yield fishery management.

Historically, other test fisheries have been attempted in the Kuskokwim River: Kwegooyuk fishery, 1966–1983; Eek test fishery, 1988–1994; Kuskokwim River subsistence test, 1988–1990; Aniak test fishery, 1992–1995; Chuathbuluk test fishery, 1992–1993; and the Lower Kuskokwim River test fishery, 1995. Most of these projects were initiated at the prompting of groups other than the ADF&G. They were all eventually discontinued for a variety of reasons, including lack of funding, consistency problems, difficulties with catch disposition and ambiguous results.

The Bethel test fishery is managed and conducted by ADF&G. Any changes to the methods, gear type and/or location of this test fishery need to be done through, and by, the Department. OSM staff could assist the Council in drafting a letter expressing any recommended changes the Council feels are necessary and transmitting it to ADF&G.

Issue 3: Confiscation of Subsistence Fishing Gear

During the 2012 subsistence salmon fishing season, fishing was restricted for up to 12 days on the Kuskokwim River to allow for the escapement of Chinook salmon. These closures imposed considerable hardship and had an adverse effect on all Kuskokwim River subsistence users who depend on salmon for their winter food supply. During the closure periods, when subsistence users were only permitted to use 4 inch or less mesh gillnets to harvest other fish, the salmon processing and drying season passed by. If salmon are not harvested early in the season, the later periods are too wet for salmon to dry. During the closures, at least three Kuskokwim River communities – at the direction of their respective elders and councils – chose to engage in salmon fishing within their fishery boundary with their preferred gear. Subsequently, law enforcement officers confiscated expensive gillnets, which have reportedly not yet been returned to the legal owners in the villages.

Recommendation:

The Council recommends that the Federal Subsistence Board declare that gear may not be confiscated from a subsistence user when there is an allegation of violation of state or federal laws related to subsistence hunting, fishing, and trapping, until final rulings are made on charges of illegal take of subsistence resources. Additionally, if such gear is confiscated, it should be returned to its owners at the soonest possible time.

Response:

The Federal Subsistence Board does not have any authority or control over law enforcement officials or the courts regarding 1) which penalties will be imposed, or not imposed, on fishermen who fail to follow subsistence fishing regulations, and 2) when confiscated gear is returned to its owners.

Chairman Wilde

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Service law enforcement officers are often compelled to seize evidence of violations when conducting investigations. Evidence of unlawful fishing can include fish, tackle, and equipment, such as nets and poles. In some situations, the court may authorize the return of equipment to the defendants after violations are adjudicated.

In closing, I want to thank you and your Council for their continued involvement and diligence in matters regarding the Federal Subsistence Management Program. I would like to specifically thank Harry O. Wilde, Sr. for his 20 years of service and Greg Roczicka and Robert Aloysius for their 10 years of service to the Federal Subsistence Management program as members of this Council. I speak for the entire Board in expressing our appreciation for your efforts and our confidence that the subsistence users of the Kodiak/Aleutians Region are well represented through your work.

Sincerely,



Tim Towarak
Chair

- cc. Yukon-Kuskokwim Delta Subsistence Regional Advisory Council
Federal Subsistence Board
Interagency Staff Committee
Gene Peltola, Jr., Assistant Regional Director, OSM
Kathleen M. O'Reilly-Doyle, Deputy Assistant Regional Director, OSM
Carl Johnson, Council Coordination Division Chief, OSM
Alex Nick, Subsistence Council Coordinator
Administrative Record

CUSTOMARY AND TRADITIONAL USE DETERMINATION BRIEFING

The Federal Subsistence Board, and the Southeast Alaska Subsistence Regional Advisory Council, would like your recommendations on the current customary and traditional use determination process. The Board last asked the Councils a similar question in 2011 as directed by the Secretary of the Interior and the Secretary of Agriculture. All Councils, with the exception of the Southeast Council, indicated that the existing customary and traditional use determination process was working. At the request of the Southeast Council, this additional review is being conducted for your input.

We will briefly describe the history of customary and traditional use determinations, and illustrate the differences between those determinations and an ANILCA Section 804 analysis. We will then ask for Council discussion and recommendations. Our focus is not on *how* customary and traditional use determinations are made, but on *why* they are made. The Southeast Council would like you to recommend, as a Council, to eliminate, amend, or make no changes to the current customary and traditional use determination process.

The Alaska National Interest Lands Conservation Act (ANILCA) does not require customary and traditional use determinations. Customary and traditional use regulations were adopted from the State when the Federal Subsistence Management Program was established in 1990. In the 1992 Record of Decision, the Federal Subsistence Board considered four customary and traditional use options and recommended to the Secretaries of the Interior and Agriculture that State customary and traditional use determinations continue to be used. The State's eight criteria for determining customary and traditional use were subsequently slightly modified for use in Federal regulations. Since the establishment of the Federal Subsistence Management Program, the Board has made some 300 customary and traditional use determinations.

The Board initially adopted the State's customary and traditional use criteria (renaming them "factors"), anticipating the resumption of State management of subsistence on Federal public lands, and intending to "minimize disruption to traditional State regulation and management of fish and wildlife" (55 FR 27188 June, 29, 1990). The State has not resumed subsistence management on Federal public lands, and it appears the Federal Subsistence Management Program will be permanent. (See **Appendix A** for a listing of the eight factors.)

Note that the Board does not use customary and traditional use determinations to restrict amounts of harvest. The Board makes customary and traditional use determinations, relative to particular fish stocks and wildlife populations, in order to recognize a community or area whose residents generally exhibit eight factors of customary and traditional use. The Southeast Council is concerned that the effect is to exclude those Federally qualified rural residents who do not generally exhibit these factors from participating in subsistence harvests in particular areas.

In 2009, Secretary of the Interior Ken Salazar announced a review of the Federal subsistence program. Part of that review focused on customary and traditional use determinations. Specifically, in 2010, the Secretary of the Interior, with the concurrence of the Secretary of Agriculture, asked the Board to "Review, with RAC input, the customary and traditional use determination process and present recommendations for regulatory changes."

All ten Regional Advisory Councils were asked for their perspectives on customary and traditional use determinations during the 2011 winter meeting cycle. Nine Councils did not suggest changes to the

process (see **Appendix B**). The Southeast Council, however, suggested one modification, which was included in its annual report. The modified regulation reads as follows:

§100.16 (a) The Board shall determine which fish stocks and wildlife populations have been customarily and traditionally used for subsistence. These determinations shall identify the specific community's or area's use of ~~specific fish stocks and wildlife populations~~ **all species of fish and wildlife that have been traditionally used, in their (past and present) geographic areas**. For areas managed by the National Park Service, where subsistence uses are allowed, the determinations may be made on an individual basis.

In other words, once a customary and traditional use determination is made for an area, residents in that area would have customary and traditional use for *all* species. There would be no need for customary and traditional use determinations for specific fish stocks and wildlife populations, or on a species-by-species basis.

Subsequently, the Southeast Council formed a workgroup to analyze the customary and traditional use determination process. The Southeast Council workgroup, after conducting an extensive review of Regional Advisory Council transcripts, determined that Councils were not adequately briefed on the Secretaries' request for Council recommendations on the process. The Southeast Council drafted a letter and a briefing document, which were provided to the other Regional Advisory Councils during the 2013 winter meeting cycle; these are included in your meeting materials.

Pursuant to the workgroup findings, the Southeast Council emphasized the following:

The current customary and traditional use determination process is being used to allocate resources between rural residents, often in times of abundance. This is an inappropriate method of deciding which residents can harvest fish or wildlife in an area and may result in unnecessarily restricting subsistence users. The SE Council has a history of generally recommending a broad geographic scale when reviewing proposals for customary and traditional use determinations. Subsistence users primarily harvest resources near their community of residence and there is normally no management reason to restrict use by rural residents from distant communities. If there is a shortage of resources, Section 804 of ANILCA provides direction in the correct method of allocating resources.

The Southeast Council does not support retaining the current customary and traditional use determination process. Instead, the Southeast Council suggests that, when necessary, the Board restrict harvests by applying ANILCA Section 804 criteria:

- Customary and direct dependence upon the populations as the mainstay of livelihood;
- Local residency; and
- The availability of alternative resources.

The Federal Subsistence Board, and also the Southeast Council, would like your recommendations on the current customary and traditional use determination process. Specifically, the Southeast Council would like you to consider whether to

- (1) eliminate customary and traditional use determinations and instead use, when necessary, ANILCA Section 804 criteria,
- (2) change the way such determinations are made, by making area-wide customary and traditional use determinations for all species (not species-by-species or by particular fish stocks and wildlife

populations),

(3) make some other change, or

(4) make no change.

Council input will provide the basis for a briefing to the Federal Subsistence Board in response to the Secretaries' directive to review the customary and traditional use determination process and present recommendations for regulatory change, if needed. The Board could then recommend that the Secretaries eliminate, amend, or make no change to the current customary and traditional use determination process.

APPENDIX A

For reference, here are the eight factors currently used in Federal regulations for making customary and traditional use determinations (36 CFR 242.16 and 50 CFR100.16):

(a) The Board shall determine which fish stocks and wildlife populations have been customarily and traditionally used for subsistence. These determinations shall identify the specific community's or area's use of specific fish stocks and wildlife populations. For areas managed by the National Park Service, where subsistence uses are allowed, the determinations may be made on an individual basis.

(b) A community or area shall generally exhibit the following factors, which exemplify customary and traditional use. The Board shall make customary and traditional use determinations based on application of the following factors:

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

APPENDIX B

Summary of Winter 2011 Council Comments on the Customary and Traditional Use Determination Process

(Note that summaries were drafted by OSM LT members or the Council Coordinator that attended the meetings; see the Council transcripts for details.)

The **Seward Peninsula Council** is satisfied with the current Federal subsistence customary and traditional use determination process. The Council noted that C&T determinations are important and that the Federal Subsistence Management Program provides ways to modify C&T determinations if needed.

The **Western Interior Council** is satisfied with the process used by the Federal Subsistence Board to make C&T determinations and thinks it works well. The Council felt that the Board is sensitive to local concerns, and there is room for the public to be involved. The Council felt that getting rid of the existing process would be problematic (i.e., what to do with the roughly 300 C&T determinations that have already been made), and inventing a new system could be counterproductive. The Council felt that maintaining the Councils' and AC's involvement in C&T determinations public process is key and the current process does just that.

The **Eastern Interior Council** is comfortable with the existing process and believes that it works well. In most cases there is no need to change the process. One member expressed the thought that the only time the process doesn't work well is when it is used to pit user against user.

The **North Slope Council** was fine with the current C&T process and had no suggestions for changes.

The **Yukon Kuskokwim Delta Council** was fine with the current C&T process, even though one member noted not always agreeing with the determinations.

The **Bristol Bay Council** observed that the C&T process works wonderfully in their region and noted that there is no burning need for change. There was discussion about the closure to hunting and subsistence uses in Katmai National Park.

The **Southcentral Council** is generally satisfied with the process used by the Federal Subsistence Board to make C&T determinations, stating that it is not perfect but it has worked. The Council liked the process because it puts the information on customary and traditional use in front of the Councils and the Board, and that is valuable. The process gives a good understanding of how the rural subsistence process works. The Council felt that it could be tweaked a bit, for example, if you have C&T for a variety of species, you shouldn't have to do a separate C&T finding for every other species – there should be a way to streamline the process. The Council also discussed the disparity of information needed in some parts of the state versus in other parts of the state (i.e., Ninilchik). The Council sees C&T as being inclusive, not exclusive. The Board needs to defer to Councils on their recommendations on C&T. The Council also reminded itself that it could do a better job by building a solid record in support of its decisions.

The **Northwest Arctic Council** discussed this topic at length. In the end, the Council stated that the current process is working and it did not have any recommended changes at this time.

The **Kodiak/Aleutians Subsistence Council** discussed this subject at length. It generally supported the overall process, though had a lot of comments. One Council member stated that he thinks that the process

is good. Sometimes the process is too liberal and other times it is too literal, but it has been improving and overall it is good. Another Council member noted that the method used for making customary and traditional use determinations isn't perfect, but he couldn't think of another way to do it. He added that it would be nice if more concrete words were used, for example, what do "long term use" and "seasonal use" really mean? Another Council member asked about the process with regard to how introduced species fit in, especially with regard to the factor including "long term use". Finally, a Council member noted that we need to ensure that the process works, and that the subsistence priority remains.

The **Southeast Council** is drafting a letter to the Board concerning this issue. The Council noted that the eight factor analysis is a carryover from State of Alaska regulations and recommends that the Federal Subsistence Management Program draft new more suitable Federal regulations which adhere to provisions contained within Section 804 of ANILCA. The Council recommends that:

- The Board give deference to the Council recommendation for customary and traditional use determinations.
- 50 CFR100.16(a) read: "The Board shall determine which fish stocks and wildlife populations have been customarily and traditionally used for subsistence. These determinations shall identify the specific community's or area's use of [specific fish stock and wildlife population] **all species of fish and wildlife that they have traditionally used, in their (past and present) geographical areas**".
- If an eight factor approach is continued, then the regulations should be modified to include specific language for a holistic approach.

Southeast Alaska Subsistence Regional Advisory Council

January 22, 2013

Customary and Traditional Use Determination Recommendation Briefing

Issue:

The Southeast Alaska Subsistence Regional Advisory Council (SESRAC) does not agree that the current process of restricting access to fish and wildlife resources through a customary and traditional use (C&T) determination process was intended in ANILCA.

Although SESRAC recognizes that there are a number of possible solutions, its preferred solution is to eliminate the C&T determination regulations (36 CFR 242.16 and 50 CFR 100.16) and allocate resources as directed in section 804 of ANILCA.

Background:

The current Federal C&T determination regulations, including the eight factors, were adopted from pre-existing State regulations. The Federal program adopted this framework, with some differences, when it was thought that Federal subsistence management would be temporary.

The primary purpose of C&T determinations by the State is to limit the subsistence priority by adopting "negative" determinations for specific fish and wildlife species in specific areas. The C&T determination process is also used to establish non-subsistence use areas where NO species are eligible for subsistence use.

A "positive" C&T determination in State rules recognizes subsistence use and provides residents with a legal protection to engage in priority subsistence activities.

Unlike the State process, in which some lands are excluded from subsistence use (non-subsistence use areas); all Federal lands are available for subsistence use by rural residents.

The Federal program uses the C&T determination process to restrict which rural residents can participate in subsistence. The abundance of fish or wildlife is not the primary factor in deciding which rural residents can participate in subsistence and some residents may be restricted in times of abundance.

The Federal C&T determination process is actually a means of closing an area to some rural residents but there are no provisions for periodic review of this action similar to the review policy on other closures.

A draft policy on C&T determinations was subject to public comment during the fall 2007 Regional Advisory Council meeting window. The Federal Subsistence Board deferred finalization on the policy in March of 2008.

In October of 2009, Secretary of the Interior Ken Salazar announced that there would be “a review of the Federal subsistence program to ensure that the program is best serving rural Alaskans and that the letter and spirit of Title VIII are being met”.

In a detailed report from the U.S. Department of the Interior in September 2010, the Secretary of the Interior with concurrence of the Secretary of Agriculture, directed the subsistence Board to do several tasks.

The first relevant task was to “review, with RAC input, federal subsistence procedural and structural regulations adopted from the state in order to ensure federal authorities are fully reflected and comply with Title VIII (changes would require new regulations)”.

The second relevant task was to “review customary and traditional determination process to provide clear, fair, and effective determinations in accord with Title VIII goals and provisions (changes would require new regulations)”.

In a letter to Mr. Tim Towarak in December 2010, Secretary of the Interior Ken Salazar requested that the FSB; “review, with RAC input, the customary and traditional use determination process and present recommendations for regulatory changes”.

In their 2011 Annual Report, the SESRAC suggested that the Board consider modifying current regulations to be more representative of the way people use subsistence resources. The SESRAC suggested the following specific regulatory change:

*Modify 50 CFR 100.16 (a). The regulation should read: “The Board shall determine which fish and wildlife have been customarily and traditionally used for subsistence. These determinations shall identify the specific community’s or area’s use of ~~[specific fish stocks and wildlife populations]~~ **all species of fish and wildlife that have been traditionally used, in their (past and present) geographic areas.**”*

In the Annual Report reply, the Board encouraged the SESRAC to develop recommendations in a proposal format for additional review. The Office of Subsistence Management pledged staff assistance if the Council wished to pursue the matter further.

During the March 2012 meeting in Juneau, an update on the Secretarial Review stated that 9 Councils felt the C&T determination process was adequate and only the SESRAC had comments for changes to the process.

The SESRAC formed a workgroup to review materials and provide a report on the issue during the March 2012 SESRAC meeting and develop a recommendation for consideration by the SESRAC at the September 2012 meeting.

Southeast Council Findings:

An eight factor framework for Federal C&T determination analysis was first adopted by the Alaska Board of Fisheries and is not found in ANILCA.

Although there are clearly some instances where it is appropriate to provide a preference to local residents (for instance, an early start to the moose season in Yakutat), the SESRAC has a history of recommending C&T determinations for a large geographic area.

When necessary, the Federal Subsistence Board can restrict who can harvest a resource by applying ANILCA Section 804 criteria:

- Customary and direct dependence upon the populations as the mainstay of livelihood;
- Local residency; and
- The availability of alternative resources.

The ANILCA Section 804 process is a management tool that allows seasons on Federal public lands and waters to remain open to all rural residents until there is a need to reduce the pool of eligible harvesters.

Replacing the Federal C&T determination eight factors with ANILCA Section 804 three criteria may be a preferred method of restricting who can harvest a resource.

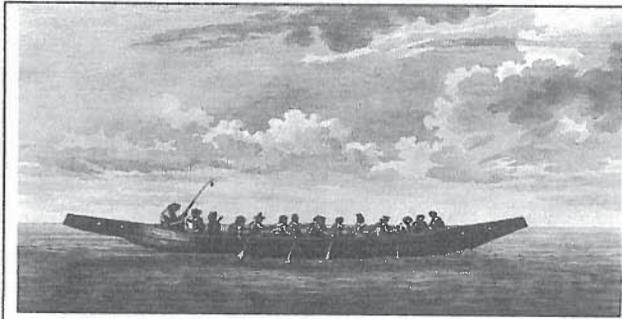
Action:

In January 2013, the SESRAC sent a letter to the other Federal regional advisory councils regarding the deficiencies in the current C&T determination process. This letter asks the other councils to review, during their fall 2013 meetings, whether the process is serving the needs of the residents of their region and report their findings to the SESRAC. If it is the desire of the other councils, a proposal for amending or eliminating current regulations could be developed for consideration by all the councils.

Key Contacts:

Bert Adams, Chair SESRAC – 907-784-3357

Robert Larson – SESRAC Coordinator – 907-772-5930



***Southeast Alaska Subsistence Regional
Advisory Council***

**Bertrand Adams Sr., Chair
P. O. Box 349
Yakutat, Alaska 99689**

kaadashan@alaska.net

RAC SE13001.RL

JAN 11 2013

Mr. Lester Wilde, Sr., Chair
Yukon Kuskokwim Delta Alaska Subsistence
Regional Advisory Council
P.O. Box 155
Hooper Bay, Alaska 99604

Dear Mr. Wilde:

During the spring of 2011, pursuant to the Secretarial Review of the Federal Subsistence Program, the Federal Subsistence Board (Board) sought input from the Federal Subsistence Regional Advisory Councils (Councils) on the current customary and traditional use determination process. The Board subsequently reported to the Secretaries that 9 of the 10 Councils thought the process was working. The Southeast Alaska Subsistence Regional Advisory Council (SE Council) does not agree that the process is being implemented as intended in the Alaska National Interest Lands Conservation Act (ANILCA). We are asking your Council to review your evaluation of the current customary and traditional use determination process (36 CFR 242.16 and 50 CFR 100.16) and join with us in crafting a petition to the Secretaries to address deficiencies in the current regulations. The SE Council's preferred solution is to eliminate the customary and traditional use determination regulations and allocate resources as directed in Section 804 of ANILCA.

The SE Council has formed a workgroup to assist us in evaluating the current customary and traditional use determination process. The workgroup reviewed the 2007 draft Customary and Traditional Use Determination Policy, the public comments to this policy, the 2011 transcripts from all 10 Council meetings, and the 2012 Board transcripts where each of the Councils' input was summarized. The 2007 draft Customary and Traditional Use Determination Policy and the public comments to this policy are enclosed with this letter.

The SE Council workgroup noted that there were inconsistent briefings in 2011 regarding the input sought from the Councils. Different staff presented different levels of information, and in some instances Councils were led to believe other Councils thought the process was working.

Mr. Lester Wilde, Sr.

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In addition, there was a lack of direction or background information provided to the Councils that would be necessary to formulate an informed opinion. There was no mention or discussions of the strengths and deficiencies of the current customary and traditional use determination process as detailed in the review of the 2007 draft Customary and Traditional Use Determination Policy.

During its March 2011 meeting, the SE Council included the topic in its 2011 Annual Report. The SE Council made the following recommendation to the Board:

Given that ANILCA does not require the Board make customary and traditional use determinations, the Council recommends the Federal Subsistence Board eliminate the current regulations for customary and traditional use determinations, and task the Office of Subsistence Management (OSM) with drafting regulations which adhere to provisions contained within Section 804 of ANILCA.

The current Federal customary and traditional use determination regulations (and the eight factors) were based on pre-existing State regulations. Customary and traditional use determinations are a necessary step in State of Alaska management because only fish and wildlife with a “positive” determination are managed for the subsistence preference and those with a “negative” determination do not have the preference. The decision whether there is or is not a subsistence priority is not necessary under Federal rules because ANILCA already provides rural residents a preference for subsistence uses on Federal public land. The current customary and traditional use determination process is being used to allocate resources between rural residents, often in times of abundance. This is an inappropriate method of deciding which residents can harvest fish or wildlife in an area and may result in unnecessarily restricting subsistence users. The SE Council has a history of generally recommending a broad geographic scale when reviewing proposals for customary and traditional use determinations. Subsistence users primarily harvest resources near their community of residence and there is normally no management reason to restrict use by rural residents from distant communities. If there is a shortage of resources, Section 804 of ANILCA provides direction in the correct method of allocating resources.

The SE Council has determined that the Office of Subsistence Management did not give the directive from the Secretaries the due diligence it deserves and the program would benefit from additional evaluation and dialog. We request your Council reconsider its recommendation to the Board on how well the current customary and traditional use process is serving the needs of the residents in your region. The SE Council is interested in either eliminating or improving the process but, since this is a statewide issue, we do not want to propose a solution that is not supported by the other Councils. We encourage your Council to read the briefing paper provided to you by the SE Council at a winter 2013 Council meeting and review the enclosed background information. We would like your Council to consider what would be most beneficial to your region: eliminate customary and traditional use determinations, change the way customary and traditional use determinations are made, or make no change. After reviewing these materials, we

Mr. Lester Wilde, Sr.

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encourage your Council to include this subject as an agenda action item at its fall 2013 meeting. The Office of Subsistence Management has committed personnel to help in your further consideration of the customary and traditional use process at your fall 2013 meeting.

Please address any questions and report any actions taken regarding this request either directly to me or through Mr. Robert Larson, Council Coordinator, U. S. Forest Service, Box 1328, Petersburg, Alaska 99833, 1-907-772-5930, robertlarson@fs.fed.us.

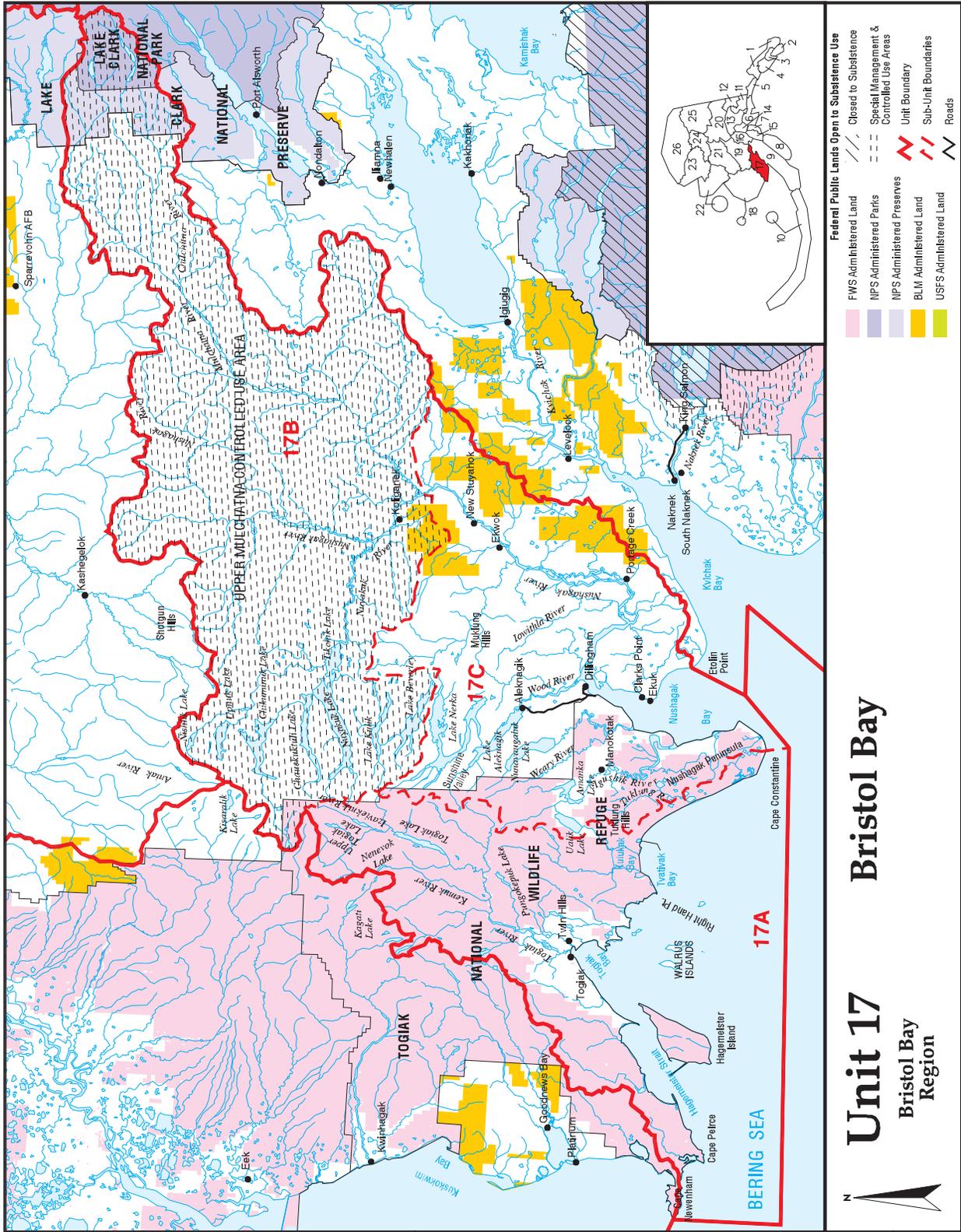
Gunalchéesh (thank you).

Sincerely,
/S/

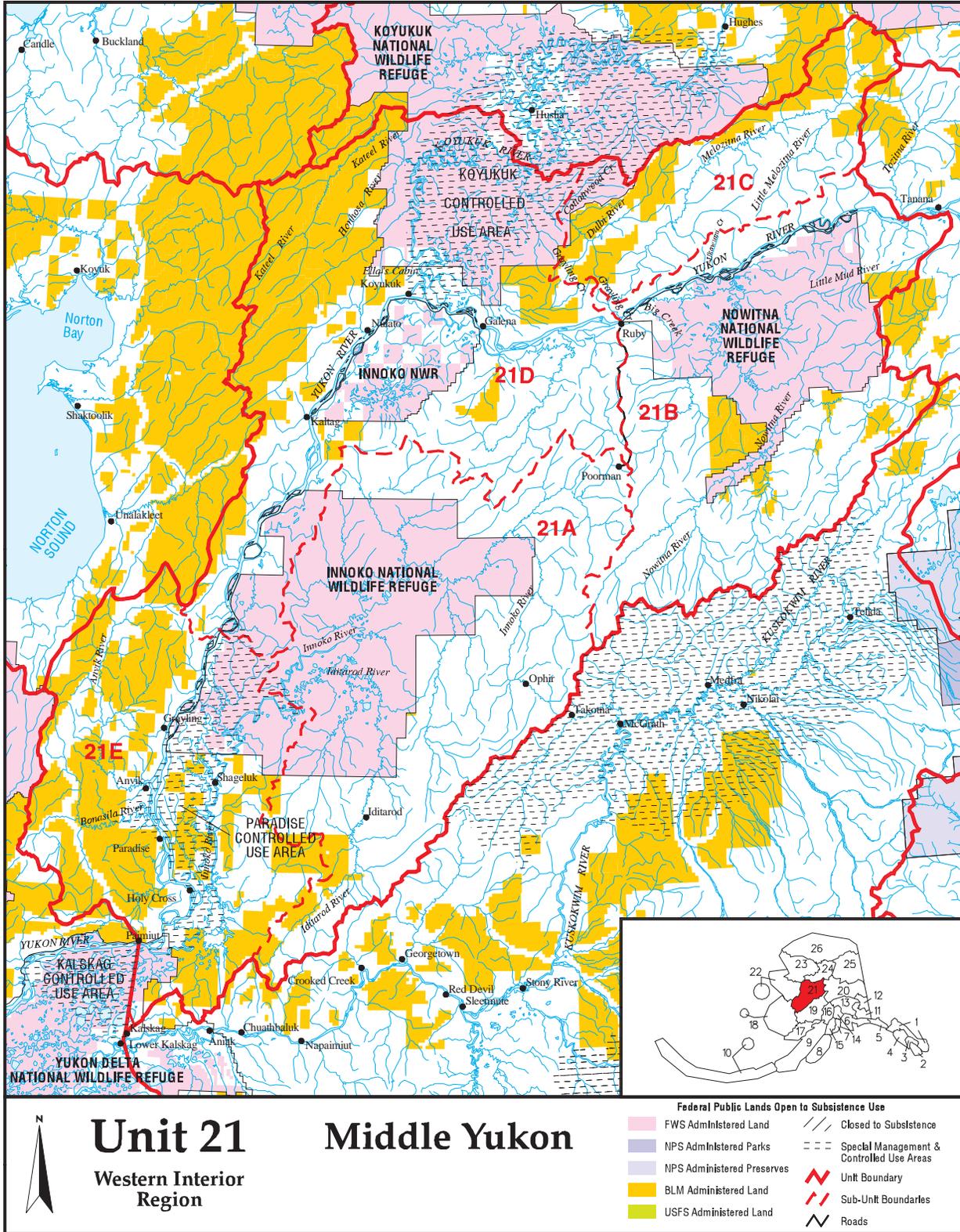
Bertrand Adams Sr., Chair

Enclosures

cc: Peter J. Probasco, Assistant Director, OSM
Kathy O'Reilly-Doyle, Deputy Assistant Director, OSM
Federal Subsistence Board
Interagency Staff Committee
Administrative Record



Unit 17
Bristol Bay
 Region



WP14-01 Executive Summary	
General Description	<p>Proposal WP14-01 requests the establishment of new statewide provisions for Federal trapping regulations that require trapper identification tags on all traps and snares, establish a maximum allowable time limit for checking traps, and establish a harvest/trapping report form to collect data on non-target species captured in traps and snares. <i>Submitted by Kevin Bopp.</i></p>
Proposed Regulation	<p>§ ____.26 <i>Subsistence taking of wildlife</i></p> <p><i>(d) The following methods and means of trapping furbearers for subsistence uses pursuant to the requirements of a trapping license are prohibited or required, in addition to the prohibitions listed at paragraph (b) of this section.</i></p> <p style="text-align: center;">* * * *</p> <p><i>(7) Traps and snares must be individually marked with a permanent metal tag upon which is stamped or permanently etched the trapper's name and address, or the trapper's Alaska driver's license number or State identification card number, or is set within 50 yards of a sign that lists the trapper's name and address, or the trapper's Alaska driver's license number or State identification card number. If a trapper chooses to place a sign at a trap/snaring site rather than tagging individual trap/snares, the sign must be at least 3 inches by 5 inches in size, be clearly visible, and have numbers and letters that are at least one-half inch high and one-eighth inch wide in a color that contrasts with the color of the sign.</i></p> <p><i>(8) All traps and snares must be checked within 6 days of setting them and within each 6 days thereafter.</i></p> <p><i>(9) Trappers must record and report all non-targeted species taken and their condition when found. Non-targeted species harvest reports must be turned in within 30 days of the end of the trapping season.</i></p>

continued on next page

WP14-01 Executive Summary (continued)

	<p>Units 1–5—Special Provisions</p> <p><i>Trappers are prohibited from using a trap or snare unless the trap or snare has been individually marked with a permanent metal tag upon which is stamped or permanently etched the trapper's name and address, or the trapper's permanent identification number, or is set within 50 yards of a sign that lists the trapper's name and address, or the trapper's permanent identification number. The trapper must use the trapper's Alaska driver's license number or State identification card number as the required permanent identification number. If a trapper chooses to place a sign at a snaring site rather than tagging individual snares, the sign must be at least 3 inches by 5 inches in size, be clearly visible, and have numbers and letters that are at least one-half inch high and one-eighth inch wide in a color that contrasts with the color of the sign.</i></p>
OSM Preliminary Conclusion	Oppose
Southeast Regional Council Recommendation	
Southcentral Regional Council Recommendation	
Kodiak/Aleutians Regional Council Recommendation	
Bristol Bay Regional Council Recommendation	
Yukon/Kuskokwim Delta Regional Council Recommendation	
Western Interior Regional Council Recommendation	
Seward Peninsula Regional Council Recommendation	
Northwest Arctic Regional Council Recommendation	
Eastern Interior Regional Council Recommendation	
North Slope Regional Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	2 Oppose

DRAFT STAFF ANALYSIS WP14-01

ISSUES

Proposal WP14-01, submitted by Kevin Bopp, requests the establishment of new statewide provisions for Federal trapping regulations that require trapper identification tags on all traps and snares, establish a maximum allowable time limit for checking traps, and establish a harvest/trapping report form to collect data on non-target species captured in traps and snares.

DISCUSSION

The proponent states the regulatory changes would result in more responsible trappers and trapping. Requiring identification tags with the trapper's name and license number may increase accountability of trappers. Some trappers may be less likely to set traps and snares close to people's homes and high public-use areas, which could ease tension between user groups. The trap checking interval requirement will ensure that animals do not remain in traps or snares too long, which could help ensure furs are found in good condition and increase the likelihood of releasing any captured non-target species. The proponent also recommends that all non-target species caught in traps and snares be recorded on a new harvest report form. Information included on the form would include the species captured, whether the animal was found dead or alive, and whether it was released in good or bad condition. If animals are found dead, the report would also include information on whether the animal was consumed by other animals.

Existing Federal Regulation

No Statewide regulations currently exist that require the marking of traps and snares with identification tags, trap-check intervals, and reporting of non-target species captured in traps and snares.

Units 1–5—Special Provisions

Trappers are prohibited from using a trap or snare unless the trap or snare has been individually marked with a permanent metal tag upon which is stamped or permanently etched the trapper's name and address, or the trapper's permanent identification number, or is set within 50 yards of a sign that lists the trapper's name and address, or the trapper's permanent identification number. The trapper must use the trapper's Alaska driver's license number or State identification card number as the required permanent identification number. If a trapper chooses to place a sign at a snaring site rather than tagging individual snares, the sign must be at least 3 inches by 5 inches in size, be clearly visible, and have numbers and letters that are at least one-half inch high and one-eighth inch wide in a color that contrasts with the color of the sign.

Proposed Federal Regulation

§ __.26 *Subsistence taking of wildlife*

(d) The following methods and means of trapping furbearers for subsistence uses pursuant to the requirements of a trapping license are prohibited, in addition to the prohibitions listed at paragraph (b) of this section:

...

(7) Traps and snares must be individually marked with a permanent metal tag upon which is stamped or permanently etched the trapper's name and address, or the trapper's Alaska driver's license number or State identification card number, or is set within 50 yards of a sign that lists the trapper's name and address, or the trapper's Alaska driver's license number or State identification card number. If a trapper chooses to place a sign at a trap/snaring site rather than tagging individual trap/snares, the sign must be at least 3 inches by 5 inches in size, be clearly visible, and have numbers and letters that are at least one-half inch high and one-eighth inch wide in a color that contrasts with the color of the sign.

(8) All traps and snares must be checked within 6 days of setting them and within each 6 days thereafter.

(9) Trappers must record and report all non-targeted species taken and their condition when found. Non-targeted species harvest reports must be turned in within 30 days of the end of the trapping season.

Units 1–5—Special Provisions

Trappers are prohibited from using a trap or snare unless the trap or snare has been individually marked with a permanent metal tag upon which is stamped or permanently etched the trapper's name and address, or the trapper's permanent identification number, or is set within 50 yards of a sign that lists the trapper's name and address, or the trapper's permanent identification number. The trapper must use the trapper's Alaska driver's license number or State identification card number as the required permanent identification number. If a trapper chooses to place a sign at a snaring site rather than tagging individual snares, the sign must be at least 3 inches by 5 inches in size, be clearly visible, and have numbers and letters that are at least one-half inch high and one-eighth inch wide in a color that contrasts with the color of the sign.

Existing State Regulation

Units 1–5—Trappers are prohibited from using a trap or snare unless the trap or snare has been individually marked with a permanent metal tag upon which is stamped or permanently etched the trapper's name and address, or the trapper's permanent identification number, or is set within 50 yards of a sign that lists the trapper's name and address, or the trapper's permanent identification number; the trapper must use the trapper's Alaska driver's license number or state identification card number as the required permanent identification number; if a trapper chooses to place a sign at a snaring site rather than tagging individual snares, the sign must be at least 3 inches by 5 inches in size, be clearly visible, and have numbers and letters that are at least one-half inch high and one-eighth inch wide in a color that contrasts with the color of the sign.

Unit 1C, Gustavus, that portion west of Excursion Inlet, north of Icy Passage—All traps/snares must be checked within 3 days of setting them and within each 3 days thereafter.

Units 12 and 20E—You may not trap within one-quarter mile of any publicly maintained road, by using a snare with a cable diameter of 3/32 inch or larger that is set out of water, unless the snare has been individually marked with a permanent metal tag upon which is stamped or permanently etched the trapper's name and address, or the trapper's permanent identification number, or is set within 50 yards of a sign that lists the trapper's name and address, or the trapper's permanent identification number; the trapper must use the trapper's Alaska driver's license number or state

identification card number as the required permanent identification number; if a trapper chooses to place a sign at a snaring site rather than tagging individual snares, the sign must be at least 3 inches by 5 inches in size, be clearly visible, and have numbers and letters that are at least one-half inch high and one-eighth inch wide in a color that contrasts with the color of the sign.

Incidental Catch—Continuing to take, or attempting to take, furbearers at a site where a moose, caribou, or deer has been taken incidentally is a violation. Any moose, caribou, or deer that dies as a result of being caught in a trap or snare, whether found dead or euthanized, is the property of the state. The trapper who set the trap or snare must salvage the edible meat and surrender it to the state. No trapper may use any part of a moose, caribou or deer caught incidentally in a trap or snare. If such an incidental take occurs, the trapper must move all active traps and snare at least 300 feet from the site for the remainder of the regulatory year.

Extent of Federal Public Lands

The proposal would apply to all Federal public lands in Alaska. Federal public lands comprise approximately 65% of Alaska and consist of 23% BLM, 21% FWS, 15% NPS, and 6% USFS managed lands.

Customary and Traditional Use Determinations

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

Regulatory History

The Alaska Board of Game adopted a marking requirement for traps and snares in Units 1–5 in 2006. Federal regulations were aligned with the State requirements in Units 1–5 when the Federal Subsistence Board adopted Proposal WP12-14 in 2012. The Southeast Alaska Subsistence Regional Advisory Council (Council) supported the proposal due to the benefit of aligning State and Federal regulations and reducing the uncertainty of whether current regulations required traps to be marked. However, the Council expressed concern that there was a lack of evidence as to why traps should be marked under either State or Federal regulations (FWS 2012)

Trapping Background

In an overview of trapping controversies, Andelt et al. (1999; *references therein*) listed recommended trap-check intervals of daily or almost daily for live-capture traps set on land in response to animal welfare concerns; however, daily trap checks would not be practicable in much of Alaska due to the remoteness of areas, length of trap lines, and harsh weather conditions. Some considerations for how often traps should be checked include the intent of the trap (live capture or kill trap), ambient temperatures, and placement of traps, which could allow rodents or scavengers to destroy the pelt (Stanek 1987). Other considerations for trap check schedules includes work schedules, distance to traplines, river ice conditions, price of fuel (Scotton 2013, pers. comm.). The average trapline was 23.1 miles long in 2006/2007, and the longest reported trapline was 250 miles (ADF&G 2010). Trap-checking intervals of two to three days were generally used by trappers near Kaiyuh Flats, Alaska to prevent pelt damage from scavengers, and beaver sets were also checked frequently to prevent any captured beavers from being frozen in the ice (Robert 1984). Trappers from Skwentna, Stevens Village, and Fort Yukon reportedly checked trap lines “once a week or every few days”, but some trappers “waited ten days to two weeks”

(Wolfe 1991:27). During 2010/2011, 79% of trappers from across the state reportedly conducted trapping activities 1–3 days per week (ADF&G 2012a).

Effects of the Proposal

If the proposal is adopted, Federally qualified subsistence users trapping under Federal regulations throughout the State will be required to mark traps and snares with identification tags, check snares and traps every 6 days or less, and record any non-target species caught in traps or snares on a newly established trapping report form. The proposed requirements have the potential to benefit all users by promoting responsible and ethical trapping techniques and practices. However, dramatic differences in land ownership, population concentrations, terrain, and habitats would limit the effectiveness of the proposed statewide regulations. Individual traplines can span across Federal and State managed lands and, therefore, could have different regulatory requirements. Alternatively, Federally qualified subsistence users could simply choose to trap under State regulations and avoid the proposed requirements, as both Federal and State trapping regulations are applicable on Federal public lands, as long as the State regulations are not inconsistent with or superseded by Federal regulations.

In most situations, the requirement to individually mark traps and snares with identification tags would result in inconsistent State and Federal regulations on Federal public lands that would necessitate an outreach effort to avoid confusion among users. Under Federal regulations, traps and snares are required to be marked with identification tags only in Units 1–5, but these marking requirements were adopted to align with State regulations to reduce regulatory complexity (see Regulatory History). Within portions of Unit 15, over 60 percent which lies within Kenai National Wildlife Refuge, and those portions of Unit 7 that are contained within Kenai NWR, a trapping permit is required and a stipulation of Kenai NWR’s permit includes the marking of traps and snares. Also, under State regulations, all snares within a ¼ mile of a public road in Units 12 and 20E are required to be marked. Federally qualified subsistence users trapping on Federal public lands outside of these specific areas would be required to mark traps and snares with identification tags that include the trapper’s name and license number. However, Federally qualified subsistence users or non-Federally qualified users trapping on Federal public lands would not be required to mark traps and snares under State regulations.

The requirement to mark traps and snares would also result in additional burden and cost for Federally qualified subsistence users trapping under Federal regulations. Copper tags stamped with a trapper’s identification information, including fasteners, cost approximately \$26 per 100 tags (including shipping) or less (approximately \$15–\$20) for “write-your own” tags (FWS 2012). In addition, trappers often trade or borrow equipment from family members or friends, and changes of identification tags on large numbers of traps or snares would require significant effort (Scotton 2013, pers. comm.).

Frequent trap checks are beneficial for animal welfare and can decrease the likelihood of pelt damage of trapped furbearers. The trap check time requirement would also result in inconsistent State and Federal regulations, and would require significant law enforcement and public educational efforts. The requirement could result in human health and safety issues by requiring trappers to check traps during periods of inclement weather, especially in remote units where trap lines are long. The back cover of the State trapping regulations includes a Code of Ethics, reprinted from the Alaska Trappers Manual, which includes checking traps regularly and trapping in the most humane way possible. While the items listed in the Code of Ethics are not regulatory in nature, they provide general guidelines for responsible trapping.

Few requirements for trap check intervals are currently in State or Federal regulations, and those regulations have been put in place in response to specific incidents or in areas with high potential for user

conflict. Under State regulation in Alaska, the only trap check time requirement in regulation is a 72-hour trap check in a small area near Gustavus in Unit 1C under State regulations, which was adopted due to multiple moose being incidentally caught in snares (ADF&G 2012b). A 4-day trap check requirement is required on the more accessible and heavily trapped portions of the Kenai National Wildlife Refuge (Kenai NWR) as a stipulation of the Refuge Special Use Permit in order to increase the potential for safe release of incidentally-caught non-target animals including bald eagles, moose and domestic dogs.

If the proposal is adopted, a new trapping report form would be established to report any non-target species caught under Federal trapping regulations. Trapping reports may provide useful information regarding which non-target species are captured and how often they can be released in good condition. However, some of the information requested for the report form may be difficult to interpret, especially subjective observations such as the condition of trapped animals. In addition, it is unknown what the data from the proposed form would be used for, as there is no indication of any management agency that is requesting information on the incidental capture of non-target species across the state. To limit the capture of non-target species, trappers can review informational sources such as the Best Management Practices for Trapping in the United States, which evaluate traps and trapping systems based on animal welfare, efficiency, selectivity, practicality, and safety (AFWA 2006). Overall, it is in the best interest of trappers to minimize the capture of non-target animals, as those traps or snares become unavailable for capturing target animals.

The new trapping report form for non-target species would require additional time commitments for Federally qualified subsistence users and staff of Federal land management agencies. The time commitment for Federally qualified subsistence users would be minimal, but may be an incentive to simply trap under State regulations where a report is not required. The time commitment for Federal staff could be substantial, as trapping reports from Federal lands across the state may have to be collected and analyzed.

The establishment of a new trapping report form would have to meet the information collection requirements subject to approval by the Office of Management and Budget, 50 CFR § 100.9 [2009], and in accordance with the Paperwork Reduction Act, OMB Control Number 1018-0075.

OSM PRELIMINARY CONCLUSION

Oppose Proposal WP14-01.

Justification

The proposed requirements for individually marking traps and snares, setting maximum trap check intervals, and reporting the incidental harvest of non-target species could lead to more humane trapping methods under Federal regulations; however, these regulatory provisions would not likely be manageable on a statewide basis due to vast differences in land ownership, population concentrations and habitats. Regulations of this nature would be better suited in response to issues on an area-specific basis (e.g., Kenai NWR Refuge Special Use Permit requirements), like similar restrictions currently in State and Federal trapping regulations. Alignment issues would require a substantial increase in law enforcement and public educational efforts, and requiring trappers to check traps during inclement weather could lead to health and safety issues. In many instances, Federally qualified subsistence users may simply trap under State regulations to avoid the additional proposed Federal restrictions.

While the information gathered from a harvest report form of non-target species caught in traps and snares could provide useful information, it would be an unnecessary requirement for Federally qualified

subsistence users. In addition, the report would require additional time commitments for Federally qualified subsistence users and Federal staff that are currently unwarranted. Similar reports would be more useful in areas with specific issues with the capture of non-target species, such as areas with threatened or endangered species or significant user-conflict issues.

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WRITTEN PUBLIC COMMENTS

Oppose Statewide Proposal WP14-01: With kind personal regards to Kevin Bopp, who gave us one of the best lead dogs we ever had, I strongly disagree with this. Trap tags might work for short traplines, but when you run 80 miles of traps, tags for every trap would be very onerous and also subject to loss when an animal is caught. The time limit proposal is utterly unworkable for many people. It usually takes us 10-12 days by dog team to make the round trip of up to 130 miles to check our traps. If we had to check every trap every 6 days, we would have to cut the length of our line in half, which would eliminate the most profitable distant areas, cutting profit more than in half; AND we'd be forced to travel even when it was not safe, eg -60° or blowing in excess of 50 mph. Additionally there are times travel is physically impossible due to flooding, bad ice or other hazards. That's why previously proposed time limits have never been established. This becomes even more unworkable for fly-in pilots for whom travel in weather extremes can quickly prove fatal. Neither of these even actually directly address the mentioned problem of trapping near settlements/highways.

Miki and Julie Collins, Lake Minchumina

Oppose Statewide Proposal WP14-01: We oppose Statewide Proposal WP14-01 to create new regulations for requiring that identification tags be put on traps and snares and that traps and snares be checked every 6 days.

It will be cumbersome, unnecessary and burdensome for federally qualified trappers to have constraints placed upon them to have to put identification tags on snares and traps and to check traps and snares every 6 days. Incidental catch of non-target species and reporting it is good, and should be done voluntarily by trappers. Traps and snares should only be checked if weather conditions are safe to check snares and traps. In rural areas, temperature conditions can be minus forty to fifty for 3 consecutive weeks. It would be unsafe to have regulations in place stating that snares and traps must be checked every six days.

Ahtna Inc. Customary and Traditional Use Committee

Oppose Statewide Proposal WP14-01: The release of live animals from traps is a huge safety issue and is very dangerous. A state wide regulation to mark your traps and check traps on a 6 day schedule is also a safety issue and very dangerous for the trapper. I've trapped the same area for 32 years in the Eastern Interior and a 6 day check would put the trapper in extreme risk at 50 and 60 degrees below when the fur is not moving and also dies very quickly in a trap. Trapper know how often to check their trap in a specific area, they want the fur in the best possible condition. If Mr. Bopp has issues with the trappers in his area he can meet with them at Fish and Game Advisory meetings, Federal Subsistence meeting and City Council meetings in his area. It

is a shame that people who know nothing about trapping want to impose regulations on the whole state.

Donald Woodruff, Eagle

WSA13-01 Executive Summary	
General Description	Special Action WSA13-01 requests an extension of the to-be-announced winter season and an increase in the harvest limit for moose under Federal hunting regulations in Unit 17A. <i>Submitted by the Bristol Bay Regional Advisory Council</i>
Proposed Regulation	<p>Unit 17A—Moose</p> <p><i>Unit 17A—1 bull by State registration permit Aug. 25–Sept. 20.</i></p> <p><i>Unit 17A—1 antlered bull up to 2 moose by State registration permit. Up to a 14 31-day season during the period Dec. 1–Jan. 31 may be opened or closed by the Togiak National Wildlife Refuge Manager after consultation with ADF&G and the Chair of the Bristol Bay Regional Advisory Council.</i></p> <p><i>Winter season to may be announced</i></p>
OSM Preliminary Conclusion	Support
Bristol Bay Regional Council Recommendation	
Yukon/Kuskokwim Delta Regional Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	

DRAFT STAFF ANALYSIS WSA13-01

ISSUES

Special Action WSA13-01, submitted by the Bristol Bay Regional Advisory Council, requests an extension of the to-be-announced winter season and an increase in the harvest limit for moose under Federal hunting regulations in Unit 17A.

DISCUSSION

The proponent states that the Federal moose regulations should be changed to align with State seasons and harvest limits in Unit 17A. The changes are intended to slightly reduce the Unit 17A moose population to keep it in a healthy and productive state, and to prevent over-browsing of the habitat. The regulatory change will provide Federally qualified subsistence users up to 17 additional days of opportunity to harvest moose (up to 31 days total) in Unit 17A during December 2013 and January 2014. The proposal also provides additional harvest opportunity for Federally qualified subsistence users with more liberal harvest regulations that include an increased harvest limit and allowing users to harvest cow moose during the winter.

Existing Federal Regulation

Unit 17A—Moose

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

Unit 17A—1 antlered bull by State registration permit. Up to a 14-day season during the period Dec. 1–Jan. 31 may be opened or closed by the Togiak National Wildlife Refuge Manager after consultation with ADF&G and the Chair of the Bristol Bay Regional Advisory Council. *Winter season to be announced*

Proposed Federal Regulation

Unit 17A—Moose

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

*Unit 17A—~~1 antlered bull~~ **up to 2 moose** by State registration permit. Up to a ~~14~~ **31**-day season during the period Dec. 1–Jan. 31 may be opened or closed by the Togiak National Wildlife Refuge Manager after consultation with ADF&G and the Chair of the Bristol Bay Regional Advisory Council.* *Winter season ~~to~~ **may** be announced*

Existing State Regulation

Unit 17A—Moose

Residents: One bull by permit available in person in Dillingham and Togiak beginning Aug 15 *RM573* *Aug. 25–Sept. 20*

OR

Two moose by permit available in person in Dillingham and Togiak (up to a 31-day season may be announced Dec 1 – Jan 31)

RM575

May be announced

Extent of Federal Public Lands

Federal public lands comprise approximately 87% of Unit 17A, and consist of 87% FWS and less than 1% of BLM managed lands (see **Unit 17 Map**).

Customary and Traditional Use Determinations

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

Residents of Akiak and Akiachak have a positive customary and traditional use determination to harvest moose in Unit 17A, that portion north of Togiak Lake that includes the Izavieknik River drainages.

Residents of Unit 17, Goodnews Bay and Platinum (excluding residents of Akiachak, Akiak, and Quinhagak) have a positive customary and traditional use determination to harvest moose in Unit 17A remainder.

Regulatory History

Under State and Federal regulations there was no open season for the harvest of moose in Unit 17A from January 1, 1981 to August 20, 1997. Prior to 1981, the State moose season was Sept. 10–Sept. 20 and Dec. 10–Dec. 31, with a harvest limit of one bull moose.

Several proposals were submitted to the Federal Subsistence Board (Board) to establish a moose season in Unit 17A. Proposal P95-31 requested the establishment of an Aug. 20–Sept. 15 moose season. The Bristol Bay Subsistence Regional Advisory Council (Council) tabled the proposal due to concerns about the moose population, and the Board deferred action on P95-31. Special Action S95-03 requested the establishment of a temporary Aug. 20–Sept. 20 moose season, but the Board rejected the request because the Council had not had an opportunity to review moose survey data and make a recommendation. Proposals P96-37 and P96-38 requested the establishment of moose seasons from Aug. 15–Sept. 20 and Aug. 20–Sept. 15, respectively. The Board supported the Councils recommendation to reject the proposals and recommend the Togiak National Wildlife Refuge develop a management strategy that allowed for subsistence harvest while promoting growth of the moose population.

In 1997, the Alaska Board of Game adopted State Proposal 134, which established a moose hunting season in Unit 17A with a harvest limit of one bull moose during Aug. 20–Sept. 15. The Council submitted Special Actions SA97-03 and SA97-03a to establish a moose season under Federal regulations. Special action SA97-03a was a modification of SA97-03, which requested the Federal season align with the State season and close when 10 bull moose were harvested. The Board approved SA97-03a.

Proposal P98-59 was submitted to take the temporary season, established by approval of SA97-03a, and put it into permanent regulation and align with State regulations. The Board deferred action on P98-59, pending the development of a moose management plan in Unit 17A. The proposal was resubmitted as P99-40, but was rejected by the Board because P98-59 was still pending. Another temporary season was

established with the Board's approval of Special Action WSA00-05. Proposal P01-20 was submitted to make the temporary season from WSA00-05 a permanent regulation, which the Board adopted.

Special Action WSA02-11 was submitted by the Togiak Traditional Council to establish a limited winter moose hunt in part of Unit 17A. WSA02-11 was subsequently modified by the Togiak Traditional Council, and recommended that a Federal registration permit be required instead of a State registration permit. The special action was approved with modification by the Board on November 12, 2002. The modification stipulated that the Federal subsistence hunt require the use of a State registration permit rather than the use of a Federal registration permit. Prior to approval of WSA02-11, proposed winter moose seasons had been previously rejected by the Board, including Special Action SA97-12, Proposal P00-61, a subsequent Request for Reconsideration RFR00-03, and Proposal P01-21. Proposal WP03-34 requested that the season temporarily established by WSA02-11 be placed in permanent regulation, but the Board deferred action because of a pending review by the Unit 17A Moose Planning Working Group.

Proposal WP04-46 requested that a limited moose hunt be held in Unit 17A during the period of Dec. 1–Jan. 31. The Board adopted the proposal with modifications consistent with the recommendation of the Bristol Bay Regional Advisory Council. The first modification implemented a winter hunt using the State registration permit instead of a Federal permit. The second modification included language stating “up to a 14-day season” during the period of Dec. 1–Jan. 31. Also in 2004, Proposal WP04-47 requested a winter moose hunt be held in Unit 17A from Jan. 1–Jan. 31, with a harvest limit of one moose and a closure of the season once 20 cows had been harvested. The Board rejected the proposal as a consent agenda item, as the action on WP04-46 was preferred by the Regional Advisory Councils.

In 2012, Proposal WP12-40 requested a modification of the Unit 17A winter season hunt area by expanding the season to all of Unit 17A. The Board adopted the proposal as a consent agenda item to provide additional harvest opportunity and to align with State regulations.

The winter moose season was extended in 2013 to provide additional harvest opportunity under Federal and State regulations. The State extended the winter moose season in Unit 17A for an additional 14 days from January 9–22, 2013 with Emergency Order No. 04-01-13. The justification for the season extension was that travel conditions and moose distribution were believed to have affected hunter success rates, resulting in approximately 6–8 moose being harvested. Aerial survey data and high rates of calf production and survival suggested the population could sustain additional harvest during the extended season. Special action WSA12-11 also requested an extension of the winter moose season in Unit 17A to January 9–22, as travel conditions had limited the opportunity for Federally qualified subsistence users to harvest moose during the 14-day winter season. It was determined the moose population could support the harvest of additional antlered bulls and WSA12-11 was approved by the Board to provide additional harvest opportunity, including utilization of the Federal designated hunter regulations.

Current Events Involving the Species

At its February 8–15, 2013 meeting, the Alaska Board of Game adopted Proposal 48B, which increased the harvest limit from 1 bull to 2 moose, increased the season length for the may-be-announced winter season from up to 14 to up to 31 days, and opened a Sept. 5–15 nonresident season that allowed for the harvest of one bull with 50-inch antlers or antlers with 4 or more brow tines on one side by registration permit. The nonresident season will be by drawing permit only and will begin in 2014/2015. These actions were consistent with the updated Unit 17A Moose Management Plan.

Biological Background

Moose are relative newcomers to southwest Alaska and to Unit 17A, possibly migrating into the area from the middle Yukon River drainages during the last century. Aerial surveys conducted in the late 1980s and 1990s often resulted in less than 10 moose being observed in the unit (Woolington 2008). Local residents harvested moose opportunistically, but other species such as caribou, bear, and beaver were the main sources of wildlife meat. The last 20 years of minimum count surveys in Unit 17A show a steady increase from less than 10 moose in the early 1990s to 1,166 moose observed in 2011 (**Figure 1**). The 2004 version of the Unit 17A Moose Management Plan established a minimum population objective of 300 moose and a target population of 1,100–1,750 moose for Unit 17A. However, the population objective was recently revised for a target population of 800–1,200 moose in the January 8, 2013 version of the Moose Management Plan. The population's carrying capacity was recently estimated to be between 900 and 1,350 moose (Unit 17A Moose Management Group 2013).

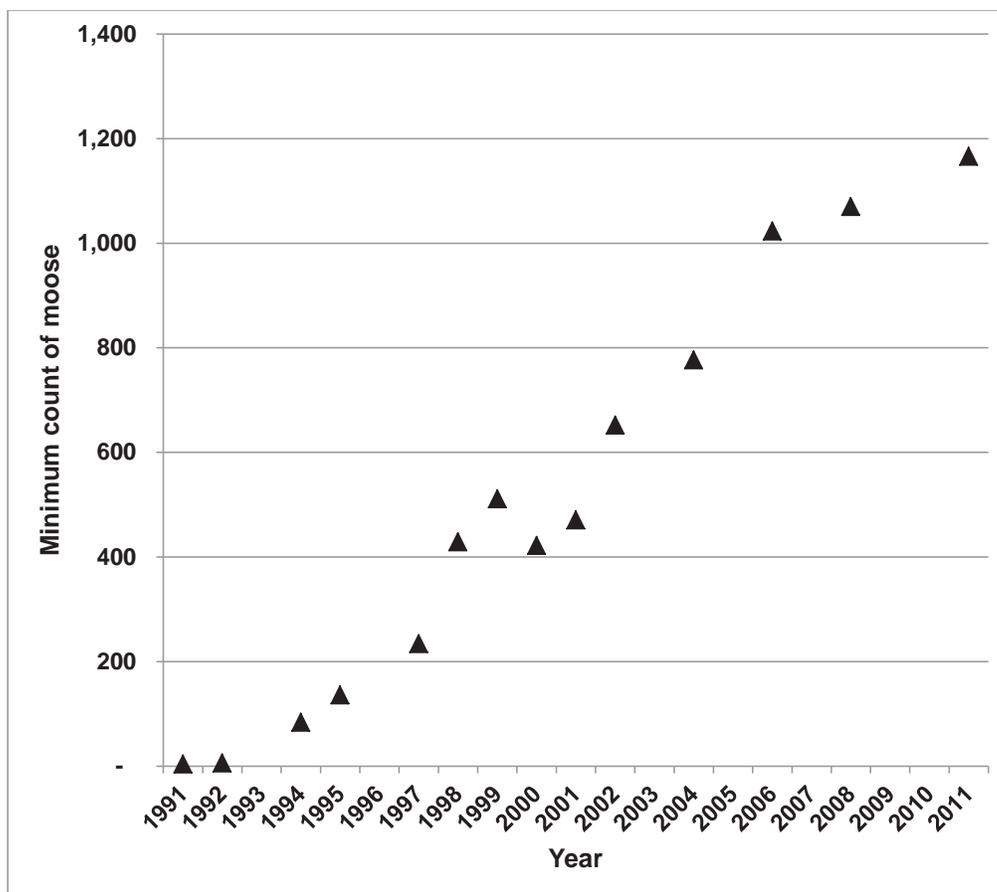


Figure 1. Minimum counts of moose observed during winter aerial surveys of Unit 17A between 1991 and 2011 (Aderman et al. 2012). Blanks indicate that no surveys were performed that year.

The Togiak National Wildlife Refuge and ADF&G began a cooperative research study in 1998 to better understand the demographics of the Unit 17A moose population (Aderman et al. 2012). Objectives of the study are to monitor the population size, calf production and recruitment, and survival of females and their offspring. Since the project began in 1998, 50 short-yearling (between 10 and 12-months old) females and 48 adult cows have been collared, and aerial radio tracking was conducted monthly for all

moose and weekly for cows during the calving period (Aderman et al. 2012). The minimum calf counts averaged 128 calves per 100 adult females (range 87–157 calves/100 females) between 1998 and 2011, and twinning rates averaged 64% (range 25%–94%) (Aderman et al. 2012). The twinning rates suggest that the population remains below carrying capacity (Gasaway et al. 1992, Aderman et al. 2012). Fall recruitment was estimated at 63 calves per 100 females (range 35–86 calves/100 females) between 1998 and 2011. Average calf survival from birth to November was 48% (range 28%–60%) and was 44% (range 28%–55%) through the following March/April survey period over the same time frame (Aderman et al. 2012). The average annual survival rate for female moose was 0.90 (range 0.76–0.97) from 1998 to 2011, with most mortalities occurring in late winter and spring (Aderman et al. 2012). Bull:cow ratios have typically been high throughout Unit 17 (Woolington 2010), and averaged 82 bulls:100 cows between 1998 and 2006 (Aderman 2008).

Between 2003 and 2011, an average of 33 moose were harvested annually in Unit 17A, and an average of 31% (range 6%–50%) of the harvest occurred during the winter season (**Table 1**). Over the same period 65%–100% of moose harvested in Unit 17A were by local residents of Unit 17 (**Table 1**). However, nonlocal residents also may include Federally qualified subsistence users, as the communities of Akiachak, Akiak, Kwethluk, Goodnews Bay, and Platinum all occur in Unit 18.

As the moose population has increased, so has the total annual harvest, from reported harvests of 11 moose in 2003 to 50 moose in 2011 (**Table 1**). As of April 27, 2013, 29 bull moose were reportedly harvested during the 2012 fall hunt while another 16 bulls were harvested during the winter hunt (Aderman 2013, pers. comm.).

Table 1. Hunter participation and moose harvest among local and nonlocal Alaska residents using State registration permits RM573 (fall season) and RM575 (to-be-announced winter season) in Unit 17A (Aderman 2013, pers. comm.). Federally qualified subsistence users are required to possess a State registration permit to harvest moose in the unit.

Year	Season	Residents of Unit 17			Nonlocal residents ^a			Total harvest
		Permits issued	Permits used	Harvest	Permits issued	Permits used	Harvest	
2003	Fall	52	44	6	7	3	1	11
	Winter	19	14	4	0	0	0	
2004	Fall	52	48	10	1	0	0	20
	Winter	44	29	10	0	0	0	
2005	Fall	68	58	20	5	3	1	24
	Winter	76	35	3	0	0	0	
2006	Fall	62	56	21	5	5	3	36
	Winter	48	26	11	6	5	1	
2007	Fall	81	63	32	2	0	0	41
	Winter	98	45	8	6	4	1	
2008 ^b	Fall	87	81	17	16	13	7	45
	Winter	110	64	21	0	0	0	
2009	Fall	98	82	18	21	17	11	31
	Winter	35	29	2	1	0	0	
2010 ^c	Fall	96	88	21	17	12	6	37
	Winter	30	25	10	1	0	0	
2011 ^c	Fall	114	103	22	25	20	6	50
	Winter	42	36	22	0	0	0	
2012 ^c	Fall	114	93	21	21	21	8	45
	Winter	58	36	16	0	0	0	

^a May include Federally qualified subsistence users from Akiachak, Akiak, Kwethluk, Goodnews Bay, and Platinum.

^b Fall 2008 was the first year that aircraft could be used during the hunt.

^c Preliminary harvest data.

Habitat

In 2011, the amount of moose habitat was estimated to comprise of 13.4% of Unit 17A (449 mi² of 3,357 mi²); however, the estimate did not include a mixed shrub category that contained an unknown amount percentage of willow and should be considered a minimum estimate (Aderman and Lowe 2011). A previous moose habitat mapping effort in 1999 estimated 560 mi² of optimal and 520 mi² of secondary moose winter habitats for Unit 17A, excluding the Nushagak Peninsula and areas west of the Matogak River (Aderman and Lowe 2011). Both estimates (1999 and 2011) were based on the same Landsat imagery from 1989.

Preliminary analyses of the nutritional quality suggest that forage species found in Unit 17A may provide more digestible protein than areas in Denali National Park and the Nelchina Basin (Aderman and Lowe 2011). The high amounts of digestible protein may help moose in Unit 17A achieve rapid body growth and lead to earlier sexual development.

Effects of the Proposal

If this Special Action is approved, it would align State and Federal regulations for the 2013/2014 regulatory year and provide additional opportunity for Federally qualified subsistence users to harvest moose in Unit 17A. Federally qualified subsistence users would have up to 17 additional days to harvest moose in the winter season, and the harvest limit would be increased from one antlered bull to 2 moose. Federally qualified subsistence users are required to have a State registration permit during the fall and winter moose seasons, and could harvest moose under State regulations regardless of the Board's decision. However, aligning State and Federal regulations would reduce regulatory complexity. In addition, adopting the proposal would allow Federally qualified users to harvest moose on Federal public land via Federal designated hunter regulations for other Federally qualified subsistence users.

Extending the winter season and increasing the harvest limit is expected to impact the moose population in Unit 17A. The proposed regulations provide the Togiak National Wildlife Refuge manager the flexibility to manage the harvest in order to keep the moose population within the guidelines of the Unit 17A Moose Management Plan. When the moose population is increasing and approaching carrying capacity, as is the current case, more liberal harvest regulations that allow for a longer season, increased harvest limits, and potentially allowing for the harvest of cows should help to reduce the population to more sustainable levels.

OSM PRELIMINARY CONCLUSION

Support Special Action WSA13-01.

Justification

The proposed regulatory changes are consistent with recommendations of the Unit 17A Moose Management Plan, which state that when the moose population is increasing and approaching carrying capacity, more liberal harvest regulations that allow for a longer season, increased harvest limits, and potentially allowing for the harvest of cows should help to reduce the population to more sustainable levels. The proposed regulatory changes would also align with recent changes to State regulations to increase the harvest limit and the may-be-announced season. Federally qualified subsistence users would be provided with additional opportunity to harvest moose under Federal regulations, including the use of Federal designated hunter regulations. The moose population continues to increase and is within the estimated carrying capacity for the area.

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WP14-21 Executive Summary	
General Description	Proposal WP14-21 requests an extension of the to-be-announced winter season and an increase in the harvest limit for moose under Federal hunting regulations in Unit 17A. <i>Submitted by the Bristol Bay Subsistence Regional Advisory Council.</i>
Proposed Regulation	<p>Unit 17A—Moose</p> <p><i>Unit 17A—1 bull by State registration permit Aug. 25–Sept. 20.</i></p> <p><i>Unit 17A—1 antlered bull up to 2 moose by State registration permit. Up to a 14 31-day season during the period Dec. 1–Jan. 31 may be opened or closed by the Togiak National Wildlife Refuge Manager after consultation with ADF&G and the Chair of the Bristol Bay Regional Advisory Council.</i></p> <p><i>Winter season to may be announced</i></p>
OSM Preliminary Conclusion	Support Proposal WP14-21 with modification to delete regulatory language found in the Unit 17A may-be-announced season, and delegate authority to the Togiak National Wildlife Refuge Manager to open and close the season and set the harvest limit, including any sex restrictions (e.g., bulls only), for moose via a delegation of authority letter only.
Bristol Bay Regional Council Recommendation	
Yukon-Kuskokwim Delta Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

DRAFT STAFF ANALYSIS WP14-21

ISSUES

Proposal WP14-21, submitted by the Bristol Bay Subsistence Regional Advisory Council, requests an extension of the to-be-announced winter season and an increase in the harvest limit for moose under Federal hunting regulations in Unit 17A.

DISCUSSION

The proponent states that the Federal moose regulations should be changed to align with State seasons and harvest limits in Unit 17A. The changes are intended to slightly reduce the Unit 17A moose population to keep it in a healthy and productive state, and to prevent over-browsing of the habitat. The regulatory change will provide Federally qualified subsistence users up to 17 additional days of opportunity to harvest moose (up to 31 days total) in Unit 17A during December/January. The proposal also provides additional harvest opportunity for Federally qualified subsistence users with more liberal harvest regulations that include an increased harvest limit and allowing users to harvest cow moose during the winter.

Existing Federal Regulation

Unit 17A—Moose

<i>Unit 17A—1 bull by State registration permit</i>	<i>Aug. 25–Sept. 20.</i>
<i>Unit 17A—1 antlered bull by State registration permit. Up to a 14-day season during the period Dec. 1–Jan. 31 may be opened or closed by the Togiak National Wildlife Refuge Manager after consultation with ADF&G and the Chair of the Bristol Bay Regional Advisory Council.</i>	<i>Winter season to be announced</i>

Proposed Federal Regulation

Unit 17A—Moose

<i>Unit 17A—1 bull by State registration permit</i>	<i>Aug. 25–Sept. 20.</i>
<i>Unit 17A—1 antlered bull up to 2 moose by State registration permit. Up to a 14- 31-day season during the period Dec. 1–Jan. 31 may be opened or closed by the Togiak National Wildlife Refuge Manager after consultation with ADF&G and the Chair of the Bristol Bay Regional Advisory Council.</i>	<i>Winter season to may be announced</i>

Existing State Regulation

Unit 17A—Moose

<i>Residents: One bull by permit available in person in Dillingham and Togiak beginning Aug 15</i>	<i>RM573</i>	<i>Aug. 25–Sept. 20</i>
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OR

Two moose by permit available in person in Dillingham and Togiak (up to a 31-day season may be announced Dec 1 – Jan 31)

RM575

May be announced

Extent of Federal Public Lands

Federal public lands comprise approximately 87% of Unit 17A, and consist of 87% FWS and less than 1% of BLM managed lands (see **Unit 17 Map**).

Customary and Traditional Use Determinations

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

Residents of Akiak and Akiachak have a positive customary and traditional use determination to harvest moose in Unit 17A, that portion north of Togiak Lake that includes the Izavieknik River drainages.

Residents of Unit 17, Goodnews Bay and Platinum (excluding residents of Akiachak, Akiak, and Quinhagak) have a positive customary and traditional use determination to harvest moose in Unit 17A remainder.

Regulatory History

Under State and Federal regulations there was no open season for the harvest of moose in Unit 17A from January 1, 1981 to August 20, 1997. Prior to 1981, the State moose season was Sept. 10–Sept. 20 and Dec. 10–Dec. 31, with a harvest limit of one bull moose.

Several proposals were submitted to the Federal Subsistence Board (Board) to establish a moose season in Unit 17A. Proposal P95-31 requested the establishment of an Aug. 20–Sept. 15 moose season. The Bristol Bay Subsistence Regional Advisory Council (Council) tabled the proposal due to concerns about the moose population, and the Board deferred action on P95-31. Special Action S95-03 requested the establishment of a temporary Aug. 20–Sept. 20 moose season, but the Board rejected the request because the Council had not had an opportunity to review moose survey data and make a recommendation. Proposals P96-37 and P96-38 requested the establishment of moose seasons from Aug. 15–Sept. 20 and Aug. 20–Sept. 15, respectively. The Board supported the Councils recommendation to reject the proposals and recommend the Togiak National Wildlife Refuge develop a management strategy that allowed for subsistence harvest while promoting growth of the moose population.

In 1997, the Alaska Board of Game adopted Proposal 134, which established a moose hunting season in Unit 17A with a harvest limit of one bull moose during Aug. 20–Sept. 15. The Council submitted Special Actions SA97-03 and SA97-03a to establish a moose season under Federal regulations. Special action SA97-03a was a modification of SA97-03, which requested the Federal season align with the State season and close when 10 bull moose were harvested. The Board approved SA97-03a.

Proposal P98-59 was submitted to take the temporary season, established by approval of SA97-03a, and put it into permanent regulation and align with State regulations. The Board deferred action on P98-59, pending the development of a moose management plan in Unit 17A. The proposal was resubmitted as P99-40, but was rejected by the Board because P98-59 was still pending. Another temporary season was

established with the Board's approval of Special Action WSA00-05. Proposal P01-20 was submitted to make the temporary season from WSA00-05 a permanent regulation, which the Board adopted.

Special Action WSA02-11 was submitted by the Togiak Traditional Council to establish a limited winter moose hunt in part of Unit 17A. WSA02-11 was subsequently modified by the Togiak Traditional Council, and recommended that a Federal registration permit be required instead of a State registration permit. The special action was approved with modification by the Board on November 12, 2002. The modification stipulated that the Federal subsistence hunt require the use of a State registration permit rather than the use of a Federal registration permit. Prior to approval of WSA02-11, proposed winter moose seasons had been previously rejected by the Board, including Special Action SA97-12, Proposal P00-61, a subsequent Request for Reconsideration RFR00-03, and Proposal P01-21. Proposal WP03-34 requested that the season temporarily established by WSA02-11 be placed in permanent regulation, but the Board deferred action because of a pending review by the Unit 17A Moose Planning Working Group.

Proposal WP04-46 requested that a limited moose hunt be held in Unit 17A during the period of Dec. 1–Jan. 31. The Board adopted the proposal with modifications consistent with the recommendation of the Bristol Bay Regional Advisory Council. The first modification implemented a winter hunt using the State registration permit instead of a Federal permit. The second modification included language stating “up to a 14-day season” during the period of Dec. 1–Jan. 31. Also in 2004, Proposal WP04-47 requested a winter moose hunt be held in Unit 17A from Jan. 1–Jan. 31, with a harvest limit of one moose and a closure of the season once 20 cows had been harvested. The Board rejected the proposal as a consent agenda item, as the action on WP04-46 was preferred by the Regional Advisory Councils.

In 2012, Proposal WP12-40 requested a modification of the Unit 17A winter season hunt area by expanding the season to all of Unit 17A. The Board adopted the proposal as a consent agenda item to provide additional harvest opportunity and to align with State regulations.

The winter moose season was extended in 2013 to provide additional harvest opportunity under Federal and State regulations. The State extended the winter moose season in Unit 17A for an additional 14 days from January 9–22, 2013 with Emergency Order No. 04-01-13. The justification for the season extension was that travel conditions and moose distribution were believed to have affected hunter success rates, resulting in approximately 6–8 moose being harvested. Aerial survey data and high rates of calf production and survival suggested the population could sustain additional harvest during the extended season. Special action WSA12-11 also requested an extension of the winter moose season in Unit 17A to January 9–22, 2013, as travel conditions had limited the opportunity for Federally qualified subsistence users to harvest moose during the 14-day winter season. It was determined the moose population could support the harvest of additional antlered bulls and WSA12-11 was approved by the Board to provide additional harvest opportunity, including utilization of the Federal designated hunter regulations.

Current Events Involving the Species

At its February 8–15, 2013 meeting, the Alaska Board of Game adopted Proposal 48B, which increased the harvest limit from 1 bull to 2 moose, increased the season length for the may-be-announced winter season from up to 14 to up to 31 days, and opened a Sept. 5–15 nonresident season that allowed for the harvest of one bull with 50-inch antlers or antlers with 4 or more brow tines on one side by registration permit. The nonresident season will be by drawing permit only and will begin in 2014/2015. These actions were consistent with the updated Unit 17A Moose Management Plan.

Biological Background

Moose are relative newcomers to southwest Alaska and to Unit 17A, possibly migrating into the area from the middle Yukon River drainages during the last century. Aerial surveys conducted in the late 1980s and 1990s often resulted in less than 10 moose being observed in the unit (Woolington 2008). Local residents harvested moose opportunistically, but other species such as caribou, bear, and beaver were the main sources of wildlife meat. The last 20 years of minimum count surveys in Unit 17A show a steady increase from less than 10 moose in the early 1990s to 1,166 moose observed in 2011 (**Figure 1**). The 2004 version of the Unit 17A Moose Management Plan established a minimum population objective of 300 moose and a target population of 1,100–1,750 moose for Unit 17A. However, the population objective was recently revised for a target population of 800–1,200 moose in the January 8, 2013 version of the Moose Management Plan. The population's carrying capacity was recently estimated to be between 900 and 1,350 moose (Unit 17A Moose Management Group 2013).

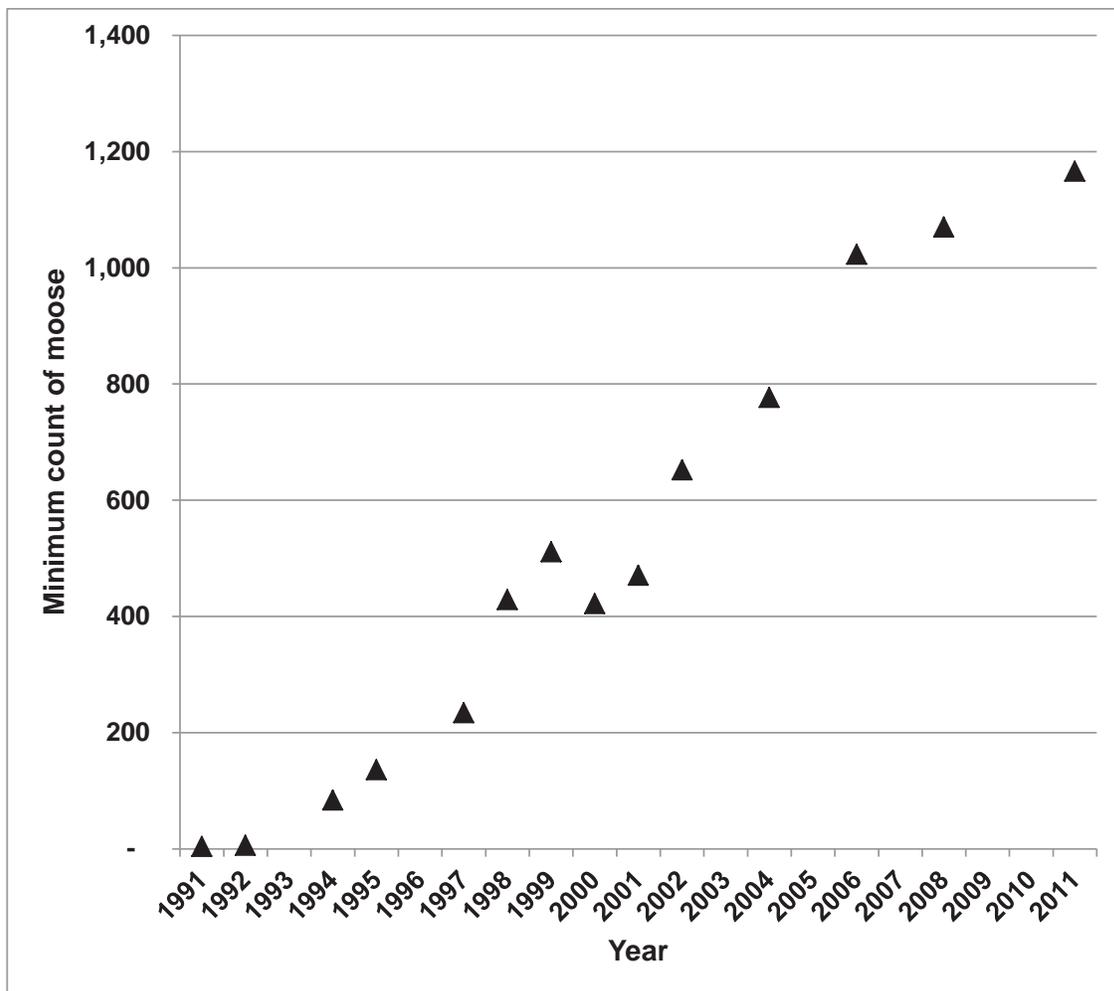


Figure 1. Minimum counts of moose observed during winter aerial surveys of Unit 17A between 1991 and 2011 (Aderman et al. 2012). Blanks indicate that no surveys were performed that year.

The Togiak National Wildlife Refuge and ADF&G began a cooperative research study in 1998 to better understand the demographics of the Unit 17A moose population (Aderman et al. 2012). Objectives of the study are to monitor the population size, calf production and recruitment, and survival of females and their offspring. Since the project began in 1998, 50 short-yearling (between 10 and 12-months old) females and 48 adult cows have been collared, and aerial radio tracking was conducted monthly for all moose and weekly for cows during the calving period (Aderman et al. 2012). The minimum calf counts averaged 128 calves per 100 adult females (range 87–157 calves/100 females) between 1998 and 2011, and twinning rates averaged 64% (range 25%–94%) (Aderman et al. 2012). The twinning rates suggest that the population remains below carrying capacity (Gasaway et al. 1992, Aderman et al. 2012). Fall recruitment was estimated at 63 calves per 100 females (range 35–86 calves/100 females) between 1998 and 2011. Average calf survival from birth to November was 48% (range 28%–60%) and was 44% (range 28%–55%) through the following March/April survey period over the same time frame (Aderman et al. 2012). The average annual survival rate for female moose was 0.90 (range 0.76–0.97) from 1998 to 2011, with most mortalities occurring in late winter and spring (Aderman et al. 2012). Bull:cow ratios have typically been high throughout Unit 17 (Woolington 2010), and averaged 82 bulls:100 cows between 1998 and 2006 (Aderman 2008).

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Habitat

In 2011, the amount of moose habitat was estimated to comprise of 13.4% of Unit 17A (449 mi² of 3,357 mi²); however, the estimate did not include a mixed shrub category that contained an unknown amount percentage of willow and should be considered a minimum estimate (Aderman and Lowe 2011). A previous moose habitat mapping effort in 1999 estimated 560 mi² of optimal and 520 mi² of secondary moose winter habitats for Unit 17A, excluding the Nushagak Peninsula and areas west of the Matogak River (Aderman and Lowe 2011). Both estimates (1999 and 2011) were based on the same Landsat imagery from 1989.

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Effects of the Proposal

If this proposal is adopted, it would align State and Federal regulations and provide additional opportunity for Federally qualified subsistence users to harvest moose in Unit 17A. Federally qualified subsistence users would have up to 17 additional days to harvest moose in the winter season, and the harvest limit would be increased from one antlered bull to 2 moose. Federally qualified subsistence users are required to have a State registration permit during the fall and winter moose seasons, and could harvest

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^a May include Federally qualified subsistence users from Akiachak, Akiak, Kwethluk, Goodnews Bay, and Platinum.

^b Fall 2008 was the first year that aircraft could be used during the hunt.

^c Preliminary harvest data.

moose under State regulations regardless of the Board’s decision. However, aligning State and Federal regulations would reduce regulatory complexity. In addition, adopting the proposal would allow Federally qualified subsistence users to harvest moose on Federal public land via Federal designated hunter regulations for other Federally qualified subsistence users.

Extending the winter season and increasing the harvest limit is expected to impact the moose population in Unit 17A. The proposed regulations provide the Togiak National Wildlife Refuge manager the flexibility to manage the harvest in order to keep the moose population within the guidelines of the Unit 17A Moose Management Plan. When the moose population is increasing and approaching carrying capacity, as is the current case, more liberal harvest regulations that allow for a longer season, increased harvest limits, and potentially allowing for the harvest of cows should help to reduce the population to more sustainable levels.

OSM PRELIMINARY CONCLUSION

Support Proposal WP14-21 **with modification** to delete regulatory language found in the Unit 17A may-be-announced season, and delegate authority to the Togiak National Wildlife Refuge Manager to open and close the season and set the harvest limit, including any sex restrictions (e.g., bulls only), for moose via a delegation of authority letter only (**Appendix I**).

The modified regulation should read:

Unit 17A—Moose

Unit 17A—1 bull by State registration permit

Aug. 25–Sept.
20.

Unit 17A—1 antlered bull up to 2 moose by State registration permit. Up to a 14 day season during the period Dec. 1–Jan. 31 may be opened or closed by the Togiak National Wildlife Refuge Manager after consultation with ADF&G and the Chair of the Bristol Bay Regional Advisory Council.

~~Winter~~ **Up to a 31-day season to may be announced between Dec. 1–Jan. 31.**

Justification

The proposed regulatory changes are consistent with recommendations of the Unit 17A Moose Management Plan, which state that when the moose population is increasing and approaching carrying capacity, more liberal harvest regulations that allow for a longer season, increased harvest limits, and potentially allowing for the harvest of cows should help to reduce the population to more sustainable levels. The proposed regulatory changes would also align with recent changes to State regulations to increase the harvest limit and the may-be-announced season. Federally qualified subsistence users would be provided with additional opportunity to harvest moose under Federal regulations, including the use of Federal designated hunter regulations. The moose population continues to increase and is within the estimated carrying capacity for the area. The proposed changes, including creation of a delegation of authority letter, would provide the Togiak National Wildlife Refuge manager with flexibility to adjust the length of the winter season and harvest limit to more effectively manage the population.

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Susanna Henry, Refuge Manager
Togiak National Wildlife Refuge
P.O. Box 270 MS 569
Dillingham, Alaska 99576

Dear Ms. Henry:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the Togiak National Wildlife Refuge Manager, as approved by the Board, to issue emergency special actions if necessary to ensure the continued viability of a wildlife population, to continue subsistence uses of wildlife, or for reasons of public safety; or temporary special actions if the proposed temporary change will not interfere with the conservation of healthy wildlife populations, will not be detrimental to the long-term subsistence use of wildlife resources, and is not an unnecessary restriction on non-subsistence users. This delegation only applies to the Federal public lands subject to ANILCA Title VIII within Unit 17A as it applies to moose on these lands.

It is the intent of the Board that actions related to management of moose by Federal officials be coordinated, prior to implementation, with the Alaska Department of Fish and Game (ADF&G) and the Chair of the Bristol Bay Subsistence Regional Advisory Council (Council) to the extent possible. Federal managers are expected to work with State and Federal managers and the Chair and applicable members of the Council to minimize disruption to resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

- 1. Delegation:** The Togiak National Wildlife Refuge Manager is hereby delegated authority to issue emergency or temporary special actions affecting moose on Federal lands as outlined under the Scope of Delegation of this section. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by Federal regulation at 36 CFR 242.19 and 50 CFR 100.19.
- 2. Authority:** This delegation of authority is established pursuant to 36 CFR 242.10(d)(6) and 50 CFR 100.10(d)(6), which states: “The Board may delegate to agency field officials the authority to set harvest and possession limits, define harvest areas, specify methods or means of harvest, specify permit requirements, and open or close specific fish or wildlife harvest seasons within frameworks established by the Board.”
- 3. Scope of Delegation:** The regulatory authority hereby delegated is limited to the following authorities within the limits set by regulation at 36 CFR 242.26 and 50 CFR 100.26:
 - To open a season of up to 31 days between December 1 and January 31, close a season, and set the harvest limit, including any sex restrictions, for moose on Federal public lands in Unit 17A.

This delegation may be exercised only when it is necessary to conserve the moose population or to continue subsistence uses.

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

The Federal public lands subject to this delegated authority are those within Unit 17A..

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

4. Guidelines for Delegation: You will become familiar with the management history of the wildlife species relevant to this delegation in the region, with current State and Federal regulations and management plans, and be up-to-date on population and harvest status information. You will review special action requests or situations that may require a special action and all supporting information to determine (1) consistency with 36 CFR 242.19, (2) if the request/situation falls within the scope of authority, (3) if significant conservation problems or subsistence harvest concerns are indicated, and (4) what the consequences of taking an action or no action may be on potentially affected subsistence users and non-Federally qualified users. Requests not within your delegated authority will be forwarded to the Federal Subsistence Board for consideration. You will maintain a record of all special action requests and rationale for your decision. A copy of this record will be provided to the Administrative Records Specialist in the Office of Subsistence Management no later than sixty days after development of the document.

You will notify the Office of Subsistence Management and coordinate with local ADF&G managers and the Chair of the Bristol Bay Subsistence Regional Advisory Council regarding special actions under consideration. You will issue decisions in a timely manner. Before the effective date of any decision, reasonable efforts will be made to notify the public, the Office of Subsistence Management, affected State and Federal managers, law enforcement personnel, and Council representatives. If an action is to supersede a State action not yet in effect, the decision will be communicated to the public, the Office of Subsistence Management, affected State and Federal Managers, and the local Council representatives at least 24 hours before the State action would be effective. If a decision to take no action is made, you will notify the proponent of the request immediately.

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

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

Subsistence Management, U.S. Fish & Wildlife Service, Department of the Interior.

Sincerely,

Tim Towarak
Chair, Federal Subsistence Board

cc: Assistants to the Board
Interagency Staff Committee
Chair, Bristol Bay Subsistence Regional Advisory Council
Commissioner, Alaska Department of Fish and Game
Coordinator, Bristol Bay Subsistence Regional Advisory Council
Subsistence Liaison, Alaska Department of Fish and Game
ARD, Office of Subsistence Management
Administrative Record

WP14-23 Executive Summary	
General Description	Proposal WP14-23 requests an extension of the moose season in Unit 18, that portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village, from Aug. 1 to the last day of February, to Aug. 1 to Mar. 31. It also requests removal of the bull-only restriction from Aug. 1-Sept. 30. <i>Submitted by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council,</i>
Proposed Regulation	<p><i>Unit 18 — Moose</i></p> <p><i>Unit 18 – That portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village—2 moose, only one of which may be antlered. Antlered bulls may only be harvested from Aug. 1 through Sept. 30.</i></p> <p style="text-align: right;"><i>Aug. 1—the last day of February. Mar. 31</i></p>
OSM Preliminary Conclusion	Support
Yukon/Kuskokwim Delta Regional Council Recommendation	
Seward Peninsula Regional Council Recommendation	
Western Interior Regional Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	1 Support

DRAFT STAFF ANALYSIS WP14-23

ISSUES

Proposal WP14-23, submitted by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council, requests an extension of the moose season in Unit 18, that portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village, from Aug. 1 to the last day of February, to Aug. 1 to Mar. 31. It also requests removal of the bull-only restriction from Aug. 1-Sept. 30.

DISCUSSION

The proponent states that the moose population in Unit 18 is growing quickly and that people are concerned about the population becoming too abundant and crashing. The proponent feels that an extension of the hunting season will allow for more opportunity to harvest moose in the Lower Yukon portion of Unit 18 while allowing for higher cow harvest will help to keep the moose population from exceeding the carrying capacity of the area.

Existing Federal Regulation

Unit 18 — Moose

Unit 18 – That portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village—2 moose, only one of which may be antlered. Antlered bulls may only be harvested from Aug. 1 through Sept. 30.

Aug. 1—the last day of February.

Proposed Federal Regulation

Unit 18 — Moose

Unit 18 – That portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village—2 moose, only one of which may be antlered. Antlered bulls may only be harvested from Aug. 1 through Sept. 30.

Aug. 1—the last day of February. Mar. 31

Existing State Regulation

Unit 18 - Moose

<i>Residents, two moose only one of which may be an antlered bull, taking of cows accompanied by calves or calves is prohibited.</i>	<i>Aug. 1 – Sept. 30</i>
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Or

<i>Two antlerless moose</i>	<i>Oct. 1 – Feb. 28</i>
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<i>Nonresidents, one antlered bull</i>	<i>Sept. 1 – Sept. 30</i>
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Extent of Federal Public Lands

Federal public lands comprise approximately 66% of Unit 18 and consist of 63% US Fish and Wildlife Service managed lands and 3% Bureau of Land Management managed lands (**Map 1**).

Customary and Traditional Use Determinations

Rural residents of Unit 18, Upper Kalskag, Aniak and Chuathbaluk have a positive customary and traditional determination for moose in Unit 18, that portion of the Yukon River drainage upstream of Russian Mission and that portion of the Kuskokwim River drainage upstream (but excluding) the Tuluksak drainage.

Rural residents of Unit 18, St. Michael, Stebbins, and Upper Kalskag have a positive customary and traditional determination for moose in Unit 18, that portion north of a line from Cape Romanzof to Kuzilvak Mountain to Mountain Village, and all drainages north of the Yukon River downstream from Marshall.

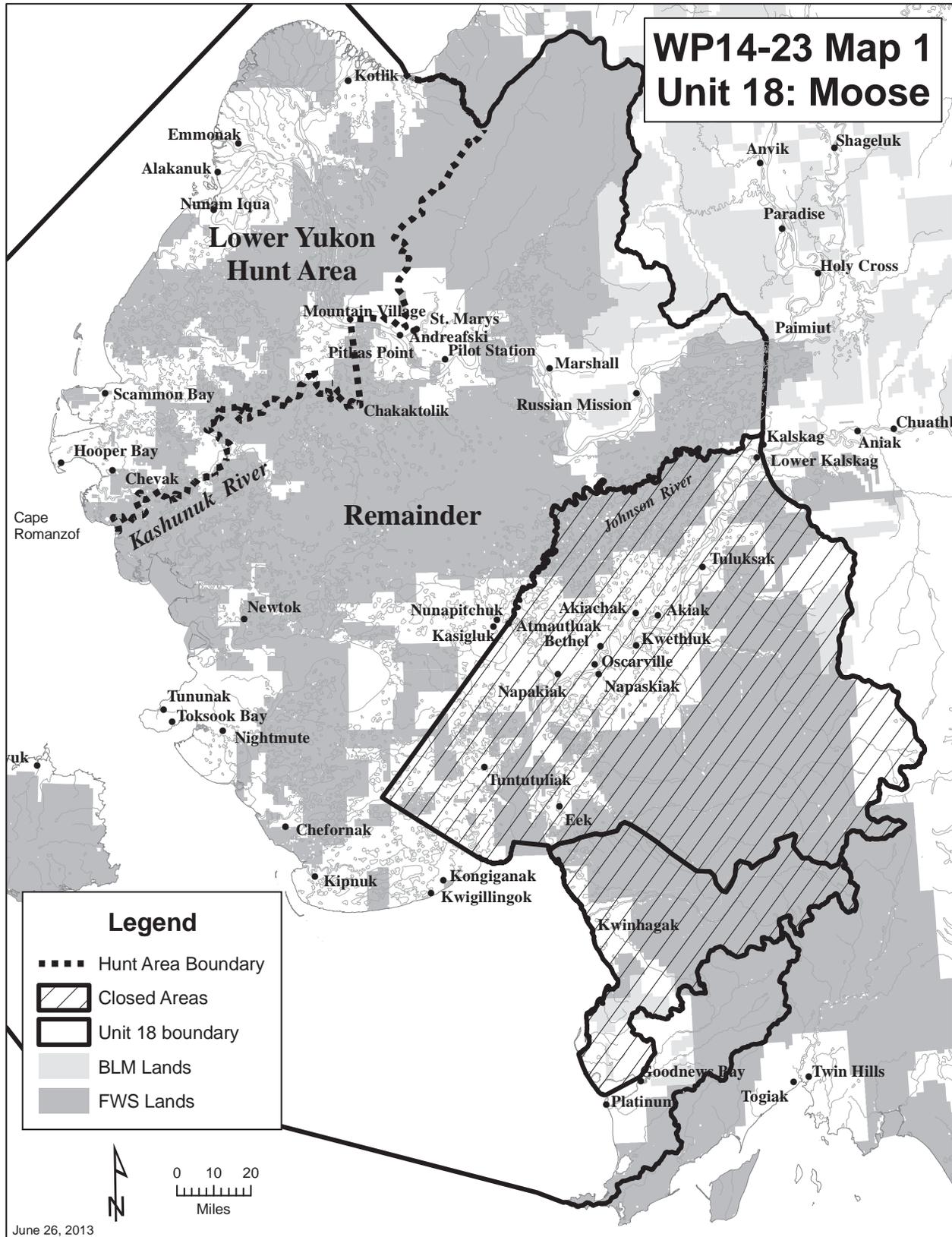
Rural residents of Unit 18 and Upper Kalskag have a positive customary and traditional determination for moose in Unit 18 remainder.

Regulatory History

In November 2005, the Alaska Board of Game adopted Proposal 4 in response to the rapid growth of the lower Yukon moose population. Action taken on the proposal modified the State harvest limit by allowing the harvest of antlered bulls only and established a winter season for antlered bulls and calves. During its November 2007 meeting, the Alaska Board of Game adopted Proposal 6, which lengthened the fall moose season for the lower Yukon and remainder areas of Unit 18 by 21 days and lengthened the winter season in the lower Yukon by 10 days.

At its March 2009 meeting, the Alaska Board of Game adopted Proposal 228, which liberalized the State harvest limit from antlered bulls to any moose for the Dec. 20–Jan. 20 season in the lower Yukon area of Unit 18. The Board stated that the affected moose population increased to a size that it could support the harvest of cows.

At its November 12, 2009 work session, the Federal Subsistence Board adopted Special Action WSA08-13, submitted by Scammon Bay Traditional Council, which requested the harvest limit in the lower Yukon area of Unit 18 be increased to two moose per regulatory year, with one allowed in the fall and one in the winter.



The Alaska Board of Game, at its November 13–16, 2009 meeting, adopted new regulations to extend the winter season from Jan. 20 to Feb. 28 and move the boundary between the lower Yukon and the remainder areas, south to a more discernible geographic land mark.

WP10-56, submitted by the Yukon Delta National Wildlife Refuge, requested that the harvest limit in the lower Yukon area of Unit 18 (that portion north and west of a line from Cape Romanzof to Kusilvak Mountain to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village) be changed to two moose per regulatory year. Hunters would be allowed to harvest one antlered bull in the fall season and one moose in the winter season. Hunters that did not harvest a moose in the fall would be allowed to harvest two moose during the winter season. The proposal also delegated authority to the Yukon Delta National Wildlife Refuge manager to restrict the season, if needed, after consultation with the Alaska Department of Fish and Game. The proposal was supported by the Federal Subsistence Board with modification to extend the winter season to February 28.

WP10-57, submitted by the Yukon Delta National Wildlife Refuge, requested a change in a portion of the regulatory boundary description for Unit 18, north and west of a line from Cape Romanzof to Kusilvak Mountain to Mountain Village, and excluding all Yukon River drainages upriver from Mountain Village. This area is referred to as the lower Yukon hunt area. The proposal was supported by the Federal Subsistence Board with modification to remove the Cape Romanzof to Kusilvak Mountain section and replace with a descriptor for the Kashunuk River drainage.

WP12-49, submitted by the Yukon Delta National Wildlife Refuge, requested the moose hunting season in Unit 18, that portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village be revised from fall and winter dates (Aug. 10 - Sept.30 and Dec. 20 - Feb. 28) to Aug. 1 through the last day of February. The harvest limit would be two moose, only one of which may be antlered. The harvest of an antlered bull would be limited to the dates of Aug. 1 – Sept. 30. The proposal was adopted with modification by the Federal Subsistence Board at its January 2012 meeting to allow for the harvest of an antlered bull starting on Aug. 1 instead of Sept. 1.

Biological Background

In February 2008, the Yukon Delta National Wildlife Refuge and Alaska Department of Fish and Game conducted cooperative moose surveys in portions of Unit 18, including the furthest down river survey unit along the main stem of the Yukon River corridor from Mountain Village to Kotlik. The mid-point of the moose population estimate for this area was 2,828 moose when using traditional survey methods and 3,320 moose when a Sightability Correction Factor (SCF) was incorporated in the 2008 analysis (USFWS 2008). Using the SCF population estimate on the lower Yukon River (from Mountain Village to Emmonak), the resulting moose density estimate was 2.8 moose/mi.². The affected area has experienced rapid population growth since the end of the moratorium in 1994 (**Figure 1**) with an average annual growth rate of 27% for the period of 1994–2008. Population composition data for lower Yukon moose collected in 2011 showed 30 bulls per 100 cows and 69 calves per 100 cows, with 55% of cows having calves (Rearden 2013, pers. comm.). This data most likely reflects a growing population since the 2008 surveys.

Habitat

The Alaska Department of Fish and Game estimates a minimum of 8000 mi² of moose habitat within Unit 18. Approximately 4500 mi² of this habitat occurs along riparian zones of the Yukon River. Islands and

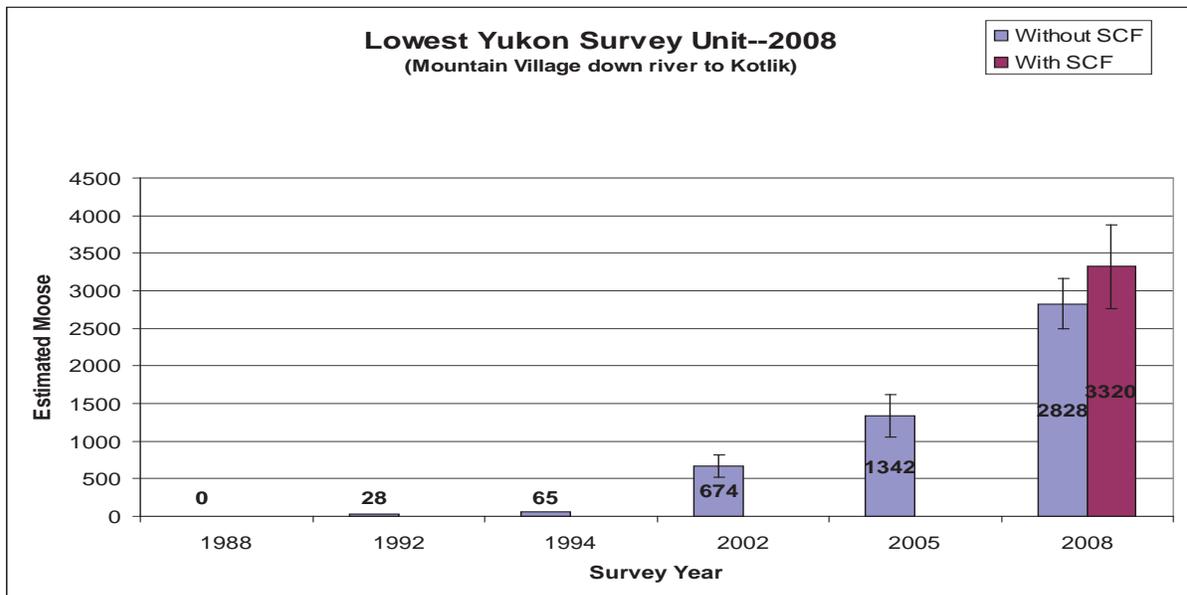


Figure 1. Moose population survey results from the lowest survey unit along the main stem of the Yukon River, 1988-2008 (USFWS 2008).

adjacent sloughs along the Yukon River from Paimiut to Mountain Village represent the most productive habitat for moose in the unit (Perry 2010).

At the Federal Subsistence Board work session in November 2009, Mr. Gene Peltola, Refuge Manager of Yukon Delta National Wildlife Refuge, testified that if moose density continues to increase in the lower Yukon area of Unit 18, there is a risk that the population will exceed the carrying capacity of the habitat and experience a decline. Mr. Peltola stated that over the last three years there have been reports of localized calf and yearling die offs and this past winter reports of dead adult moose on the Yukon main stem. In addition, he stated that the refuge would prefer a proactive management approach because of the significance of the moose population to lower Yukon residents (FSB 2009).

Harvest History

Hunter success has increased since 2005 in the lower Yukon area of Unit 18 during the fall and winter seasons (**Table 1**). From 2005 to 2010, the average annual reported fall and winter moose harvest was 152 and 34 moose respectively. Even with the “any moose” harvest limit provided during the 2009 season, the total reported winter harvest remains lower than anticipated. Harvest information is typically collected through harvest ticket or registration permit reports submitted by users, which may undercount harvest (Anderson and Alexander 1992). Overall, the reported moose harvest for the area shows an increasing trend

Effects of the Proposal

If this proposal is adopted it would provide additional harvest opportunities for Federally qualified subsistence users by lengthening the season by one month and eliminating the bull only restriction between Aug.1 and Sept. 30. Given the rapidly increasing moose population in the lower Yukon River portion of Unit 18, this proposal would help limit the growth of the population by reducing recruitment rates via a targeted harvest of cows. Such a reduction may also help prevent habitat degradation along the lower Yukon that could lead to a population crash if left unchecked.

Table 1. Fall and winter moose harvest in Unit 18, 2000-2009 (Perry 2010).

Regulatory Year	Fall Harvest	Winter Harvest	Unknown Harvest	Total Harvest
2000-2001	166	5	4	175
2001-2002	140	9	13	162
2002-2003	202	10	11	223
2003-2004	220	13	0	233
2004-2005	189	36	1	226
2005-2006	253	64	0	317
2006-2007	256	70	4	330
2007-2008	370	86	2	458
2008-2009	350	81	11	442

OSM PRELIMINARY CONCLUSION

Support Proposal WP14-23.

Justification

The Federal Subsistence Board has adopted increasingly more liberal hunting regulations in Unit 18 in response to the growing moose population in the area. This proposal would lengthen the season by one month and allow the harvest of any moose for the whole season providing increased harvest opportunities for Federally qualified users. Moose densities along the lower Yukon River are high and additional harvest should not have a negative impact on the population. This proposal could help to reduce moose densities in the area, which should help to prevent habitat degradation that could lead to a population crash.

LITERATURE CITED

- Anderson, D.B., and C.L. Alexander. 1992. Subsistence hunting patterns and compliance with moose harvest reporting requirements in rural interior Alaska. ADF&G, Div. of Subsistence Tech. Paper No. 215. Juneau, AK. 30pp.
- FSB. 2009. Transcript of the Federal Subsistence Board work session. November 12, 2009. Pages 25-27. Office of Subsistence Management, USFWS. Anchorage, AK.
- Perry, P. 2010. Unit 18 moose management report. Pages 271-285 in P. Harper, editor. Moose management report of survey and inventory activities 1 July 2007-30 June 2009. ADF&G. Project 1.0. Juneau, AK.
- Rearden, S. 2013. Wildlife Biologist. Personal communication: email. Yukon Delta National Wildlife Refuge. Bethel, AK.
- USFWS. 2008. Moose briefing Document. Presented to the Yukon-Kuskokwim Federal Subsistence Regional Advisory Council, Bethel, AK. Yukon Delta Wildlife Refuge, Bethel, AK. 1pg.

WRITTEN PUBLIC COMMENTS

Support Proposal 14-23: The people using the resource know Best the conditions of the herd and possible over-grazing of an area, a possible crash of the moose population is a very real and serious issue

Donald Woodruff, Eagle

WP14-24/25 Executive Summary	
General Description	<p>Proposal WP14-24 requests that the boundary for Unit 18, that portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village be changed to include the Kashunuk River and the North Fork of the Andreafsky River. <i>Submitted by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council</i></p> <p>Proposal WP14-25 requests that the boundary for Unit 18, that portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village be revised to include the south bank of the Kashunuk River for its entire length. It would also liberalize moose harvest for a small area upriver of Mountain Village that would be included in the lower Yukon hunt area instead of Unit 18 remainder. <i>Submitted by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council,</i></p>
Proposed Regulation	<p>WP14-24</p> <p>Unit 18—Moose</p> <p><i>Unit 18—That portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village the Yukon River, then north of the Yukon River downstream to, and including the North Fork of the Andreafsky River drainage—2 moose, only one of which may be antlered. Antlered bulls may only be harvested from Aug. 1 through Sept. 30.</i></p> <p style="text-align: right;"><i>Aug. 1 – the last day of February</i></p>
Proposed Regulation	<p>WP14-25</p> <p>Unit 18—Moose</p>

continued on next page

WP14-24/25 Executive Summary (continued)	
	<p><i>Unit 18—That portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village continuing upriver along a line ½ mile south and east of, and paralleling a line along the southerly bank of the Kashunuk River to the confluence of the south bank of Driftwood Slough, continuing upriver to the confluence of the Yukon river, across, ending the ½ mile buffer, then following the north bank of the Yukon River to Pitkas Point and excluding all Yukon River drainages upriver from Pitkas Point—2 moose, only one of which may be antlered. Antlered bulls may only be harvested from Aug. 1 through Sept. 30.</i></p> <p style="text-align: right;"><i>Aug. 1 – the last day of February</i></p>
OSM Preliminary Conclusion	Support Proposals WP14-24 and WP14-25 with modification to combine the regulatory language to make a single area descriptor.
Yukon/Kuskokwim Delta Regional Council Recommendation	
Seward Peninsula Regional Council Recommendation	
Western Interior Regional Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	1 Support

DRAFT STAFF ANALYSIS WP14-24/25

ISSUES

Proposal WP14-24, submitted by the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council, requests that the boundary for Unit 18, that portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village be changed to include the Kashunuk River and the North Fork of the Andreafsky River (**Map 1**).

Proposal WP14-25, submitted by the Asa'Carsarmiut Tribal Council, requests that the boundary for Unit 18, that portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village be revised to include the south bank of the Kashunuk River for its entire length. It would also liberalize moose harvest for a small area upriver of Mountain Village that would be included in the lower Yukon hunt area instead of Unit 18 remainder (**Map 1**).

DISCUSSION

The proponent for Proposal WP14-24 states that the requested boundary change should be made so that recognizable landmarks are used to designate Unit borders. It was suggested that using a drainage for a boundary line was more ideal than using straight line designations since most subsistence users either do not have a GPS needed to locate such a line or do not know how to use one.

The proponent for Proposal WP14-25 states that requested boundary change would serve to clear up user concerns about which bank of the Kashunuk River is legal for the taking of moose and that using the entire length of the Kashunuk instead of straight line GPS points would make navigation easier for subsistence users that do not own a GPS.

Existing Federal Regulation

Unit 18—Moose

Unit 18—That portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village—2 moose, only one of which may be antlered. Antlered bulls may only be harvested from Aug. 1 through Sept. 30.

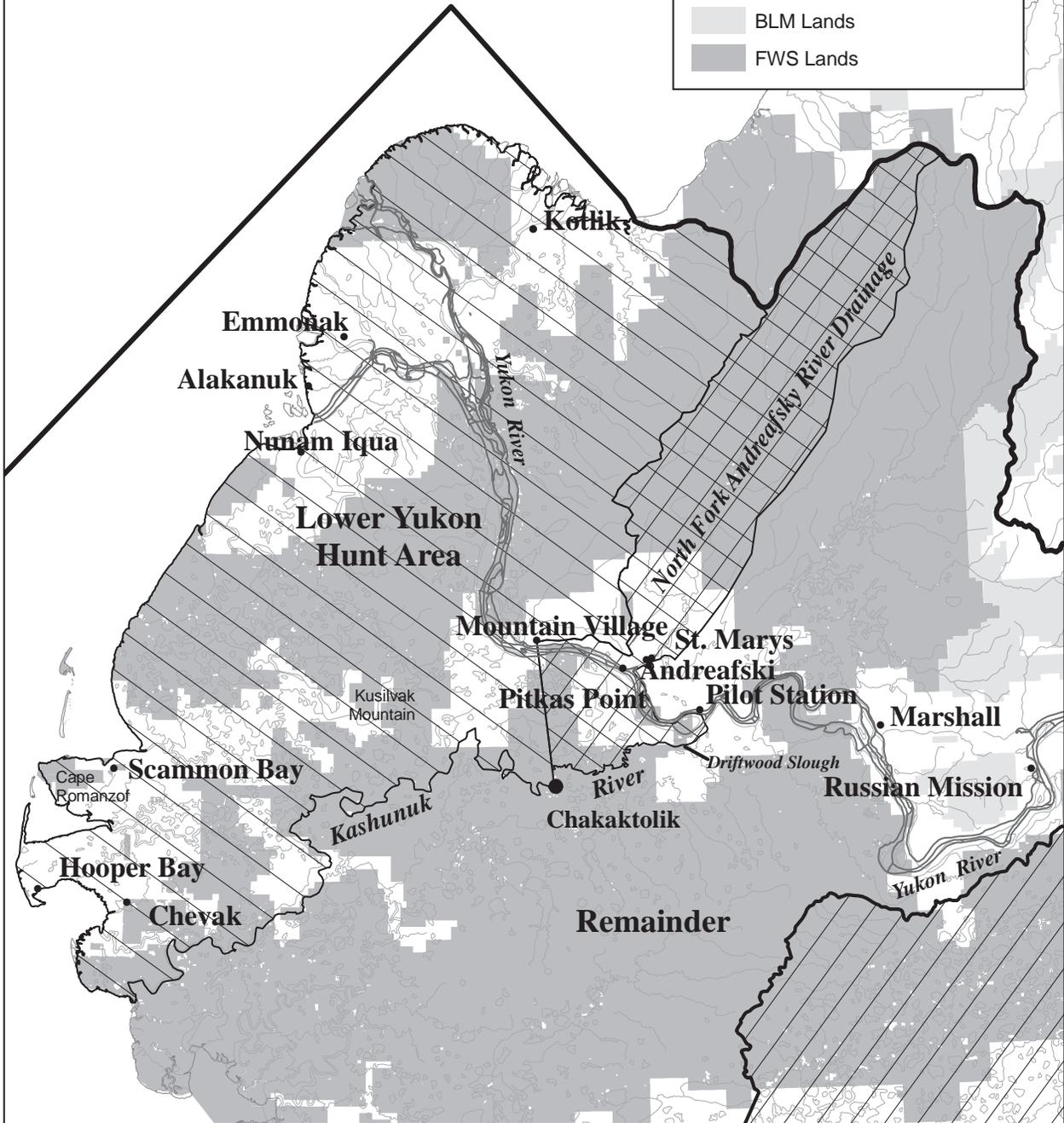
Aug. 1 – the last day of February

WP14-24/25 Map 1 Unit 18 - Moose



Legend

- Unit 18 boundary
- Lower Yukon Hunt Area
- Proposed Added Hunt Areas
- No Open Season
- BLM Lands
- FWS Lands



Proposed Federal Regulation

WP14-24

Unit 18—Moose

*Unit 18—That portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village **the Yukon River, then north of the Yukon River downstream to, and including the North Fork of the Andrafsky River drainage-** 2 moose, only one of which may be antlered. Antlered bulls may only be harvested from Aug. 1 through Sept. 30.*

Aug. 1 – the last day of February

WP14-25

Unit 18—Moose

*Unit 18—That portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village **continuing upriver along a line ½ mile south and east of, and paralleling a line along the southerly bank of the Kashunuk River to the confluence of the south bank of Driftwood Slough, continuing upriver to the confluence of the Yukon river, across, ending the ½ mile buffer, then following the north bank of the Yukon River to Pitkas Point and excluding all Yukon River drainages upriver from Pitkas Point-** 2 moose, only one of which may be antlered. Antlered bulls may only be harvested from Aug. 1 through Sept. 30.*

Aug. 1 – the last day of February

Existing State Regulation

Unit 18—Moose

Unit 18 – Lower Yukon Area, that portion north and west of the Kashunuk River including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village, excluding all Yukon River drainages upriver from Mountain Village.

Aug. 1 – Sept.30

Residents – two moose, only one of which may be an antlered bull, taking cows accompanied by calves is prohibited

OR

Two antlerless moose

Oct.1 – Feb.28

Nonresidents, one antlered bull

Sept.1 – Sept.30

Extent of Federal Public Lands

Federal public lands comprise approximately 66% of Unit 18 and consist of 63% US Fish and Wildlife Service managed lands and 3% Bureau of Land Management managed lands (**Unit 18 Map**).

Customary and Traditional Use Determinations

Rural residents of Unit 18, Upper Kalskag, Aniak and Chuathbaluk have a positive customary and traditional determination for moose in Unit 18, that portion of the Yukon River drainage upstream of Russian Mission and that portion of the Kuskokwim River drainage upstream (but excluding) the Tuluksak drainage.

Rural residents of Unit 18, St. Michael, Stebbins, and Upper Kalskag have a positive customary and traditional determination for moose in Unit 18, that portion north of a line from Cape Romanzof to Kuzilvak Mountain to Mountain Village, and all drainages north of the Yukon River downstream from Marshall.

Rural residents of Unit 18 and Upper Kalskag have a positive customary and traditional determination for moose in Unit 18 remainder.

Regulatory History

The Alaska Board of Game, at its Nov. 13–16, 2009 meeting, adopted new regulations to extend the winter season from Jan. 20 to Feb. 28 and move the boundary between the lower Yukon and the remainder areas, south to a 57, submitted by the Yukon Delta National Wildlife Refuge, requested a change in a portion of the regulatory boundary description for Unit 18, north and west of a line from Cape Romanzof to Kusilvak Mountain to Mountain Village, and excluding all Yukon River drainages upriver from Mountain Village. This area is referred to as the lower Yukon hunt area. The proposal was supported by the Federal Subsistence Board with modification to remove the Cape Romanzof to Kusilvak Mountain section and replace with a descriptor for the Kashunuk River drainage.

Biological Background

In February 2008, the Yukon Delta National Wildlife Refuge and Alaska Department of Fish and Game conducted cooperative moose surveys in portions of Unit 18, including the furthest down river survey unit along the main stem of the Yukon River corridor from Mountain Village to Kotlik. The mid-point of the moose population estimate for this area was 2,828 moose when using traditional survey methods and 3,320 moose when a Sightability Correction Factor (SCF) was incorporated in the 2008 analysis (USFWS 2008). Using the SCF population estimate on the lower Yukon River (from Mountain Village to Emmonak), the resulting moose density estimate was 2.8 moose/mi.². The affected area has experienced rapid population growth since the end of the moratorium in 1994 (**Figure 1**) with an average annual growth rate of 27% for the period of 1994–2008. Population composition data for lower Yukon moose collected in 2011 showed 30 bulls per 100 cows and 69 calves per 100 cows, with 55% of cows having calves (Rearden 2011, pers. comm.). This data most likely reflects a growing population since the 2008 surveys.

The Andreafsky survey area has been flown sporadically since 1995. Survey results between 1995 and 2012 have shown an increasing population with an estimate of 3170 moose with a SCF incorporated into the analysis (Rearden 2013, pers. comm.). Using the SCF population estimate on the Andreafsky survey area gives a resulting moose density estimate of 1.9 moose/mi.² and a population that has grown substantially since 2002 (**Figure 2**).

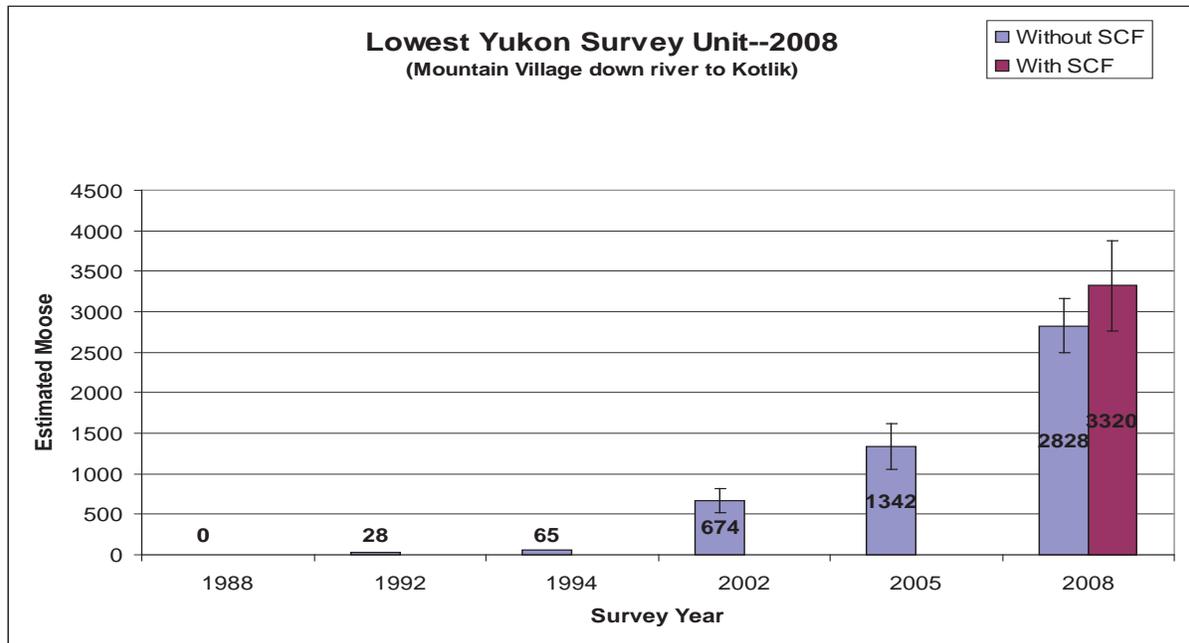


Figure 1. Moose population survey results from the lowest survey unit along the main stem of the Yukon River, 1988-2008 (USFWS 2008).

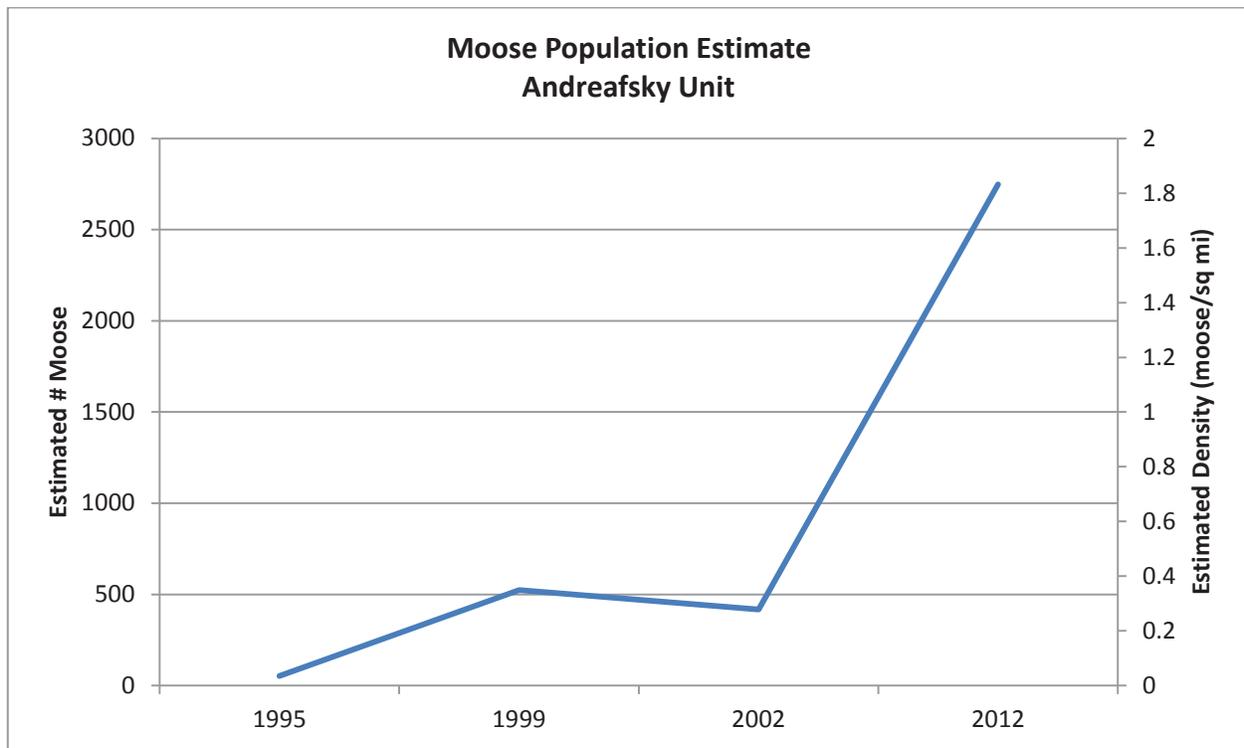


Figure 2. Andraefsky Moose population 1995-2012 (Rearden, pers. comm. 2013).

Habitat

At the Federal Subsistence Board work session in November 2009, Mr. Gene Peltola, Refuge Manager of Yukon Delta National Wildlife Refuge, testified that if moose density continues to increase in the lower Yukon area of Unit 18, there is a risk that the population will exceed the carrying capacity of the habitat and experience a decline. Mr. Peltola stated that over the last three years there have been reports of localized calf and yearling die offs and this past winter reports of dead adult moose on the Yukon main stem. In addition, he stated that the refuge would prefer a proactive management approach because of the significance of the moose population to lower Yukon residents (FSB 2009). Given the quickly growing population within the Andreafsky survey area, similar habitat concerns should also be addressed.

Harvest History

Moose harvest has increased steadily in Unit 18 and local demand for moose meat is high (Perry 2010). In 2000, total harvest was 175 moose and in 2009 total harvest was 442 moose (**Table 1**). The majority of harvest takes place in the fall, with the majority of moose being harvested by Unit 18 residents. More than 90% of moose harvested in Unit 18 comes from the Yukon River drainage, with the remainder being taken in the Kanektok, Goodnews, and Kuskokwim River drainages (Perry 2010).

Table 1. Fall and winter moose harvest in Unit 18, 2000-2009 (Perry 2010).

Regulatory Year	Fall Harvest	Winter Harvest	Unknown Harvest	Total Harvest
2000-2001	166	5	4	175
2001-2002	140	9	13	162
2002-2003	202	10	11	223
2003-2004	220	13	0	233
2004-2005	189	36	1	226
2005-2006	253	64	0	317
2006-2007	256	70	4	330
2007-2008	370	86	2	458
2008-2009	350	81	11	442

Effects of the Proposal

If Proposals WP14-24 and WP14-25 are adopted, it could lead to an increase in moose harvested from the expanded hunt area. Currently, the harvest limit in Unit 18 remainder is one moose with a split season with a fall season ending on Sept. 30 and a winter season beginning on Dec. 20. If adopted, the proposals would increase the harvest limit to 2 moose, with one continuous season from Aug. 1 to the last day of February, adding approximately 80 days of hunting. However, if the proposals are adopted, the hunt area boundaries will no longer be aligned under State and Federal regulations, which will add to the regulatory complexity in the unit. If adopted, this proposal would increase the size of the lower Yukon hunt area and remove a portion from the Unit 18 remainder hunt area.

The moose populations in the Andreafsky survey area indicate a growing moose population which could likely withstand the potential increase in harvest. In addition, using well known land marks such as river boundaries should help to minimize confusion for Federally qualified users when hunting in the expanded

hunt area. The use of point to point locations for hunt boundary areas makes the use of a GPS necessary in order to ensure that hunters are in the correct hunt area. Since most local users do not possess or know how to use a GPS, the use of drainages for boundary lines is more practical.

OSM PRELIMINARY CONCLUSION

Support Proposals WP14-24 and WP14-25 **with modification** to combine the regulatory language to make a single area descriptor.

The modified regulation would read:

Unit 18 – Moose

That portion north and west of the Kashunuk River continuing upriver along a line a ½ mile south and east of, and paralleling a line along the southerly bank of the Kashunuk River to the confluence of the south bank of Driftwood Slough, continuing upriver to the confluence of the Yukon river, across, continuing the ½ mile buffer, then following the north bank of the Yukon River to the North Fork of the Andreafsky River drainage.

Aug. 1 – the last day of February

Justification

Moose populations in Unit 18 have increased substantially in recent years. Both the lower Yukon and Andreafsky survey areas have experienced rapid growth of the moose population in the last 10 years. The proposed hunt area expansion could lead to an increase in moose harvest and additional subsistence hunting opportunities. The growing moose population in the affected area should be able to withstand the increased harvest pressure, as some populations along the Yukon having the potential to exceed carrying capacity. Hunting regulations in Unit 18 have been increasingly liberalized to reflect the growing moose population. Furthermore, the use of river boundaries rather than straight lines will help to minimize hunter confusion since few Federally qualified users own a GPS. However, adoption of this proposal would result in misalignment of State and Federal hunt area boundaries, which could lead to regulatory complexity for users.

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WRITTEN PUBLIC COMMENTS

Support Proposal 14-24: Like proposal WP14-23 this proposal will help the local hunters access to defined area that have traditionally been landmarks, the use of GPS is not Customary and Traditional methods of travel and hunting for the people.

Donald Woodruff, Eagle

WP14-26 Executive Summary	
General Description	<p>Proposal WP14-26 requests that for Unit 18 - that portion to the east and south of the Kuskokwim River, the caribou hunt be changed to require a joint State/Federal registration permit; the 1 bull harvest restriction be eliminated and the split season be eliminated and a continuous season from Aug. 1 to Mar. 15th be established. Additionally, the proponent asks that the Yukon Delta National Wildlife manager be given delegated authority to close or re-open Federal public lands to all users for this hunt if needed for conservation concerns after consultation with the Alaska Department of Fish and Game (ADF&G), the Togiak National Wildlife Refuge manager, and the chair of the Yukon-Kuskokwim Delta Regional Advisory Council. <i>Submitted by the Yukon Delta National Wildlife Refuge.</i></p>
Proposed Regulation	<p>Unit 18—Caribou</p> <p><i>Unit 18- that portion to the east and south of the Kuskokwim River-2 caribou by a joint ADF&G and Federal registration permit. no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1-Sept. 30 and Dec. 20-Jan. 31.</i></p> <p><i>Aug. 1-Sept. 30Mar. 15</i></p> <p>Through a letter of delegation: The Yukon Delta National Wildlife manager has the authority to close or re-open Federal public lands to all users for this hunt if necessary for conservation concerns, after consultation with ADF&G, the Togiak National Wildlife Refuge manager, and the chair of the Yukon-Kuskowkwim Delta Regional Advisory Council.</p> <p><i>Dec. 20-the last day of Feb.</i></p>
OSM Preliminary Conclusion	<p>Support Proposal WP14-26 with modification to administer the hunt via a State registration permit only, retain the harvest limit restrictions, and delegate authority to open or close the season via a delegation of authority letter only.</p>
Yukon/Kuskokwim Delta Regional Council Recommendation	
Seward Peninsula Regional Council Recommendation	
Western Interior Regional Council Recommendation	

continued on next page

WP14-26 Executive Summary (continued)	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

DRAFT STAFF ANALYSIS WP14-26

ISSUES

Proposal WP14-26, submitted by the Yukon Delta National Wildlife Refuge, requests that for Unit 18 - that portion to the east and south of the Kuskokwim River, the caribou hunt be changed to require a joint State/Federal registration permit; the 1 bull harvest restriction be eliminated and the split season be eliminated and a continuous season from Aug. 1 to Mar. 15th be established. Additionally, the proponent asks that the Yukon Delta National Wildlife manager be given delegated authority to close or re-open Federal public lands to all users for this hunt if needed for conservation concerns after consultation with the Alaska Department of Fish and Game (ADF&G), the Togiak National Wildlife Refuge manager, and the chair of the Yukon-Kuskokwim Delta Regional Advisory Council.

DISCUSSION

The proponent requests a change in the hunt structure and season dates in order to align Federal subsistence regulations with recent changes made to State regulations for the Mulchatna Caribou Herd (MCH). The changes modify the hunt from a general hunt to a registration hunt. The proponent states that a registration hunt will allow for better end of season harvest estimates and make it easier for Federal subsistence hunters to harvest caribou. The proponent also states that since the MCH population is near the bottom of its management objective, a registration hunt would allow Federal managers to close Federal public lands to all users to prevent localized overharvest.

After further discussion with the proponent, it was determined that this hunt should be administered via a State registration permit and not by a joint State/Federal permit as written in the original proposal. Furthermore, it was the intent of the proponent to align regulations with the State season and to also work with the State on possible changes to the harvest limit so that hunters could harvest two caribou without having to be concerned about taking two bulls after they have shed antlers in late winter.

Note: Another proposal, submitted by the Bristol Bay Regional Advisory Council for the 2014 -2016 regulatory cycle, requests the requirement of a State registration permit for the MCH in Units 9A, 9B, 9C, 17A, 17A remainder, 17C remainder, 17B, a portion of Unit 18, Unit 18 remainder, and portions of Unit 19A. It also requests a shortening of the season in Units 17A remainder and 17C remainder from Aug. 1 – Mar. 31 to Aug. 1–Mar. 15.

Existing Federal Regulation

Unit 18—Caribou

Unit 18- that portion to the east and south of the Kuskokwim River- 2 caribou; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1-Sept. 30 and Dec. 20-Jan. 31.

Dec. 20 - the last day of Feb.

Proposed Federal Regulation

Unit 18–Caribou

Unit 18- that portion to the east and south of the Kuskokwim River-2 caribou by a joint ADF&G and Federal registration permit. ~~no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1-Sept. 30 and Dec. 20-Jan. 31.~~ Aug. 1-Sept. 30Mar. 15

Through a letter of delegation: The Yukon Delta National Wildlife manager has the authority to close or re-open Federal public lands to all users for this hunt if necessary for conservation concerns, after consultation with ADF&G, the Togiak National Wildlife Refuge manager, and the chair of the Yukon-Kuskowkwim Delta Regional Advisory Council. Dec. 20-the last day of Feb.

Existing State Regulation

Unit 18 – Caribou

Residents – two caribou by registration permit; however no more than 1 bull may be taken and no more than 1 caribou may be taken from Aug. 1- Jan. 31. Aug. 1- Mar. 15*

**This regulation was passed by the Alaska Board of Game in February 2013 and will be effective 1 July 2013.*

Extent of Federal Public Lands

Federal public lands comprise approximately 66% of Unit 18 and consist of 63% US Fish and Wildlife Service managed lands and 3% Bureau of Land Management managed lands (**Unit 18 map**).

Customary and Traditional Use Determinations

Rural residents of Unit 18, St. Michael, Stebbins, Togiak, Twin Hills, Upper Kalskag, and Manokotak have a positive customary and traditional determination for caribou in Unit 18.

Regulatory History

State and Federal regulations for the MCH were liberalized during the dramatic population increase that occurred in the 1990s. These regulations provided abundant hunting opportunities. Numerous modifications were made to the Federal regulations for various management units as the MCH population increased and as it expanded into new range. Following the population decline, regulations became more restrictive in 2006 and 2007.

In March 2006, the Alaska Board of Game adopted new regulations to reduce harvest limits within the range of the MCH from five to two caribou. In March 2007, the Alaska Board of Game further restricted the caribou harvest to allow no more than one bull to be taken, and no more than one caribou to be taken Aug. 1–Jan. 31.

In 2007, the Federal Subsistence Board (Board) adopted Proposal WP07-23 with modification to reduce the harvest limits in Unit 9B, a portion of Unit 17A, Unit 17B, a portion of Unit 17C, Unit 18, a portion of Unit 19A, and Unit 19B, from five caribou to three due to the large population decline.

In March 2009, the Alaska Board of Game eliminated nonresident harvest on the MCH due to the harvestable surplus being lower than the amount necessary for subsistence.

In 2010, Proposal WP10-51 submitted by the Bristol Bay Subsistence Regional Advisory Council, requested that the caribou season in Units 9A, 9B, 17B, a portion of 17C, 18, 19A, and 19B be changed from Aug. 1–Mar. 15 to Aug. 1–Mar. 31, extending the existing season by 16 days. The Board adopted the proposal with modification to make the season ending date Mar. 15 for all units. In addition, Proposal WP10-60 submitted by the Yukon Delta National Wildlife Refuge, requested that the harvest limit for caribou in Unit 18 be reduced from three to two. The Federal Subsistence Board adopted the proposal with modification to include a 1-bull restriction and extend the 1-caribou restriction from Aug. 1 – Nov. 30 to Aug. 1 –Jan. 31.

In 2011, Proposal WP12-42 was submitted by the Yukon Delta National Wildlife Refuge, requested a reduction in the harvest limit from two to one caribou and a reduction in the season by approximately three months in Unit 18. The Board adopted the proposal at its January 2012 meeting with modification to maintain the harvest limit of two caribou, eliminate the March portion of the season, and limit the impact on the MCH to east of the Kuskokwim River.

Wildlife Special Action WSA11-10/11 submitted by the Yukon Delta National Wildlife Refuge in February of 2012, requested a reduction in the season for caribou in Unit 18 of two weeks and called for Federal public lands in Unit 18 south and east of the Kuskokwim River to be closed to the harvest of caribou to all users starting Mar. 1, 2012. The Board rejected the Special Action request because it felt current information suggested there was not an emergency situation with the MCH necessitating such an action.

In February 2013, the Alaska Board of Game adopted Proposal 45A which changed the caribou hunt in Units 9A, 9B, portions of 9C, 17, 18, 19A and 19B from a general hunt to a registration hunt, with seasons and harvest limits aligned within the entire range of the MCH. These changes were made to better assess harvest and to better respond to in-season requests to alter season dates and harvest limits.

Current Events Involving the Species

Between Mar. 5th and Mar. 16th of 2013, 20 tickets were written by US Fish and Wildlife Service officers to hunters in the Bethel area for caribou hunting violations. The majority of tickets were written for having no hunting licenses and no harvest tickets. Additional tickets were written for harvesting over the limit of two caribou and one ticket was written for a chasing violation. Similar numbers of tickets and violations were also given out by State wildlife troopers (Bedingfield 2013, pers. comm.).

Biological Background

The State's management objectives for the MCH were to maintain a population of 100,000-150,000 with a minimum bull:cow ratio of 35:100 and to maximize opportunity to hunt caribou (Woolington 2009). However, at the Feb. 27 - Mar. 9, 2009 southcentral/southeast meeting in Anchorage, the Alaska Board of Game reduced the population objective to 30,000-80,000 caribou, citing that these numbers were more realistic for this herd (ADF&G 2009, Woolington 2011b). The Alaska Board of Game also reduced harvest objectives from 6,000-15,000 to 2,400-8,000 during this meeting (ADF&G 2009). The latest

photocensus provided a minimum estimate of 30,000 caribou, near the minimum population objective (**Table 1**) (Woolington 2012). Since 2001, bull:cow ratios have been estimated at less than 35:100 which is below the management objective for the herd (**Table 1**).

The MCH increased at an average annual rate of 17% between 1981 and 1996 and approximately 28% from 1992-1994, though this latter increase was likely an artifact of more precise survey techniques. Overall herd size peaked in 1996, at approximately 200,000 animals with a peak bull:cow ratio of 42:100 (Woolington 2011b). The dramatic population growth is attributed to mild winters, movements onto new unexploited range, low predation, and an estimated annual harvest of less than 5% of the population since the late 1970s (Woolington 2011b). Since 1996, the population, bull:cow ratio, and calf:cow ratio have declined significantly (**Table 1**). Preliminary results from a 2012 photo census suggest the population may still be around 30,000 caribou (Yuhas 2013, pers. comm.). The specific reasons for the population declines are poorly understood but are most likely a combination of factors including deteriorating range conditions, disease, predation, and weather events (Woolington 2011b).

The MCH declined from 1996 to 2008 and estimated bull:cow ratios have been below the management objective since 2001, but recent composition surveys have shown some improvement in the bull:cow ratios. The proportion of bulls classified as large during recent composition surveys (24%–27% between 2010 and 2012) has increased from lows observed in 2004 (7%) and 2006 (9%). In addition, preliminary data shows the number of parturient 2- and 3-year old cows increased in 2013 and calf weights have been good, which suggests the caribou are not nutritionally stressed (Butler 2013, pers. comm.). While the MCH is managed as a single herd, some segments of the population appear to be faring better than others, as estimated bull:cow and calf:cow ratios have been consistently higher in the western portion of the MCH range. Preliminary data shows that calf survival is high in the Kemuk Mountain area (western portion), which has an active intensive management program for wolves, but is lower in the Tundra Lake area (eastern portion) (Butler 2013, pers. comm.). Individuals from eastern and western portions of the MCH range appear to have readily mixed prior to 2007 and 2008, but there has recently been more isolation between caribou in the two areas (Woolington 2011a, 2012).

The MCH ranges across approximately 60,000 square miles, primarily within Units 9B, 9C, 17, 18, and 19. Wintering areas during the 1980s and early 1990s were along the north and west side of Iliamna Lake, north of Kvichak River, but telemetry data indicated the MCH had been moving to the south and west for wintering (Van Daele and Boudreau 1992). Starting in the mid-1990s, caribou from the MCH began wintering in Unit 18 south of the Kuskokwim River and in southwestern Unit 19B in increasing numbers. During the winter of 2004/05, much of the herd wintered in Unit 18, south of the Kuskokwim River, and another large part of the herd wintered in the middle Mulchatna drainage. During 2005/06, large numbers wintered near the lower Kvichak River (Woolington 2009), while during the winter of 2008/09 a large part of the herd wintered in Unit 18 south of the Kuskokwim River with the rest of the herd in the lower Nushagak and Kvichak drainages (Woolington 2011b).

Habitat

Portions of the herds range are showing signs of heavy use with extensive trailing evident along major travel routes. Woolington (2011b) reported that some of the summer and fall range of the MCH in the Nushagak Hills and elsewhere was trampled and showing signs of heavy grazing, while traditional winter ranges on the north and west sides of Iliamna Lake also showed signs of heavy use despite the fact that few caribou appear to continue to utilize these areas.

Table 1. Mulchatna Caribou Herd composition counts and population estimates, 1974-2011 (Woolington 2012).

Regulatory Year	Total bulls:	Calves:	Calves (%)	Cows (%)	Small bulls (% of bulls)	Medium bulls (% of bulls)	Large Bulls (% of bulls)	Total bulls (%)	Composition sample size	Minimum estimate of herd size
1974/75	55.0	34.9	18.4	---	---	---	---	---	1,846	
1978/79	50.3	64.5	27.6	---	---	---	---	---	758	
1980/81	31.3	57.1	30.0	---	---	---	---	---	2,250	
1981/82	52.5	45.1	22.8	---	---	---	---	---	1,235	
1986/87	55.9	36.9	19.2	---	---	---	---	---	2,172	
1987/88	68.2	60.1	26.3	---	---	---	---	---	1,858	
1988/89	66.0	53.7	24.4	---	---	---	---	---	536	
1993/94	42.1	44.1	23.7	53.7	---	---	---	22.6	5,907	150,000 ^a
1996/97	42.4	34.4	19.5	56.6	49.8	28.5	21.7	24.0	1,727	200,000 ^a
1998/99	40.6	33.6	19.3	57.4	27.8	43.7	28.5	23.3	3,086	--- ^b
1999/00	30.3	14.1	9.8	69.3	59.9	26.3	13.8	21.0	4,731	175,000 ^c
2000/01 ^e	37.6	24.3	15.0	61.8	46.6	32.9	20.4	23.2	3,894	--- ^b
2001/02	25.2	19.9	13.7	68.9	31.7	50.1	18.3	17.7	5,728	--- ^b
2002/03	25.7	28.1	18.3	65.0	57.8	29.7	12.5	16.7	5,734	147,000 ^d
2003/04 ^f	17.4	25.6	17.9	69.9	36.2	45.3	18.5	12.2	7,821	--- ^b
2004/05 ^g	21.0	20.0	14.2	71.0	64.2	28.9	6.9	14.9	4,608	85,000 ^h
2005/06 ⁱ	13.9	18.1	13.7	75.8	55.3	33.3	11.5	10.6	5,211	--- ^b
2006/07 ^j	14.9	25.5	18.1	71.3	57.5	33.7	8.9	10.6	2,971	45,000 ^k
2007/08 ^l	23.0	15.8	11.4	72.1	52.7	36.0	11.3	16.6	3,943	--- ^b
2008/09 ^m	19.3	23.4	16.4	70.1	46.8	36.1	17.1	13.5	3,728	30,000 ⁿ
2009/10 ^o	18.5	31.0	20.7	66.9	39.7	43.9	16.3	12.4	4,595	--- ^b
2010/11 ^p	16.8	19.5	14.3	73.3	30.0	43.7	26.3	12.4	4,592	--- ^b
2011/2012 ^q	21.7	19.0	13.5	71.1	32.2	41.3	26.5	15.4	5,282	--- ^b
2012/2013 ^r	23.2	29.8	19.5	65.3	38.3	38.1	23.6	15.2	4,853	--- ^b

^a Estimate derived from photo-counts, corrected estimates, subjective estimate of the number of caribou in areas not surveyed, and interpolation between years when aerial photo surveys not conducted.

^b No current population estimate based on surveys.

^c Estimate based on photocensus conducted July 8, 1999.

^d Estimate based on photocensus conducted June 30, 2002.

^e NOTE: Fall 2000 bull:cow ratio and bull percentages corrected from previous table.

^f Based on pooling data from surveys conducted 10/11/2003 and 10/14/2003.

^g Based on pooling data from surveys conducted 10/12/2004 and 10/30/2004.

^h Estimate based on photocensus conducted July 7, 2004.

ⁱ Based on pooling data from surveys conducted 10/10/2005 and 10/14/2005.

^j Based on pooling data from surveys conducted 10/13-14/2006 and 10/22/2006.

^k Based on photocensus conducted July 11, 2006.

^l Based on pooling data from surveys conducted 10/7-8/2007 and 10/11/2007.

^m Based on pooling data from surveys conducted 10/7/2008 and 10/8/2008.

ⁿ Based on photocensus conducted July 7, 2008.

^o Based on pooling data from surveys conducted 10/12/2009 and 10/16/2009.

^p Based on pooling data from surveys conducted 10/10-11/2010 and 10/13/2010.

^q Based on pooling data from surveys conducted 10/9-11/2011.

^r Based on pooling data from surveys conducted 10/5-6/2012

Harvest History

Harvest on the MCH continues to decline. Total reported MCH harvest was 2,175 in 2005, but had declined to 309 by 2010. The harvest of males was as high as 86% in 1991/92, but decreased to 48% of the reported harvest in 2005/06. Bulls accounted for two thirds of the harvest in 2009/10 (Woolington 2011b).

In past years, most of the harvest occurred in August and September (47% in 2005/06 and 51% in 2006/07) (Woolington 2009), with the majority of harvest occurring close to villages on State lands. In recent years, February and March have accounted for a high amount of the harvest: 55% in 2008/09 and 42% in 2009/2010 (Woolington 2011b). Reported harvest during the other nine months has always been relatively low. Between 1991 and 2010, harvest in July accounted for less than 0.2% of the total annual harvest; October, November, December and January accounted for less than 8%; and April accounted for less than 9% (Woolington 2011b). It should be noted, however, that these data only account for the reported harvest and some harvest may be occurring that is unreported.

In Unit 18, harvest by both Federally and non-Federally qualified hunters has generally declined since 2003, when the reported harvest for the unit was at the highest, with the exception of 2010, the last year for which data is available (**Table 2**).

Table 2. Unit 18 reported caribou harvest, 2000-2009 (USFWS 2013).

Year	Federally qualified hunters	Non-Federally qualified hunters	Total
2000	121	17	138
2001	309	81	390
2002	145	113	258
2003	435	309	744
2004	295	179	474
2005	372	160	532
2006	234	90	324
2007	329	51	380
2008	211	40	251
2009	196	29	225
2010	336	26	362

Effects of the Proposal

If this proposal is adopted, a joint State/Federal registration permit would be required; the 1 bull harvest restriction would be eliminated and the split season would be eliminated establishing a continuous season from Aug.1 to Mar. 15th. Additionally, the proposal would give delegated authority to the Yukon Delta National Wildlife Refuge manager to close or re-open this hunt if necessary for conservation concerns. These changes would align Federal subsistence regulations with recent changes made to State regulations for the MCH, thereby reducing regulatory complexity for hunters. The use of a registration permit would allow managers to better track harvest, be more responsive to in-season management needs and allow harvest opportunity for subsistence users to be maximized. The State registration permit has a requirement to report harvest within 5 days of taking a caribou, whereas the general harvest tickets have a requirement to report harvest within 15 of taking the bag limit or the close of the season. Harvest

reporting is an important aspect of harvest management, especially with fluctuating populations like the Mulchatna Caribou Herd, and reporting would likely improve as reporting rates are higher with registration permits.

OSM PRELIMINARY CONCLUSION

Support Proposal WP14-26 with modification to administer the hunt via a State registration permit only, retain the harvest limit restrictions, and delegate authority to open or close the season via a delegation of authority letter only (**Appendix 1**). The modified regulation would read:

Unit 18—Caribou

Unit 18- that portion to the east and south of the Kuskokwim River-2 caribou by State ~~a joint ADF&G and Federal~~ registration permit. ; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1-Jan. 31 and Dec. 20-Jan. 31.

*Aug. 1-Sept. 30
Mar. 15*

~~*Through a letter of delegation: The Yukon Delta National Wildlife manager has the authority to close or re-open Federal public lands to all users for this hunt if necessary for conservation concerns, after consultation with ADF&G, the Togiak National Wildlife Refuge manager, and the chair of the Yukon-Kuskowkwim Delta Regional Advisory Council.*~~

Dec. 20-the last day of Feb.

Justification

The MCH continues to be at the low end of its management objective and harvest of the herd has been in decline since 2003. More adaptive management is needed to ensure conservation of the resource. Switching from a general harvest to a registration hunt and giving delegated authority to the Yukon Delta National Wildlife manager to close or re-open a hunt will allow for better tracking of harvest and allow managers to be more responsive to in-season management needs, while also maximizing harvest opportunities for subsistence users. In addition, alignment of hunting dates between Federal and State regulations will help reduce regulatory complexity for hunters. Recent illegal hunting issues in the Bethel area highlight the importance of a registration hunt in helping to prevent potential localized overharvest. Creation of a delegation of authority letter will allow for hunt management flexibility through in season adjustment to close and reopen Federal Public lands for this hunt. Retention of the harvest limit restrictions is needed to keep regulations consistent throughout the range of the MCH.

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Yugas, J. 2013. Federal Subsistence Liaison Team Leader. Personal communication: email. ADF&G. Fairbanks, AK.

Appendix 1

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

Dear Mr. Peltola:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the Yukon Delta National Wildlife Refuge Manager, as approved by the Board, to issue emergency special actions if necessary to ensure the continued viability of a wildlife population, to continue subsistence uses of wildlife, or for reasons of public safety; or temporary special actions if the proposed temporary change will not interfere with the conservation of healthy wildlife populations, will not be detrimental to the long-term subsistence use of wildlife resources, and is not an unnecessary restriction on non-subsistence users. This delegation only applies to the Federal public lands subject to ANILCA Title VIII within Unit 18, that portion to the east and south of the Kuskokwim River, as it applies to caribou on these lands.

It is the intent of the Board that actions related to management of caribou by Federal officials be coordinated, prior to implementation, with the Alaska Department of Fish and Game (ADF&G), and the Chair of the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council (Council) to the extent possible. Federal managers are expected to work with State managers and the Chair and applicable members of the Council to minimize disruption to resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

1. Delegation: The Manager of the Yukon Delta National Wildlife Refuge is hereby delegated authority to issue emergency or temporary special actions affecting caribou on Federal lands as outlined under 3. Scope of Delegation of this section. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by Federal regulation at 36 CFR 242.19 and 50 CFR 100.19.

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

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

- To open or close the season for caribou on Federal public lands in Unit 18, that portion to the east and south of the Kuskokwim River. You may also close Federal Public Lands

to the take of these species by all users.

This delegation may be exercised only when it is necessary to conserve the caribou population or to continue subsistence uses.

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

The Federal public lands subject to this delegated authority are those within Unit 18 that portion to the east and south of the Kuskokwim River.

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

4. Guidelines for Delegation: You will become familiar with the management history of the wildlife species relevant to this delegation in the region, with current State and Federal regulations and management plans, and be up-to-date on population and harvest status information. You will review special action requests or situations that may require a special action and all supporting information to determine (1) consistency with 36 CFR 242.19, (2) if the request/situation falls within the scope of authority, (3) if significant conservation problems or subsistence harvest concerns are indicated, and (4) what the consequences of taking an action or no action may be on potentially affected subsistence users and non-subsistence users. Requests not within your delegated authority will be forwarded to the Federal Subsistence Board for consideration. You will maintain a record of all special action requests and rationale for your decision. A copy of this record will be provided to the Administrative Records Specialist in the Office of Subsistence Management no later than sixty days after development of the document.

You will notify the Office of Subsistence Management and coordinate with local ADF&G managers, the Togiak National Wildlife Refuge manager, and the Chair of the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council regarding special actions under consideration. You will issue decisions in a timely manner. Before the effective date of any decision, reasonable efforts will be made to notify the public, the Office of Subsistence Management, affected State and Federal managers, law enforcement personnel, and Council representatives. If an action is to supersede a State action not yet in effect, the decision will be communicated to the public, the Office of Subsistence Management, affected State and Federal Managers, and the local Council representatives at least 24 hours before the State action would be effective. If a decision to take no action is made, you will notify the proponent of the request immediately.

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

necessary for conservation purposes. The Federal Subsistence Board may determine that a special action request may best be handled by the Board, subsequently rescinding the delegated regulatory authority for the specific action only.

5. Support Services: Administrative support for regulatory actions will be provided by the Office of Subsistence Management, U.S. Fish & Wildlife Service, Department of the Interior.

Sincerely,

Tim Towarak
Chair, Federal Subsistence Board

cc: Assistants to the Board
Interagency Staff Committee
Chair, Yukon-Kuskokwim Delta Subsistence Regional Advisory Council
Commissioner, Alaska Department of Fish and Game
Coordinator, Yukon-Kuskokwim Delta Subsistence Regional Advisory Council
Subsistence Liaison, Alaska Department of Fish and Game
ARD, Office of Subsistence Management
Administrative Record

WP14-27 Executive Summary	
General Description	<p>Proposal WP14-27 requests a season for moose in Unit 18 “ the Kuskokwim area” be established with a Sept. 1– 30 season and a harvest limit of one antlered bull by a joint State/Federal registration permit. Additionally, the hunt will be closed by the Yukon Delta National Wildlife Refuge manager by Special Action when the established quota is met. <i>Submitted by the Yukon Delta National Wildlife Refuge.</i></p>
Proposed Regulation	<p>Unit 18 – Moose</p> <p><i>Unit 18 – that portion east of a line running from the mouth of the Ishkowik River to the closest point of Dall Lake, then to the east bank of the Johnson River at its entrance into Nunavakanukakslak Lake (N 60°59.41°Latitude; W162°22.14°Longitude), continuing upriver along a line 1/2 mile south and east of, and paralleling a line along the southerly bank of the Johnson River to the confluence of the east bank of Crooked Creek, then continuing upriver to the outlet at Arhymot Lake, then following the south bank east of the Unit 18 border and then north of and including the Eek River drainage – 1 Antlered bull by Joint ADF&G/USFWS registration permit RM 615 available at license vendors in the hunt area from August 1 to August 25. Quota is to be announced. Hunt will be closed by the Yukon Delta National Wildlife Refuge manager by Special Action when quota is expected to be met.</i></p> <p><i>Federal public lands are closed to the taking of moose except by residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Kalskag.</i></p> <p style="text-align: right;"><i>No open season Sept. 1 – Sept. 30</i></p>
OSM Preliminary Conclusion	<p>Support Proposal WP14-27 with modification to make this hunt by a State registration permit only, and to delegate authority to close the season and determine annual quotas via a delegation of authority letter</p>
Yukon/Kuskokwim Delta Regional Council Recommendation	

continued on next page

WP14-27 Executive Summary (continued)	
Western Interior Regional Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

DRAFT STAFF ANALYSIS WP14-27

ISSUES

Proposal WP14-27, submitted by the Yukon Delta National Wildlife Refuge, requests a season for moose in Unit 18 “ the Kuskokwim area” be established with a Sept. 1– 30 season and a harvest limit of one antlered bull by a joint State/Federal registration permit. Additionally, the hunt will be closed by the Yukon Delta National Wildlife Refuge manager by Special Action when the established quota is met.

DISCUSSION

The proponent requests establishment of a moose season in the Unit 18 portion of the lower Kuskokwim River. The proponent states that both the USFWS and ADF&G jointly manage a registration hunt (RM 615) in the lower Kuskokwim and that the area has been opened up by Special Action over the last several seasons. The proposal would allow for a jointly managed hunt and would make provisions for an open season by registration with a quota.

Upon further discussion with the proponent, it was pointed out that this hunt would actually be under a State registration permit, not a joint State/Federal permit as written in the original proposal.

Existing Federal Regulation

Unit 18 — Moose

Unit 18 — that portion east of a line running from the mouth of the Ishkowik River to the closest point of Dall Lake, then to the east bank of the Johnson River at its entrance into Nunavakanukakslak Lake (N 60°59.41' Latitude; W162°22.14' Longitude), continuing upriver along a line 1/2 mile south and east of, and paralleling a line along the southerly bank of the Johnson River to the confluence of the east bank of Crooked Creek, then continuing upriver to the outlet at Arhymot Lake, then following the south bank east of the Unit 18 border and then north of and including the Eek River drainage.

No open season

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

Proposed Federal Regulation

Unit 18 — Moose

Unit 18 – that portion east of a line running from the mouth of the Ishkowik River to the closest point of Dall Lake, then to the east bank of the Johnson River at its entrance into Nunavakanukakslak Lake (N 60°59.41' Latitude; W162°22.14' Longitude), continuing upriver along a line ½ mile south and east of, and paralleling a line along the southerly bank of the Johnson River to the confluence of the east bank of Crooked Creek, then continuing upriver to the outlet at Arhymot Lake, then following the south bank east of the Unit 18 border and then north of and including the Eek River drainage – 1 Antlered bull by Joint ADF&G/USFWS registration permit RM 615 available at license vendors in the hunt area from August 1 to August 25. Quota is to be announced. Hunt will be closed by the Yukon Delta National Wildlife Refuge manager by Special Action when quota is expected to be met.

*No open season
Sept. 1 – Sept. 30*

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

Existing State Regulation

Unit 18 — Moose

Residents – one antlered bull by registration permit

Sept. 1 – Sept. 10

Extent of Federal Public Lands

Federal public lands comprise approximately 66% of Unit 18 and consist of 63% US Fish and Wildlife Service managed lands and 3% Bureau of Land Management managed lands (**Unit 18 Map**).

Customary and Traditional Use Determinations

Residents of Unit 18 and Upper Kalskag have a customary and traditional use determination for harvesting moose in Unit 18. In addition, residents of Aniak, and Chuathbaluk have a customary and traditional use determination for harvesting moose in the Kuskokwim drainage upstream of (but excluding) the Tuluksak River drainage.

In 2010, the Board adopted an ANILCA Section 804 determination further limiting who can harvest to residents of Tuntutuliak, Eek, Napakiak, Napaskiak, Kasigluk, Nunapitchuk, Atmautlauk, Oscarville, Bethel, Kwethluk, Akiachak, Akiak, Tuluksak, Lower Kalskag, and Kalskag.

Regulatory History

Federal public lands in the area covered by this proposal have been closed to non-Federally qualified users since 1992. Prior to 2004, Federal and State moose harvest limits for the lower Kuskokwim River area were one bull or one antlered bull, and the fall seasons were approximately one month. The State

winter season has varied widely from a continuous fall/winter season (Sept. 1–Dec. 31) to a 10-day December season and a winter “to be announced” season. The Federal winter season has varied from a 10-day season to a “to be announced” season.

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

In March 2009, the Alaska Board of Game established a registration hunt (RM615) in preparation for ending the moratorium on June 30, 2009. The 2009 State season was Sept. 1–Sept. 10 with a harvest limit of one antlered bull by registration permit and a total harvest quota of 75 antlered bull moose. At its fall 2009 meeting, after considerable discussion, the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council did not submit a proposal to open the moose season on Federal public lands in the moratorium area, and those lands remained closed. In November 2009, the Alaska Board of Game adopted a proposal which changed the boundary separating the Unit 18 lower Kuskokwim area from the Unit 18 remainder area.

In May 2010, the Federal Subsistence Board adopted Proposals WP10-58 and WP10-62 with modification to make boundary changes similar to the Alaska Board of Game actions. Adoption of these proposals helped to clarify the boundary for moose hunters and law enforcement. At the same meeting in May 2010, the Board adopted Proposal WP10-54 with modification to reduce the pool of Federally qualified subsistence users eligible to hunt moose on Federal public lands within the lower Kuskokwim. This was necessary because of the small number of moose available to harvest relative to the large number of subsistence users with a customary and traditional use determination to harvest moose (42 communities including Bethel). As specified in Section 804 of ANILCA, whenever it is necessary to restrict the subsistence uses of populations of fish and wildlife on Federal lands, a priority must be implemented through appropriate limitations based on the application of three criteria including: 1) customary and direct dependence upon the population as a mainstay of livelihood; 2) local residency; and 3) availability of alternative resources. In accordance with Section 804, an analysis was developed that evaluated all users with a positive customary and traditional use determination, and fifteen communities were found to be most dependent on this resource in this area.

While no permanent Federal moose season has been established in the lower Kuskokwim area, in 2010 Wildlife Special Action WSA10-02 was approved to establish a temporary Sept. 1–Sept. 5 moose season in the affected area. In 2011, harvest occurred under the State registration permit.

In 2012, Wildlife Special Action WSA12-06 was submitted by the Yukon Delta National Wildlife Refuge and requested the establishment of a Sept. 1 – Sept. 30 moose season within the lower Kuskokwim River area of Unit 18. The harvest was limited to antlered bull moose via a State registration permit with a harvest quota set prior to the start of the season. The special action was approved by the Board.

Biological Background

State management objectives for Unit 18 include the following (Perry 2010):

- Allow the lower Kuskokwim River moose population to increase above its estimated size of 75–250 moose to at least 2000 moose.
- Maintain the current age and sex structure for both the lower Yukon and lower Kuskokwim populations, with a minimum of 30 bulls:100 cows.

Aerial surveys utilizing geospatial population estimation methods (Kellie and DeLong 2006) have been conducted to estimate the size of the moose population in the Lower Kuskokwim survey unit. The most recent estimates in 2008 and 2011 show a recovery from the low of 70 moose estimated in 2004 (**Figure 1**), the year the moratorium was initiated. The population had an estimated annual growth rate of 65% from 2004 to 2008 (516 moose; estimate without the sightability correction factor) (**Figure 1**). The high annual growth rate was due to high survival and recruitment rates during the moratorium, as well as immigration as moose continued to colonize the area. The population continued to increase between 2008 and 2011, but annual growth rate slowed to 9%. In addition to the Lower Kuskokwim survey area, which primarily consists of State-managed lands, one line-transect survey was conducted on Federal public lands along tributaries of the Kuskokwim River in 2010. The tributary survey resulted in an estimated 345 moose, which suggests that the hunt area (Lower Kuskokwim and Kuskokwim Tributary areas) likely contains over 1,000 moose.

Birth rates, survival, and recruitment have been estimated by monitoring radio-collared moose in the affected area. Calving data collected on radio collared moose in the lower Kuskokwim River and its major tributaries during May and June 2010 estimated birth rates at 85% for three-year or older cows and 50% for two-year-old cows. The high birth rate for second year cows suggests the population is still increasing in high quality habitat, which allows moose to more quickly attain the body mass needed to breed (Schwartz 2007). Boer (1992) reviewed previous moose literature and found average yearling fecundity for 12 North American populations above, near, and below carrying capacity to be 18, 41, and 65%; respectively. Calf survival was estimated at 36% between May 2009 and December 2010, indicating continued population growth (Wald 2012, pers. comm.).

Population composition surveys showed high bull:cow and calf:cow ratios during 2007, when the moratorium was in effect (**Table 1**). Since 2009, when the State reestablished a bull-only hunt, the bull:cow ratio declined, but has remained well above the management goal of 30 bulls:100 cows (Perry 2010). The calf ratios also declined after 2007, but have remained fairly high during subsequent surveys which provides further evidence of good calf survival through November. As harvest continued in 2009

Table 1. Population composition estimates of moose surveyed within the Lower Kuskokwim survey area of Unit 18. Surveys were conducted in November and encompassed the lower Kuskokwim and Kwethluk Rivers (Rearden 2013, pers. comm.)

Year	Bulls:100 cows	Calves:100 cows	Total moose observed
2007	98.2	72.7	149
2009	52.3	49.2	258
2010	50.6	49.4	356

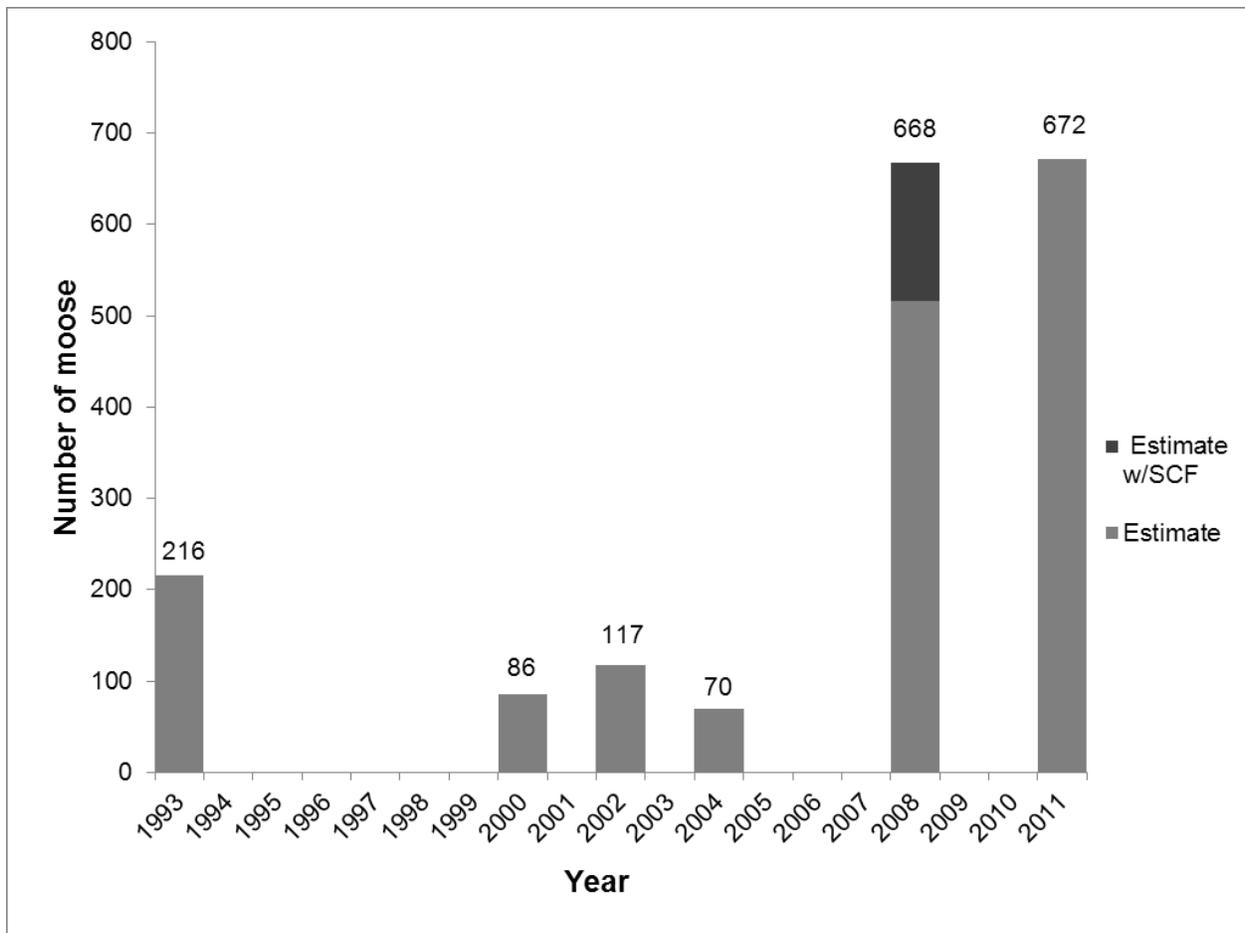


Figure 1. Estimates of moose population size in the lower Kuskokwim trend count area of Unit 18. Surveys use geospatial population estimation techniques (Kellie and DeLong 2006) in all years except 1993, when the Gassaway method was used. A sightability correction factor (SCF) was used in 2008 to account for moose not observed during aerial surveys (Rearden 2012, pers. comm.).

and 2010, bull and calf ratios remained around 50:100 cows (**Table 1**). Between 2011 and 2013, twinning rates were 53%, 50% and 67% respectively, indicating high productivity (Perry 2013, pers. comm.).

Habitat

The riparian corridor along the Kuskokwim River downstream of Kalskag is excellent moose habitat. The forest and brush along the river between Lower Kalskag and Akiachak provides some escape cover for moose while further down the river toward the mouth, the riparian corridor narrows with a lack of escape cover (Perry 2010).

Moose browse was measured along the Kwethluk River from Elbow Mountain to Three-Step Mountain in the summer 2009 and 2010. This area corresponds to previous hunting closures, and the section of the river that has the most extensive moose habitat along the Kwethluk River. Examination of browse species indicated moderate use by moose (and minor use by hare and beaver) with slightly heavier use off the main river channel in the larger willow complexes. The overall browsing index indicated that many forage

plants were not severely browsed. Further data analyses is needed to determine precise estimates of each browsing category or to look for significant differences of use along the river and between browse species by moose (Wald 2012, pers. comm.).

Harvest History

The U.S. Fish and Wildlife Service and the ADF&G set a potential 2009 fall quota of 75 moose for the entire area that had been previously closed during the moratorium, which included Federal public lands (FWS 2008). This quota was based on survey results and extrapolated estimates of moose in tributaries that were not surveyed. Federal lands remained closed for the 2009–2010 regulatory year and the hunt was conducted solely on State managed lands, but the quota remained at 75. In September 2009, 112 moose were reported harvested on State managed lands (**Table 2**), which exceeded the quota. Separate quotas were set in 2012, with an allowable harvest of 81 moose on State lands and 19 moose on Federal public lands (Rearden 2012, pers. comm.). Total reported harvest exceeded the quota by 2 moose with the overharvest occurring on State managed lands.

Table 2. Total reported harvest and harvest reported on Federal public lands in relation to the estimated size of the moose population in the lower Kuskokwim River area of Unit 18, 2008–2011. Federal public lands are closed to the harvest of moose, except by Federally qualified subsistence users (Rearden 2012, pers. comm.).

Year	Reported harvest on Federal land	Total reported harvest
2008	No hunt	No hunt
2009	No hunt	112
2010	10	102
2011	18	110
2012	19	102

Effects of the Proposal

If adopted, this proposal would establish a moose season in the Unit 18 portion of the lower Kuskokwim River from Sept 1 – 30 with a 1 antlered moose harvest limit by joint State/Federal registration permit. This would allow for more harvest opportunities for Federally qualified users in the area while making it easier to hunt on both State and Federal lands without jurisdictional concerns. Additionally, the hunt will be closed by the Yukon Delta National Wildlife Refuge manager by Special Action when the established quota is met.

Impacts to the moose population under this proposal would likely be minimal, as the population has continued to increase with limited harvests since 2009, with good productivity. Harvest numbers are not

expected to increase from recent years as the most recent quota (81 bull moose on State lands and 19 bull moose on Federal lands) is similar to total annual harvests in the affected area from 2009 to 2012 (**Table 2**). The harvest quota would be based on the status of the moose population, and Federal managers would have the authority to close the seasons early if there was any indication that the harvest may exceed the quota. The harvest quota remains higher on State managed lands since most of the moose favor those lands due to better habitat conditions.

OSM PRELIMINARY CONCLUSION

Support Proposal WP14-27 **with modification** to make this hunt by a State registration permit only, and to delegate authority to close the season and determine annual quotas via a delegation of authority letter (**Appendix 1**). The modified regulation would read:

Unit 18 – Moose

*Unit 18 – that portion east of a line running from the mouth of the Ishkowiik River to the closest point of Dall Lake, then to the east bank of the Johnson River at its entrance into Nunavakanukakslak Lake (N 60°59.41' Latitude; W 162°22.14' Longitude), continuing upriver along a line ½ mile south and east of, and paralleling a line along the southerly bank of the Johnson River to the confluence of the east bank of Crooked Creek, then continuing upriver to the outlet at Arhymot Lake, then following the south bank east of the Unit 18 border and then north of and including the Eek River drainage – **1 Antlered bull by State registration permit** ~~Joint ADF&G/USFWS registration permit RM 615 available at license vendors in the hunt area from August 1 to August 25. Quota is to be announced. Hunt will be closed by the Yukon Delta National Wildlife Refuge manager by Special Action when quota is expected to be met.~~*

Sept. 1 – Sept. 30

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

Justification

The moose population along the lower Kuskokwim area of Unit 18 has grown substantially after a five year moratorium on hunting first established in 2003 and productivity is high. Management objectives for both population size and bull:cow composition have been met over the last several years. Additionally, the area has been opened up for hunting by special action the last two years with established quotas being met or exceeded during this time period. The lower Kuskokwim provides adequate forage and escape cover for moose, with high birth rates indicating high quality habitat. Establishment of a season through the use of a State registration permit with set quotas will allow for more harvest opportunities for Federally qualified users in the area while making it easier to hunt on both State and Federal lands without jurisdictional concerns, and also providing for in-season management to prevent conservation concerns for this recovering moose population. Creation of a delegation of authority letter for the

Federal land manager will allow for hunt management flexibility through in season adjustment of hunt parameters.

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Wald, E.J. 2012. Wildlife biologist. Personal communication: email. Arctic National Wildlife Refuge. Fairbanks, AK.

Appendix 1

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

Dear XX:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the Yukon Delta National Wildlife Refuge Manager, as approved by the Board, to issue emergency special actions if necessary to ensure the continued viability of a wildlife population, to continue subsistence uses of wildlife, or for reasons of public safety; or temporary special actions if the proposed temporary change will not interfere with the conservation of healthy wildlife populations, will not be detrimental to the long-term subsistence use of wildlife resources, and is not an unnecessary restriction on non-subsistence users. This delegation only applies to the Federal public lands subject to ANILCA Title VIII within Unit 18, that portion east of a line running from the mouth of the Ishkowik River to the closest point of Dall Lake, then to the east bank of the Johnson River at its entrance into Nunavakankakslak Lake (N 60° 59.412 Latitude; W 162° 22.142 Longitude), continuing upriver along a line ½ mile south and east of, and paralleling a line along the southerly bank of the Johnson River to the confluence of the east bank of Crooked Creek, then continuing upriver to the outlet of Arhymot Lake, then following the south bank east of the Unit 18 border and then north of and including the Eek River drainage.

It is the intent of the Board that actions related to management of moose by Federal officials be coordinated, prior to implementation, with the Alaska Department of Fish and Game (ADF&G), and the Chair of the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council (Council) to the extent possible. Federal managers are expected to work with State managers and the Chair and applicable members of the Council to minimize disruption to resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

1. Delegation: The Manager of the Yukon Delta National Wildlife Refuge is hereby delegated authority to issue emergency or temporary special actions affecting moose on Federal lands as outlined under 3. Scope of Delegation of this section. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by Federal regulation at 36 CFR 242.19 and 50 CFR 100.19.

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

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

- To open or close the season and determine annual quotas for moose on Federal public lands in Unit 18, that portion east of a line running from the mouth of the Ishkowiik River to the closest point of Dall Lake, then to the east bank of the Johnson River at its entrance into Nunavakankakslak Lake (N 60° 59.412 Latitude; W 162° 22.142 Longitude), continuing upriver along a line ½ mile south and east of, and paralleling a line along the southerly bank of the Johnson River to the confluence of the east bank of Crooked Creek, then continuing upriver to the outlet of Arhymot Lake, then following the south bank east of the Unit 18 border and then north of and including the Eek River drainage.

This delegation may be exercised only when it is necessary to conserve the moose population or to continue subsistence uses.

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

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

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

4. Guidelines for Delegation: You will become familiar with the management history of the wildlife species relevant to this delegation in the region, with current State and Federal regulations and management plans, and be up-to-date on population and harvest status information. You will review special action requests or situations that may require a special action and all supporting information to determine (1) consistency with 36 CFR 242.19, (2) if the request/situation falls within the scope of authority, (3) if significant conservation problems or subsistence harvest concerns are indicated, and (4) what the consequences of taking an action or no action may be on potentially affected subsistence users and non-subsistence users. Requests not within your delegated authority will be forwarded to the Federal Subsistence Board for consideration. You will maintain a record of all special action requests and rationale for your decision. A copy of this record will be provided to the Administrative Records Specialist in the Office of Subsistence Management no later than sixty days after development of the document.

You will notify the Office of Subsistence Management and coordinate with local ADF&G

managers and the Chair of the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council regarding special actions under consideration. You will issue decisions in a timely manner. Before the effective date of any decision, reasonable efforts will be made to notify the public, the Office of Subsistence Management, affected State and Federal managers, law enforcement personnel, and Council representatives. If an action is to supersede a State action not yet in effect, the decision will be communicated to the public, the Office of Subsistence Management, affected State and Federal Managers, and the local Council representatives at least 24 hours before the State action would be effective. If a decision to take no action is made, you will notify the proponent of the request immediately.

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

5. Support Services: Administrative support for regulatory actions will be provided by the Office of Subsistence Management, U.S. Fish & Wildlife Service, Department of the Interior.

Sincerely,

Tim Towarak
Chair, Federal Subsistence Board

cc: Assistants to the Board
Interagency Staff Committee
Chair, Yukon-Kuskokwim Delta Subsistence Regional Advisory Council
Commissioner, Alaska Department of Fish and Game
Coordinator, Yukon-Kuskokwim Delta Subsistence Regional Advisory Council
Subsistence Liaison, Alaska Department of Fish and Game
ARD, Office of Subsistence Management
Administrative Record

WP14-28 Executive Summary	
General Description	Proposal WP14-28 requests extension of the fall season for moose in Unit 18 remainder by 9 days and liberalization of the antlered requirement. <i>Submitted by the Yukon Delta National Wildlife Refuge.</i>
Proposed Regulation	<p>Unit 18 - Moose</p> <p><i>Unit 18, remainder – 1 moose 1 antlered bull or Aug. 1 – Sept. 30</i> <i>a cow unaccompanied by calf</i></p> <p><i>1 moose</i> <i>Dec. 20 – the last day of February</i></p>
OSM Preliminary Conclusion	Support Proposal WP14-28 with modification to retain the 1 moose harvest limit but extend the fall season.
Yukon/Kuskokwim Delta Regional Council Recommendation	
Western Interior Regional Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

DRAFT STAFF ANALYSIS WP14-28

ISSUES

Proposal WP14-28, submitted by the Yukon Delta National Wildlife Refuge, requests extension of the fall season for moose in Unit 18 remainder by 9 days and liberalization of the antlered requirement.

DISCUSSION

The proponent states that the moose population in Unit 18 remainder is healthy enough to justify liberalization of the season and antler requirement. The population is growing and overall harvest in the fall is lower than other areas of the lower Yukon survey area. This liberalization is being proposed by both State and Federal land managers. In further discussion with the proponent, it was stated that they desired a lengthening of the season, but no change in the harvest limit/antler requirement, so the 1 moose harvest limit would be retained in this proposal.

Existing Federal Regulation

Unit 18 – Moose

Unit 18, remainder – 1 moose

Aug. 10 – Sept. 30

*Dec. 20 – the last day of
February*

Proposed Federal Regulation

Unit 18 - Moose

Unit 18, remainder – 1 moose
**1 antlered bull or a cow
unaccompanied by calf**

Aug. 10 – Sept. 30

1 moose

*Dec. 20 – the last day of
February*

Existing State Regulation

Unit 18 remainder – Moose

Residents, one antlered bull

Aug. 10 – Sept. 30

Residents, one moose

Dec. 20 – Feb. 28

Nonresidents, one antlered bull

Sept. 1 – Sept. 30

Extent of Federal Public Lands

Federal public lands comprise approximately 66% of Unit 18 and consist of 63% U.S. Fish and Wildlife Service managed lands and 3% Bureau of Land Management managed lands (**Unit 18 Map**).

Customary and Traditional Use Determinations

The customary and traditional use determination for moose in Unit 18 remainder includes all residents of Unit 18. Additionally, residents of St. Michael, Stebbins, Aniak, Upper Kalskag and Chuathbaluk can hunt in portions of Unit 18 remainder under Federal moose regulations.

Regulatory History

Moose harvest season dates in Unit 18 have varied over the past 10 years, however harvest limits have remained constant at one bull. As the moose population in the area grew, the closure of Federal public lands to non-Federally qualified users was lifted and the seasons were extended.

In 2006, proposal WP06-30 requested the removal of the Federal closure to non-Federally qualified users for the Unit 18 remainder fall moose season (Sept. 1–Sept. 30). The biological information presented in the WP06-30 analysis supported the removal of the closure for not only Unit 18 remainder, but also that portion of Unit 18 downstream from Mountain Village. However, the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council opposed the proposal because of local concerns over increased competition. At its May 2006 meeting, the Federal Subsistence Board (Board) deferred action on the proposal for one year with a commitment to revisit the proposed regulation change at its May 2007 meeting. The intent for the deferral was to allow time for Yukon Delta National Wildlife Refuge (YDNWR) staff to conduct information outreach on the status of the moose population in communities before making a decision.

The rapid growth and current size of the moose population along with local concerns over increased competition created disagreement over the appropriateness of the Federal closure, which led to several proposals in October 2006:

- Proposal WP07-26 requested a positive customary and traditional use determination for moose in Unit 18 for the residents of St. Michaels and Stebbins. The Board adopted the proposed regulatory change in May 2007.
- Proposal WP07-27 requested an Aug. 10–Aug. 19 families-only moose season in Unit 18 remainder. The Board did not adopt the proposal at its May 2007 meeting because it cannot adopt regulations that favor families only.
- Proposal WP07-28 requested an earlier season in Unit 18 remainder beginning on Aug. 20 instead of September 1. The Board adopted a modified recommendation of an Aug. 10 season open date for the Yukon River drainage portion of Unit 18 and Unit 18 remainder at its 2007 meeting.
- Proposal WP07-29 requested a liberalization of the harvest limit from one antlered bull to one moose in Unit 18 remainder with a winter season extension to Jan. 20, instead of Jan. 10. The Board adopted the season extension with the modification of one moose for the Yukon River drainage below and including Mt. Village only, due to the very high calf composition and concerns of the population size and growth rate may be adversely affecting the habitat's carrying capacity in that area.
- Proposal WP07-30 requested a continuous one bull harvest limit from September 1 to March 31. Because such liberalizations in harvest limit should be adopted gradually to allow for close monitoring of harvest effects on the population, the Board rejected the proposed regulatory change.

- Proposal WP07-31 requested an Aug. 20–31 moose season with a one antlered bull harvest limit for residents of Andreafsky and St. Mary’s within the Andreafsky River drainage of Unit 18 remainder; and Proposal WP07-64 requested the Board extend the fall moose season by adopting the proposed 12-day, Aug. 20–31 extension with a one antlered bull or cow moose harvest limit for residents of Marshall. If a proposal seeks a prioritization for use of a subsistence resource among rural residents having customary and traditional use of that resource, as was the case with these two proposals, an analysis must be done in accordance with Section 804 of ANILCA if the population necessitates such prioritization. Because the moose population in this area could support harvest by all Federally qualified subsistence users, an “804” analysis was not conducted, and the Board rejected these proposals.
- At its May 2007 meeting, the Board adopted Proposal WP07-32 (deferred proposal WP06-30) to open Federal public lands to non-Federally qualified subsistence users. The Board stated that the closure was no longer warranted as the moose population had increased to the point where additional harvest could occur. The Refuge Manager of the YDNWR made extensive outreach efforts with local residents and committed to lessen competition by prohibiting transporters access to local subsistence use areas (Rearden 2007, pers. comm.).
- Proposal WP08-33, submitted by the Association of Village Council Presidents, requested a closure of Federal public lands to non-Federally qualified users during the fall and winter moose seasons in Unit 18, that portion of the Yukon River drainage and Unit 18 remainder. The proponent requested this closure until three related tasks were accomplished: 1) an accurate assessment of moose harvest needed by residents of Unit 18; 2) an accurate assessment of the moose population in Unit 18; and 3) development of a regionally acceptable moose management plan. The proposal was rejected by the Federal Subsistence Board at its May 2008 meeting.

In 2009, Special Actions WSA09-12/13/14 requested a season extension to Feb. 28 and a change in the harvest limit from one antlered bull to one moose in Unit 18 remainder. The Special Action requests were submitted due to the lack of snow that limited travel and hunting opportunity within an area where the moose population appeared to be increasing and was considered healthy. The Board approved the requests to extend the season and change the harvest limit to one moose.

In 2010, Special Action WSA10-04 requested that the Unit 18 remainder winter moose season be extended to Feb. 28th and the harvest limit be changed from one antlered bull to one moose. This Special Action request was submitted due to adverse travelling conditions in the area as a result of unusually warm weather which made travel by snowmachine difficult for local hunters. The proposal was approved by the Federal Subsistence Board.

At the November 2011 Alaska Board of Game meeting, Proposal 8 was adopted with modification to extend the moose season until the end of February in Unit 18 remainder.

Proposal WP12-48, submitted by the Yukon Delta National Wildlife Refuge, requested a change to the harvest limit for moose in Unit 18 remainder from 1 antlered bull to 1 moose during the winter season as well as an extension of the winter season from Jan. 10 to the last day of February. The proposal was adopted by the Board at its January 2012 meeting.

Biological Background

Moose began to immigrate into the Yukon-Kuskokwim (Y-K) Delta during the mid-to-late 1940s. The Yukon River population occupies most of the available riparian habitat and is growing, while the

Kuskokwim population is still small and in the process of colonizing all available riparian habitats. Most of the Y-K Delta is lowland treeless tundra and is therefore not suitable as winter moose habitat (Perry 2010).

Hunting pressure from communities along the Kuskokwim River has limited the growth of moose populations along the riparian corridors, while moose populations along the Yukon River have been similarly slowed, though compliance with hunting regulations has improved moose populations in this area (Perry 2010). There is a large amount of available habitat for moose along the Kuskokwim River drainage and its tributaries, allowing for colonization and population expansion.

The Paimiut survey area in Unit 18 covers the Yukon River just downriver of Marshall to Paimiut. Although this survey unit does not cover the entire Unit 18 remainder, it covers the densest population of moose in the Unit 18 remainder area. The most recent survey for this area was conducted in 2013. The mid-point of the 2013 survey estimate was 5,697 moose with a density of 3.6 moose per square mile (Crawford 2013, pers. comm.), which was an increase from the 1992 density estimate of 0.64 moose per square mile (Perry 2008).

Additionally, recent surveys on the Andrefsky portion of Unit 18 remainder suggest healthy growth of the population with estimates in 2002 of 418 moose and a 2012 estimate of 2748 moose (without a Sightability Correction Factor) (Rearden 2013, pers. comm.)

The moose population down river of Mountain Village and adjacent to Unit 18 remainder increased significantly from 1994 to 2008. The lower Yukon area has experienced rapid population growth since 1994 with an average growth rate of 27% (1994–2009) (USFWS 2008). The 2008 estimate along the main stem of the Yukon River corridor from Mountain Village to Kotlik was 3,320 moose. From Mountain Village to Emmonak, the moose density estimate was 2.8 moose per square mile.

The State management objective for the Yukon-Kuskokwim Delta and Yukon River moose populations in Unit 18 are to maintain the current age and sex structure, with a minimum of 30 bulls:100 cows. Moose composition surveys from 2005 showed a ratio of 36.9 bulls per hundred cows and 23.9 bulls per hundred cows for the Lowest Yukon and Paimiut survey areas respectively (Perry 2008). In addition, calf survival was much higher in the Lowest Yukon survey area and almost 40% of cows were found to have twins with them in early winter (Perry 2008, Perry 2010). More recent moose composition data for Unit 18 remainder showed a ratio of 42 bulls per 100 cows and 61 calves per 100 cows while 28% of cows had twins with them (Rearden 2011, pers. comm.). These numbers indicate that the moose population has exceeded the management objective for sex structure in the unit.

Habitat

A minimum of 8,000 square miles of moose habitat exists in Unit 18 (Perry 2010). Of this, approximately 4,500 square miles of habitat occurs along the riparian zone of the Yukon River. The most productive moose habitat in Unit 18 is found on the islands and adjacent sloughs from Paimiut to Mountain Village. Several tributaries within the Yukon Delta contain suitable moose habitat. Despite this and even though the moose population is growing, the area has fewer moose than could be supported by the available forage (Perry 2010).

Harvest History

Moose harvest has increased steadily in Unit 18 and local demand for moose meat is high (Perry 2010). In 2000, total harvest was 175 moose and in 2009 total harvest was 442 moose (**Table 1**). The majority

of harvest takes place in the fall, with the majority of moose being harvested by Unit 18 residents. More than 90% of moose harvested in Unit 18 comes from the Yukon River drainage, with the remainder being taken in the Kanektok, Goodnews, and Kuskokwim River drainages (Perry 2010).

Table 1. Fall and winter moose harvest in Unit 18, 2000-2009 (Perry 2010).

Regulatory Year	Fall Harvest	Winter Harvest	Unknown Harvest	Total Harvest
2000-2001	166	5	4	175
2001-2002	140	9	13	162
2002-2003	202	10	11	223
2003-2004	220	13	0	233
2004-2005	189	36	1	226
2005-2006	253	64	0	317
2006-2007	256	70	4	330
2007-2008	370	86	2	458
2008-2009	350	81	11	442

Effects of the Proposal

If this proposal is adopted it would extend the fall season for moose in Unit 18 remainder by 10 days. Extension of the fall season would allow for more hunting opportunities for Federally qualified subsistence users. There would be some reduction in moose numbers, but given the healthy rate of growth of the population in the Andreafsky and Paimuit survey areas over the last few years, additional hunting pressure should not cause any conservation concerns. Extension of the fall season dates would cause misalignment of State and Federal regulations.

OSM Preliminary Conclusion

Support Proposal WP14-28 **with modification** to retain the 1 moose harvest limit but extend the fall season. The modified regulation should read:

Unit 18 - Moose

*Unit 18, remainder – 1 moose ~~1 antlered bull or a cow~~
~~unaccompanied by calf~~*

1 moose

Aug. ~~10-1~~ – Sept. 30

*Dec. 20 – the last day of
February*

Justification

This proposal would allow for more hunting opportunities for Federally qualified users by extending the fall hunting season. Recent surveys in Unit 18 show a moose population that is healthy and growing. Extension of the hunting season and liberalization of harvest in Unit 18 remainder should not have a negative impact on the population given its current rate of growth.

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WP14-22 Executive Summary	
General Description	Wildlife Proposal WP14-22 requests changes to the Federal subsistence caribou hunting regulations in Units 9A, 9B, 9C, 17A, 17B, 17C, 18, 19A, and 19B. The proposal requests the establishment of permit requirements for all of the units and that the to-be-announced season in Units 17A remainder and 17C remainder be shortened from Aug. 1–Mar. 31 to Aug. 1–Mar. 15. <i>Submitted by the Bristol Bay Subsistence Regional Advisory Council.</i>
Proposed Regulation	<p>Units 9A, 9B, 9C—Caribou</p> <p><i>Unit 9A—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15</i></p> <p><i>Unit 9B—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15</i></p> <p><i>Unit 9C, that portion within the Alagnak River drainage—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15</i></p> <p>Units 17A, 17B, 17C—Caribou</p> <p><i>Unit 17A—all drainages west of Right Hand Point—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. The season may be closed and harvest limit reduced for the drainages between the Togiak River and Right Hand Point by announcement of the Togiak National Wildlife Refuge Manager. Aug. 1–Mar. 15</i></p> <p><i>Units 17A remainder and 17C remainder—selected drainages; a harvest limit of up to 2 caribou by State registration permit will be determined at the time the season is announced. Season, harvest limit, and hunt area to be announced by the Togiak National Wildlife Refuge Manager. Season to occur sometime within may be announced by the Togiak National Wildlife Refuge Manager between Aug. 1–Mar. 31. 15.</i></p>

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WP014–22 Executive Summary (continued)	
	<p><i>Units 17B and 17C—that portion of 17C east of the Wood River and Wood River Lakes—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou from Aug. 1–Jan. 31.</i> Aug. 1–Mar. 15</p> <p>Unit 18—Caribou</p> <p><i>Unit 18—that portion to the east and south of the Kuskokwim River—2 caribou by State registration permit; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1–Sept. 30 and Dec. 20–Jan. 31.</i> Aug. 1–Sept. 30 Dec. 20—the last day of Feb.</p> <p><i>Unit 18 remainder—2 caribou by State registration permit; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1–Jan. 31.</i> Aug. 1–Mar. 15</p> <p>Units 19A, 19B—Caribou</p> <p><i>Unit 19A—north of the Kuskokwim River—2 caribou by State registration permit, no more than 1 caribou may be a bull; no more than 1 caribou may be taken from Aug. 1–Jan. 31.</i> Aug. 1–Mar. 15</p> <p><i>Unit 19A—south of the Kuskokwim River and Unit 19B (excluding rural Alaska residents of Lime Village)—2 caribou by State registration permit; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1–Jan. 31.</i> Aug. 1–Mar. 15</p>
OSM Preliminary Conclusion	Support Proposal WP14-22 with modification to delete regulatory language found in portions of Units 17A and 17C, and issue a delegation of authority letter (Appendix I) to the Togiak National Wildlife Refuge Manager for specific in-season management authorities.
Bristol Bay Regional Council Recommendation	
Yukon/Kuskokwim Delta Regional Council Recommendation	
Western Interior Regional Council Recommendation	
Interagency Staff Committee Comments	

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WP014–22 Executive Summary (continued)

ADF&G Comments	
Written Public Comments	None

DRAFT STAFF ANALYSIS WP14-22

ISSUES

Wildlife Proposal WP14-22, submitted by the Bristol Bay Subsistence Regional Advisory Council, requests changes to the Federal subsistence caribou hunting regulations in Units 9A, 9B, 9C, 17A, 17B, 17C, 18, 19A, and 19B. The proposal requests the establishment of permit requirements for all of the units and that the to-be-announced season in Units 17A remainder and 17C remainder be shortened from Aug. 1–Mar. 31 to Aug. 1–Mar. 15.

DISCUSSION

The proponent states the regulatory changes should be made to align with recent changes to State regulations, which would result in a consistent hunt structure. Requiring Federally qualified subsistence users to use a State registration permit to harvest caribou under Federal regulations would allow managers to better assess hunter harvest.

The proponent states the regulatory changes should reduce confusion about the correct harvest limit regulations on the Mulchatna Caribou Herd. Specifically, the statewide general caribou harvest card contains five harvest tickets, but the present harvest limit for Mulchatna caribou is two caribou. Also, the requirement for a State registration permit would require hunters to report the outcome of their hunting efforts. The proponent states that Federally qualified subsistence users would not be affected by the permit requirement, as most hunters in the range of the Mulchatna Caribou Herd are already familiar with other registration permits and the associated State reporting system.

Note: A similar proposal (WP14-26) requesting to extend the Federal subsistence caribou season in Unit 18, that portion to the east and south of the Kuskokwim River, from Aug. 1–Sept. 30 and Dec. 20—the last day of February to Aug. 1–Mar. 15 with a State and registration permit is being analyzed separately.

Existing Federal Regulation

Note: The existing Federal regulations incorporate the recent Federal Subsistence Board approval of Temporary Special Action WSA13-02 (approved on July 26, 2013), as shown in bold.

Units 9A, 9B, 9C—Caribou

*Unit 9A—2 caribou **by State registration permit**; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15*

*Unit 9B—2 caribou **by State registration permit**; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15*

*Unit 9C, that portion within the Alagnak River drainage—2 caribou **by State registration permit**; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15*

Units 17A, 17B, 17C—Caribou

Unit 17A—all drainages west of Right Hand Point—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. The season may be closed and harvest limit reduced for the drainages between the Togiak River and Right Hand Point by announcement of the Togiak National Wildlife Refuge Manager. Aug. 1–Mar. 15

Units 17A remainder and 17C remainder—selected drainages; a harvest limit of up to 2 caribou by State registration permit will be determined at the time the season is announced. Season, harvest limit, and hunt area to be announced by the Togiak National Wildlife Refuge Manager. Season may be announced by the Togiak National Wildlife Refuge Manager between Aug. 1–Mar. 15

Units 17B and 17C—that portion of 17C east of the Wood River and Wood River Lakes—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou from Aug. 1–Jan. 31. Aug. 1–Mar. 15

Unit 18—Caribou

Unit 18—that portion to the east and south of the Kuskokwim River—2 caribou by State registration permit; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1–Sept. 30 and Dec. 20–Jan. 31. Aug. 1–Sept. 30 Dec. 20—the last day of Feb.

Unit 18 remainder—2 caribou by State registration permit; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15

Units 19A, 19B—Caribou

Unit 19A—north of the Kuskokwim River—2 caribou by State registration permit, no more than 1 caribou may be a bull; no more than 1 caribou may be taken from Aug. 1–Jan. 31. Aug. 1–Mar. 15

Unit 19A—south of the Kuskokwim River and Unit 19B (excluding rural Alaska residents of Lime Village)—2 caribou by State registration permit; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15

Proposed Federal Regulation

Units 9A, 9B, 9C—Caribou

Unit 9A—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15

Unit 9B—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15

Unit 9C, that portion within the Alagnak River drainage—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15

Units 17A, 17B, 17C—Caribou

Unit 17A—all drainages west of Right Hand Point—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. The season may be closed and harvest limit reduced for the drainages between the Togiak River and Right Hand Point by announcement of the Togiak National Wildlife Refuge Manager. Aug. 1–Mar. 15

Units 17A remainder and 17C remainder—selected drainages; a harvest limit of up to 2 caribou by State registration permit will be determined at the time the season is announced. Season, harvest limit, and hunt area to be announced by the Togiak National Wildlife Refuge Manager. Season to occur—sometime within may be announced by the Togiak National Wildlife Refuge Manager between Aug. 1–Mar. 31.

Units 17B and 17C—that portion of 17C east of the Wood River and Wood River Lakes—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou from Aug. 1–Jan. 31. Aug. 1–Mar. 15

Unit 18—Caribou

Unit 18—that portion to the east and south of the Kuskokwim River—2 caribou by State registration permit; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1–Sept. 30 and Dec. 20–Jan. 31. Aug. 1–Sept. 30 Dec. 20—the last day of Feb.

Unit 18 remainder—2 caribou by State registration permit; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15

Units 19A, 19B—Caribou

Unit 19A—north of the Kuskokwim River—2 caribou by State registration permit, no more than 1 caribou may be a bull; no more than 1 caribou may be taken from Aug. 1–Jan. 31. Aug. 1–Mar. 15

Unit 19A—south of the Kuskokwim River and Unit 19B (excluding rural Alaska residents of Lime Village)—2 caribou by State registration permit; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15

Existing State Regulation

Unit 9—Caribou

Unit 9A, Unit 9B, and that portion of Unit 9C within the Alagnak River drainage

Residents only: Two caribou by permit available online at <http://hunt.alaska.gov> and in person in Anchorage, Bethel, Dillingham, Fairbanks, Homer, King Salmon, McGrath, Palmer, Soldotna, and at local license vendors beginning July 17. No more than one bull may be taken; no more than one caribou may be taken from Aug 1–Jan 31

RC503

Aug. 1–Mar. 15

Unit 9C, that portion north of the north bank of the Naknek River and south of the Alagnak River drainage

Residents only: One caribou by permit available online at <http://hunt.alaska.gov> and in person in King Salmon if a winter season is announced

RC504

may be announced

Unit 17—Caribou

Unit 17A, all drainages that terminate east of Right Hand Point

Residents only: Two caribou by permit available online at <http://hunt.alaska.gov> and in person in Anchorage, Bethel, Dillingham, Fairbanks, Homer, King Salmon, Palmer, Soldotna, and at local license vendors beginning July 17.

RC501

may be announced

Unit 17A remainder, Unit 17B, and that portion of Unit 17C east of the east banks of the Wood River, Lake Aleknagik, Agulowak River, Lake Nerka and the Agulukpak River

Residents only: Two caribou by permit available online at <http://hunt.alaska.gov> and in person in Anchorage, Bethel, Dillingham, Fairbanks, Homer, King Salmon, McGrath, Palmer, Soldotna, and at local license vendors beginning July 17. No more than one bull may be taken; no more than one caribou may be taken from Aug 1–Jan 31.

RC503

Aug. 1–Mar. 15

<i>Unit 17C remainder</i>	<i>Residents only: Two caribou by permit available online at http://hunt.alaska.gov and in person in Anchorage, Bethel, Dillingham, Fairbanks, Homer, King Salmon, Palmer, Soldotna, and at local license vendors beginning July 17.</i>	RC501	<i>may be announced</i>
 Unit 18—Caribou			
<i>Unit 18</i>	<i>Residents only: Two caribou by permit available online at http://hunt.alaska.gov and in person in Anchorage, Bethel, Dillingham, Fairbanks, Homer, King Salmon, McGrath, Palmer, Soldotna, and at local license vendors beginning July 17. No more than one bull may be taken; no more than one caribou may be taken from Aug 1–Jan 31.</i>	RC503	<i>Aug. 1–Mar. 15</i>
 Unit 19—Caribou			
<i>Unit 19A and Unit 19B</i>	<i>Residents only: Two caribou by permit available online at http://hunt.alaska.gov and in person in Anchorage, Bethel, Dillingham, Fairbanks, Homer, King Salmon, McGrath, Palmer, Soldotna, and at local license vendors beginning July 17. No more than one bull may be taken; no more than one caribou may be taken from Aug 1–Jan 31.</i>	RC503	<i>Aug. 1–Mar. 15</i>

Extent of Federal Public Lands

Unit 9

Federal public lands comprise approximately 40% of Unit 9A, and consist of 39% NPS and less than 1% of BLM and FWS managed lands. Federal public lands comprise approximately 44% of Unit 9B, and consist of 26% NPS and 18% BLM managed lands. Federal public lands comprise approximately 86% of Unit 9C, and consist of 78% NPS, 4% FWS, and 4% BLM managed lands (**Unit 9 Map**).

Unit 17

Federal public lands comprise approximately 87% of Unit 17A, and consist of 87% FWS and less than 1% of BLM managed lands. Federal public lands comprise approximately 8% of Unit 17B, and consist of

6% NPS, 1.5% BLM, and 1% FWS managed lands. Federal public lands comprise approximately 26% of Unit 17C, and consist of 11% BLM and 15% FWS managed lands (**Unit 17 Map**).

Unit 18

Federal public lands comprise approximately 66% of Unit 18, and consist of 63% FWS and 3% BLM managed lands (**Unit 18 Map**).

Unit 19

Federal public lands comprise approximately 22% of Unit 19A, and consist of 19.5% BLM and 2.5% FWS managed lands. Federal public lands comprise approximately 13% of Unit 19B, and consist of 11% NPS, 2.5% BLM, and less than 1% of FWS managed lands (**Unit 19 Map**).

Customary and Traditional Use Determinations

Unit 9

Residents of Units 9B, 9C, and 17 have a positive customary and traditional use determination to harvest caribou in Units 9A and 9B.

Residents of Units 9B, 9C, 17, and Egegik have a positive customary and traditional use determination to harvest caribou in Unit 9C.

Unit 17

Residents of Goodnews Bay, Platinum, Quinhagak, Eek, Tuntutuliak, and Napakiak have a positive customary and traditional use determination to harvest caribou in Unit 17A, that portion west of the Izavieknik River, Upper Togiak Lake, Togiak Lake, and the main course of the Togiak River.

Residents of Akiak, Akiachak, and Tuluksak have a positive customary and traditional use determination to harvest caribou in Unit 17A, that portion north of Togiak Lake that includes Izavieknik River drainages.

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

Residents of Bethel, Goodnews Bay, Platinum, Quinhagak, Eek, Akiak, Akiachak, Tuluksak, Tuntutuliak, and Napakiak have a positive customary and traditional use determination to harvest caribou in Unit 17B, that portion of Togiak National Wildlife Refuge within Unit 17B.

Residents of Units 9B, 17, Lime Village, and Stony River have a positive customary and traditional use determination to harvest caribou in Unit 17 remainder.

Unit 18

Residents of Unit 18, Manokotak, Stebbins, St. Michael, Togiak, Twin Hills, and Upper Kalskag have a positive customary and traditional use determination to harvest caribou in Unit 18.

Unit 19

Residents of Units 19A and 19B; Unit 18 within the Kuskokwim River drainage upstream from, and including, the Johnson River; and residents of St. Marys, Marshall, Pilot Station, and Russian Mission have a positive customary and traditional use determination to harvest caribou in Units 19A and 19B.

Regulatory History

State and Federal regulations for the Mulchatna Caribou Herd (MCH) were liberalized during the dramatic population increase that occurred in the 1990s. These regulations provided hunters with the opportunity to harvest additional caribou from the large, increasing population. Numerous modifications were made to the Federal subsistence regulations for various management units as the MCH population increased and expanded into new range. Following the population decline, regulations became more restricted in 2006 and 2007.

In March 2006, the Alaska Board of Game adopted new State regulations to reduce harvest limits within the range of the MCH from five to two caribou. In March 2007, the Alaska Board of Game further restricted the caribou harvest to allow no more than one bull to be taken, and no more than one caribou to be taken from Aug. 1–Jan. 31. In 2007, the Federal Subsistence Board (Board) took similar action and adopted Proposal WP07-23 with modification to reduce the harvest limits in Unit 9B, a portion of Unit 17A, Unit 17B, a portion of Unit 17C, Unit 18, a portion of Unit 19A, and Unit 19B; from five to three caribou due to the large population decline. In March 2009, the Alaska Board of Game eliminated the nonresident harvest on the MCH to ensure subsistence opportunity was being provided.

In 2010, the Bristol Bay Subsistence Regional Advisory Council submitted two proposals, WP10-51 and WP10-53. Proposal WP10-51 requested that the Federal caribou seasons be made consistent in Units 9A, 9B, 17B, a portion of 17C, 18, 19A, and 19B with an Aug. 1–Mar. 31 season. Proposal WP10-53 requested a consistent harvest limit of two caribou, with no more than one bull to be taken and no more than one caribou to be taken Aug. 1–Jan. 31 in Units 9A, 9B, a portion of 9C, 17A, 17B, 17C, 18, 19A, and 19B (excluding Lime Village). The Board adopted proposal WP10-51 with modification to make the season ending date March 15 for all units, including the remainder of Units 17A and 17C, and also adopted WP10-53 as submitted. In addition, Proposal WP10-60, submitted by the Yukon Delta National Wildlife Refuge, requested the harvest limit for caribou in Unit 18 be reduced from three to two caribou. The Board adopted the proposal with modification to include a one-bull restriction and extend the one caribou restriction from Aug. 1–Nov. 30 to Aug. 1–Jan. 31, consistent with the actions taken on WP10-51 and WP10-53.

In 2011, Proposal WP12-42, submitted by the Yukon Delta National Wildlife Refuge, requested that the harvest limit be reduced from two to one caribou and that the harvest season be shortened from Aug. 1–Mar. 15 to a split season of Aug. 1–Sept. 30 and Dec. 20–last day of February in Unit 18. In January 2012, the Board adopted WP12-42 with modification to maintain the two caribou harvest limit, but changed the harvest season to Aug. 1–Sept. 30 and Dec. 20–the last day of February in the portion of Unit 18 south of the Kuskokwim River (FSB 2012). The remainder of Unit 18 retained the Aug. 1–Mar. 15 harvest season. However, Federally qualified subsistence users are still able to harvest caribou from Aug. 1–Mar. 15 throughout Unit 18, including Federal public land, under State regulations.

Wildlife Special Actions WSA11-10/11 were submitted by the Yukon Delta National Wildlife Refuge in February 2012. WSA11-10 requested a reduction in the season for caribou in Unit 18 of two weeks, and WSA11-11 called for Federal public lands in Unit 18 south and east of the Kuskokwim River to be closed to the harvest of caribou to all users starting Mar. 1, 2012. The Board rejected the special action

requests because it felt current information suggested there was not an emergency situation with the MCH necessitating such an action.

In February 2013, the Alaska Board of Game adopted Proposal 45A which changed the caribou hunt in Units 9A, 9B, portions of 9C, 17, 18, 19A and 19B from a general hunt to a registration hunt, with seasons and harvest limits aligned within the entire range of the MCH. These changes were made to better assess harvest and to better respond to in-season requests to alter season dates and harvest limits, and to help evaluate the response of caribou harvest and population dynamics to ongoing intensive management programs. In July 2013, Federal permit requirements and seasons dates were temporarily aligned with State regulations when the Board approved Temporary Special Action WSA13-02, which requested that a State registration permit be required for Federally qualified subsistence users to harvest caribou in Units 9A, 9B, 9C, 17A, 17B, 17C, 18, 19A and 19B; and shortened the to-be-announced season in Units 17A remainder and 17C remainder from Aug. 1–Mar. 31 to Aug. 1–Mar. 15. Also in 2013, the Association of Village Council Presidents submitted Temporary Special Action WSA13-03 to close Federal public lands to the harvest of caribou, except by Federally qualified subsistence users. The Board rejected the temporary special action because the MCH was at the lower end of the State management objective and population composition data was improving. Additionally, the newly established State registration permit would allow managers to better track harvest and improve in-season management.

Current Events Involving the Species

Between March 5th and March 16th of 2013, 20 tickets were written by U.S. Fish and Wildlife Officers to hunters in the Bethel area for caribou hunting violations. The majority of tickets were written for having no hunting licenses and no harvest tickets. Additional tickets were written for harvesting over the limit of two caribou, and one ticket was written for a chasing violation. Similar numbers of tickets and violations were also given out by State wildlife troopers (Bedingfield 2013, pers. comm.).

Public hearings were held on June 13, 2013 in Dillingham and on June 26, 2013 in Bethel to provide opportunity for members of the public to comment on Temporary Special Action WSA13-02. Public hearings in the affected areas are required prior to taking action on temporary special actions that may be in place for more than 60 days. Most of the public testimony was in support of the special action request to better align with State regulations. However, public comments also included concerns about availability of the new registration permits and requests to close the season to nonresident or non-Federally qualified users. Other comments included the effects of predation on the MCH, if there was a Federal population objective for the MCH, caribou migration routes, and a report of herding caribou with aircraft.

Public hearings were held on July 26, 2013 in Bethel and Dillingham to provide opportunity for members of the public to comment on WSA13-03. Public comments at the Bethel public hearing included five members of the public testifying in support of WSA13-03, and questions were raised regarding the status, management objectives, and data associated with the MCH. Those who supported the closure at the Bethel hearing stated that nonlocal hunters targeted trophy bulls and some wasted meat; local people do not know where the boundaries are between State, Federal, and Corporation lands; and that harvesting bulls is limiting reproduction. Public comments at the Dillingham public hearing included questioning whether the special action is necessary because the MCH may have reached its lowest population level and the herd's range is improving, more consistent use of terms by the Federal Subsistence Management Program, and that the current population level is probably closer to its historic size and high numbers in the 1990s were not sustainable due to available habitat. In addition, one resident from Dillingham submitted a public comment to the Office of Subsistence Management on July 25, 2013 in opposition

to WSA13-03. The individual stated several reasons for opposing the special action, including the high caribou numbers in the 1990s were not normal and the current population level is more similar to historic levels, managers have instituted a State registration permit to better track harvest, the bull:cow and calf:cow ratios are improving, the State has initiated predator control efforts on calving grounds, his personal observations suggesting the range conditions are improving, and potential impacts to users due to the late submission of the special action request.

Biological Background

The MCH ranges across approximately 60,000 square miles, primarily within Units 9B, 9C, 17, 18, and 19. Wintering areas during the 1980s and early 1990s were along the north and west side of Iliamna Lake, north of the Kvichak River, but telemetry data indicated the MCH had been moving to the south and west for wintering (Van Daele and Boudreau 1992 *cited in* Woolington 2007). Starting in the mid-1990s, caribou from the MCH began wintering in Unit 18 south of the Kuskokwim River and in southwestern Unit 19B in increasing numbers. During the winter of 2004/2005, much of the herd wintered in Unit 18, south of the Kuskokwim River, and another large part of the herd wintered in the middle Mulchatna River drainage. During 2005/2006, large numbers of caribou wintered near the lower Kvichak River (Woolington 2009).

The State's management objectives for the MCH have changed as the population's numbers have fluctuated. Prior to 2001, the management objective was to maintain a minimum population of 25,000 adults with a minimum ratio of 35 bulls:100 cows, manage the herd for maximum opportunity to hunt caribou, and manage the herd in a manner that encouraged range expansion west and north of the Nushagak River (Woolington 2001). In 2001, the Alaska Board of Game modified the population objective to maintain a population of 100,000–150,000 caribou (Woolington 2003). Most recently, at the Southcentral/Southeast Alaska Board of Game meeting in 2009, the population objective was reduced to 30,000–80,000 caribou, which was thought to be more realistic for the MCH (ADF&G 2009). The Alaska Board of Game also reduced the harvest objectives from 6,000–15,000 caribou to 2,400–8,000 caribou (ADF&G 2009).

The MCH increased at an average annual rate of 17% between 1981 and 1996, and approximately 28% from 1992 to 1994. Overall heard size peaked in 1996, at approximately 200,000 animals and a peak of 42 bulls:100 cows (Woolington 2007). The dramatic population growth is attributed to mild winters, movements into new unexploited range, low predation, and an estimated annual harvest of less than 5% of the population since the late 1970s (Woolington 2007). Since 1996, the population has declined. The latest photo census, conducted in 2008, provided a minimum count of 30,000 caribou, which is as the low end of the State's population objective (**Table 1**) (Woolington 2012). Preliminary results from a 2012 photo census suggest the population may still be around 30,000 caribou (Yugas 2013, pers. comm.). Possible signs of stress in the MCH when the population level was high included an outbreak of hoof rot in 1998 and low calf:cow ratios in the fall 1999 (Woolington 2001).

The MCH declined from 1996 to 2008 and estimated bull:cow ratios have been below the management objective since 2001, but recent composition surveys have shown some improvement in the bull:cow ratio (**Table 1**). The proportion of bulls classified as large during recent composition surveys (24%–27% between 2010 and 2012) has increased from lows observed in 2004 (7%) and 2006 (9%) (**Table 1**). In addition, preliminary data shows the number of parturient 2- and 3-year old cows increased in 2013 and calf weights have been good, which suggests the caribou are not nutritionally stressed (Butler 2013, pers. comm.). While the MCH is managed as a single herd, some segments of the population appear to be faring better than others, as estimated bull:cow and calf:cow ratios have been consistently higher in the

Table 1. Mulchatna Caribou Herd composition counts and population estimates, 1974-2012 (Woolington 2012).

Regulatory Year	Total				Small	Medium	Large	Total bulls	Composition sample size	Minimum estimate of herd size
	bulls:	Calves:	Calves	Cows	(% of bulls)	(% of bulls)	Bulls (% of bulls)			
	<u>100</u>	<u>100</u>	<u>(%)</u>	<u>(%)</u>				<u>(%)</u>		
	<u>cows</u>	<u>cows</u>								
1974/75	55.0	34.9	18.4	---	---	---	---	---	1,846	
1978/79	50.3	64.5	27.6	---	---	---	---	---	758	
1980/81	31.3	57.1	30.0	---	---	---	---	---	2,250	
1981/82	52.5	45.1	22.8	---	---	---	---	---	1,235	
1986/87	55.9	36.9	19.2	---	---	---	---	---	2,172	
1987/88	68.2	60.1	26.3	---	---	---	---	---	1,858	
1988/89	66.0	53.7	24.4	---	---	---	---	---	536	
1993/94	42.1	44.1	23.7	53.7	---	---	---	22.6	5,907	150,000 ^a
1996/97	42.4	34.4	19.5	56.6	49.8	28.5	21.7	24.0	1,727	200,000 ^a
1998/99	40.6	33.6	19.3	57.4	27.8	43.7	28.5	23.3	3,086	--- ^b
1999/00	30.3	14.1	9.8	69.3	59.9	26.3	13.8	21.0	4,731	175,000 ^c
2000/01 ^e	37.6	24.3	15.0	61.8	46.6	32.9	20.4	23.2	3,894	--- ^b
2001/02	25.2	19.9	13.7	68.9	31.7	50.1	18.3	17.7	5,728	--- ^b
2002/03	25.7	28.1	18.3	65.0	57.8	29.7	12.5	16.7	5,734	147,000 ^d
2003/04 ^f	17.4	25.6	17.9	69.9	36.2	45.3	18.5	12.2	7,821	--- ^b
2004/05 ^g	21.0	20.0	14.2	71.0	64.2	28.9	6.9	14.9	4,608	85,000 ^h
2005/06 ⁱ	13.9	18.1	13.7	75.8	55.3	33.3	11.5	10.6	5,211	--- ^b
2006/07 ^j	14.9	25.5	18.1	71.3	57.5	33.7	8.9	10.6	2,971	45,000 ^k
2007/08 ^l	23.0	15.8	11.4	72.1	52.7	36.0	11.3	16.6	3,943	--- ^b
2008/09 ^m	19.3	23.4	16.4	70.1	46.8	36.1	17.1	13.5	3,728	30,000 ⁿ
2009/10 ^o	18.5	31.0	20.7	66.9	39.7	43.9	16.3	12.4	4,595	--- ^b
2010/11 ^p	16.8	19.5	14.3	73.3	30.0	43.7	26.3	12.4	4,592	--- ^b
2011/12 ^q	21.7	19.0	13.5	71.1	32.2	41.3	26.5	15.4	5,282	--- ^b
2012/13 ^r	23.2	29.8	19.5	65.3	38.3	38.1	23.6	15.2	4,853	--- ^b

^a Estimate derived from photo-counts, corrected estimates, subjective estimate of the number of caribou in areas not surveyed, and interpolation between years when aerial photo surveys not conducted.

^b No current population estimate based on surveys.

^c Estimate based on photocensus conducted 7/8/1999.

^d Estimate based on photocensus conducted 6/30/2002.

^e NOTE: Fall 2000 bull:cow ratio and bull percentages corrected from previous table.

^f Based on pooling data from surveys conducted 10/11/2003 and 10/14/2003.

^g Based on pooling data from surveys conducted 10/12/2004 and 10/30/2004.

^h Estimate based on photocensus conducted 7/7/2004.

ⁱ Based on pooling data from surveys conducted 10/10/2005 and 10/14/2005.

^j Based on pooling data from surveys conducted 10/13-14/2006 and 10/22/2006.

^k Based on photocensus conducted 7/11/2006.

^l Based on pooling data from surveys conducted 10/7-8/2007 and 10/11/2007.

^m Based on pooling data from surveys conducted 10/7/2008 and 10/8/2008.

ⁿ Based on photocensus conducted 7/7/2008.

^o Based on pooling data from surveys conducted 10/12/2009 and 10/16/2009.

^p Based on pooling data from surveys conducted 10/10-11/2010 and 10/13/2010.

^q Based on pooling data 10/9/2011-10/11/2011.

^r Based on pooling data from surveys conducted 10/5-10/6/2012.

western portion of the MCH range (**Figures 1 and 2**). Preliminary data shows that calf survival is high in the Kemuk Mountain area (western portion), which has an active intensive management program for wolves, but is lower in the Tundra Lake area (eastern portion) (Butler 2013, pers. comm.). Individuals from eastern and western portions of the MCH range appear to have readily mixed prior to 2007 and 2008, but there has recently been more isolation between caribou in the two areas (Woolington 2011a, 2012).

Habitat

Taylor (1989) reported that the carrying capacity of traditional winter areas of the herd had been exceeded by the mid to late 1980s and that the herd had to utilize other areas to continue its growth. It appears that the MCH has been using these non-traditional winter ranges at an ever increasing rate over the last 25 years. Portions of the herd's range showed signs of heavy use during periods of high caribou abundance, with extensive trailing evident along major travel routes. Woolington (2011b) reported that some of the summer and fall range of the MCH in the Nushagak Hills and elsewhere was trampled and showed signs of heavy grazing, while traditional winter ranges on the north and west sides of Iliamna Lake also showed signs of heavy use despite the fact that few caribou appear to continue to utilize these areas.

Harvest History

Reported caribou harvest by all users in Units 9A, 9B, 9C, 17A, 17B, 17C, 18, 19A, and 19B has declined from 3,924 caribou in 2000/2001 to 450 caribou in 2010/2011 (**Table 2**). However, a significant amount of unreported harvest has likely occurred (Woolington 2011b). Annual reported harvest by Federally qualified subsistence users increased between 2000 and 2005, but has since declined (**Table 2**). Reported harvest by non-Federally qualified users (nonlocal Alaska residents and nonresidents) significantly declined between 2000 and 2010 (**Table 2**). Nonresident seasons were closed in State regulations in 2009 in the affected areas.

Until recently, most of the harvest has occurred in August and September (66% in 2004/2005 and 47% in 2005/2006) (Woolington 2011b). Since 2007/2008, an increasing percentage of the total annual harvest has occurred during February and March (54% in 2007/2008, 55% in 2008/2009, and 42% in 2009/2010) (Woolington 2011b).

Effects of the Proposal

If this proposal is adopted, the permit requirements and season dates Federal subsistence caribou regulations in Units 9A, 9B, 9C, 17A, 17B, 17C, and 19A, and 19B would be aligned with the recently modified State regulations, which require a State registration permit to harvest caribou. Federal permit requirements would be aligned with State regulation in Unit 18, but seasons in the portion of Unit 18 east and south of the Kuskokwim River would remain misaligned due to the Federal split season (Aug. 1–Sept. 30 and Dec. 20–last day of Feb.); however, WP14-26 requests a continuous season that would align with other State seasons throughout the range of the MCH. The affected areas consist of Federal and non-Federal lands, and requiring a State registration permit under Federal and State regulations would reduce regulatory complexity for all users and law enforcement officers. The State registration permit may also reduce confusion regarding harvest limits with the current general harvest tickets, as mentioned by the proponent. The requirement for a State registration permit would likely have a minimal impact on Federally qualified subsistence users, as the process for obtaining a registration permit is similar to obtaining a harvest ticket. State registration permits can be obtained at license vendors or online. Similar permits requirements already occur with Federal moose regulations in Units 9A, 9B, 9C, 17 and 18.

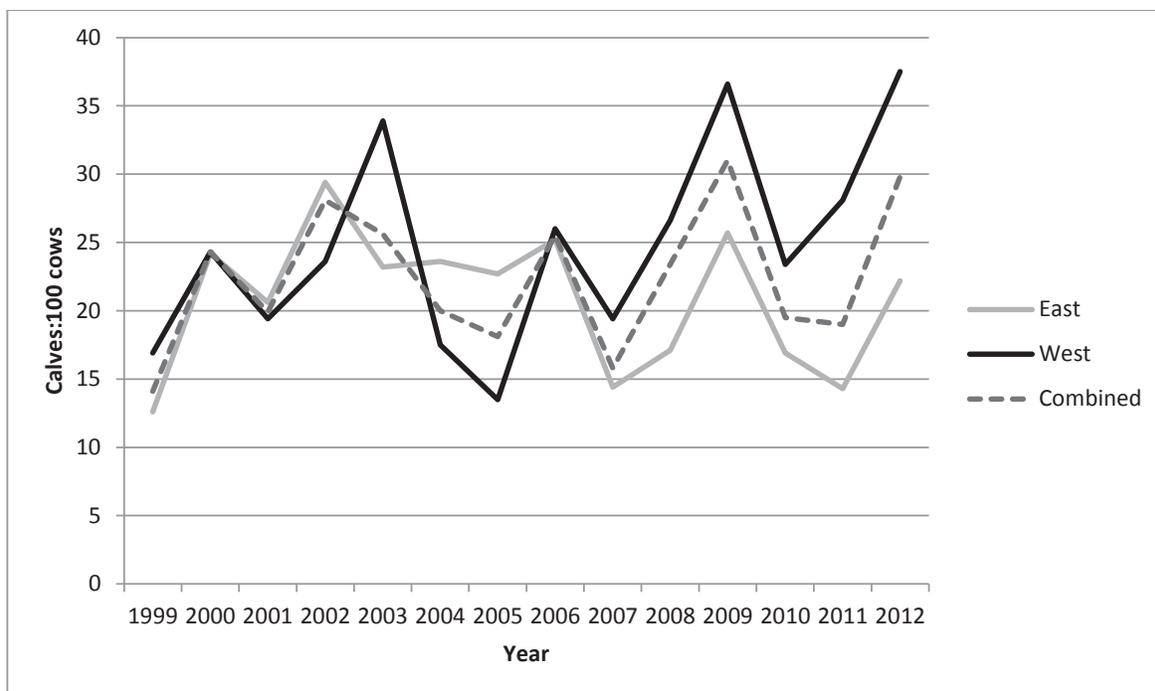


Figure 1. Calf:cow ratio estimates for the Mulchatna Caribou Herd during fall (October) population composition surveys (Woolington 2012). Surveys were conducted on the east (Unit 17B and the eastern portion of Unit 19B) and west (Unit 18 and the western portion of Unit 19B) sides of the herd’s range. Combined composition data also includes survey data from Units 19A and 17C and a small group of caribou in the upper Tikchik River basin.

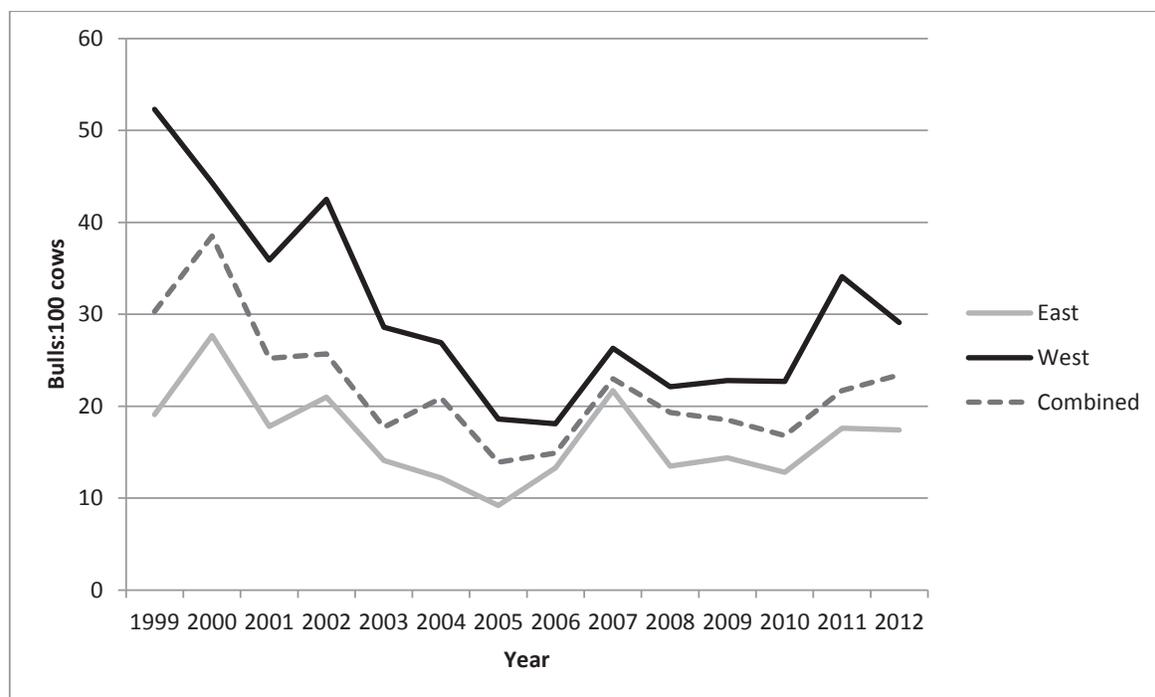


Figure 2. Bull:cow ratio estimates for the Mulchatna Caribou Herd during fall (October) population composition surveys (Woolington 2012). Surveys were conducted on the east (Unit 17B and the eastern portion of Unit 19B) and west (Unit 18 and the western portion of Unit 19B) sides of the herd’s range. Combined composition data also includes survey data from Units 19A and 17C and a small group of caribou in the upper Tikchik River basin.

Table 2. Reported harvest of caribou and sex composition of the harvest by Federally qualified subsistence users and non-Federally qualified users in Units 9A, 9B, 9C, 17A, 17B, 17C, 18, 19A, and 19B using State harvest tickets, 2000–2010 (OSM 2013). Federally qualified subsistence users are residents of communities with a positive customary and traditional use determination for the respective Federal hunt areas.

Year	Federally qualified subsistence users						Nonlocal residents						Nonresidents					
	Harvest		Percent of harvest		Harvest		Percent of harvest		Harvest		Percent of harvest		Harvest		Percent of harvest			
	Bulls	Cows	Bulls	Cows	Bulls	Cows	Bulls	Cows	Bulls	Cows	Bulls	Cows	Bulls	Cows	Bulls	Cows		
2000	431	67%	31%	1,462	67%	32%	2,031	93%	6%	6%								
2001	645	60%	39%	1,512	56%	43%	1,659	91%	8%	8%								
2002	352	64%	34%	1,061	58%	42%	1,284	89%	10%	10%								
2003	795	54%	44%	1,227	48%	51%	1,076	91%	8%	8%								
2004	601	60%	39%	914	34%	66%	778	78%	21%	21%								
2005	835	52%	47%	713	30%	69%	488	67%	33%	33%								
2006	423	59%	41%	264	44%	56%	275	62%	36%	36%								
2007	403	58%	41%	104	48%	49%	128	63%	36%	36%								
2008	257	58%	41%	74	45%	55%	58	66%	34%	34%								
2009	247	69%	28%	63	62%	38%	0	0%	0%	0%								
2010	381	53%	46%	69	45%	55%	0	0%	0%	0%								

The use of a State registration permit would allow managers to better track harvest, be more responsive to in-season management needs, and allow harvest opportunity for Federally qualified subsistence users to be maximized. The State registration permit has a requirement to report harvest within 5 days taking a caribou, whereas the general harvest tickets have a requirement to report harvest within 15 of taking the bag limit or the close of the season. Harvest reporting is an important aspect of harvest management, especially with fluctuating populations like the Mulchatna Caribou Herd, and reporting would likely improve as reporting rates are higher with registration permits.

The Federal to-be-announced season in the Units 17A remainder and 17C remainder would be reduced by up to 16 days, from Aug. 1–Mar. 31 to Aug. 1–Mar. 15. The proposed change would align the potential Federal caribou season with other areas within the range of the Mulchatna Caribou Herd.

OSM PRELIMINARY CONCLUSION

Support Proposal WP14-22 **with modification** to delete regulatory language found in portions of Units 17A and 17C, and issue a delegation of authority letter (**Appendix I**) to the Togiak National Wildlife Refuge Manager for specific in-season management authorities. In Unit 17A within all drainages west of Right Hand Point, delegate the authority to open and close the season and set the harvest limit, including any sex restrictions (e.g., bulls only). In Unit 17A remainder and Unit 17C remainder, delegate the authority to open and close the season, set the harvest limit, and identify the hunt area for the may-be-announced season.

The modified regulation should read:

Units 9A, 9B, 9C—Caribou

Unit 9A—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15

Unit 9B—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15

Unit 9C, that portion within the Alagnak River drainage—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15

Units 17A, 17B, 17C—Caribou

Unit 17A—all drainages west of Right Hand Point—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou may be taken Aug. 1–Jan. 31. The season may be closed and harvest limit reduced for the drainages between the Togiak River and Right Hand Point by announcement of the Togiak National Wildlife Refuge Manager. Aug. 1–Mar. 15

Units 17A remainder and 17C remainder—selected drainages; a harvest limit of up to 2 caribou by State registration permit will be determined at the time the season is announced. Season, harvest limit, and hunt area to be announced by the Togiak National Wildlife Refuge Manager. Season to occur sometime may be announced within Aug. 1–Mar. 31. 15.

Units 17B and 17C—that portion of 17C east of the Wood River and Wood River Lakes—2 caribou by State registration permit; no more than 1 caribou may be a bull, and no more than 1 caribou from Aug. 1–Jan. 31. Aug. 1–Mar. 15

Unit 18—Caribou

Unit 18—that portion to the east and south of the Kuskokwim River—2 caribou by State registration permit; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1–Sept. 30 and Dec. 20–Jan. 31. Aug. 1–Sept. 30 Dec. 20–the last day of Feb.

Unit 18 remainder—2 caribou by State registration permit; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15

Units 19A, 19B—Caribou

Unit 19A—north of the Kuskokwim River—2 caribou by State registration permit, no more than 1 caribou may be a bull; no more than 1 caribou may be taken from Aug. 1–Jan. 31. Aug. 1–Mar. 15

Unit 19A—south of the Kuskokwim River and Unit 19B (excluding rural Alaska residents of Lime Village)—2 caribou by State registration permit; no more than 1 caribou may be a bull; no more than 1 caribou may be taken Aug. 1–Jan. 31. Aug. 1–Mar. 15

Justification

The population level of the Mulchatna Caribou Herd continues to be low, and harvest of the herd has declined since 2003. More adaptive management is needed to ensure conservation of the resource. Changing from a general harvest ticket to a State registration permit will allow for better harvest tracking due to reporting requirements. Better harvest tracking would allow managers to be more responsive to in-season management needs. The new permit requirement would also align State and Federal caribou regulations, which will help reduce regulatory complexity for all users and law enforcement. Shortening the potential season dates for the may-be-announced caribou season in Units 17A remainder and 17C remainder will reduce regulatory complexity by aligning season dates within the range of the Mulchatna Caribou Herd. The creation of a delegation of authority letter for portions of Unit 17A and 17C will serve to clarify regulations for in-season management. Recent illegal hunting issues in the Bethel area highlight the importance of a registration hunt to help prevent potential localized overharvest.

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Susanna Henry, Refuge Manager
Togiak National Wildlife Refuge
P.O. Box 270 MS 569
Dillingham, Alaska 99576

Dear Ms. Henry:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the Manager of the Togiak National Wildlife Refuge, as approved by the Board, to issue emergency special actions if necessary to ensure the continued viability of a wildlife population, to continue subsistence uses of wildlife, or for reasons of public safety; or temporary special actions if the proposed temporary change will not interfere with the conservation of healthy wildlife populations, will not be detrimental to the long-term subsistence use of wildlife resources, and is not an unnecessary restriction on non-subsistence users. This delegation only applies to the Federal public lands subject to ANILCA Title VIII within all drainages west of Right Hand Point in Unit 17A and Units 17A remainder and 17C remainder as it applies to caribou on these lands.

It is the intent of the Board that actions related to management of caribou by Federal officials be coordinated, prior to implementation, with the Alaska Department of Fish and Game (ADF&G), the Bureau of Land Management, and the Chair of the Bristol Bay Subsistence Regional Advisory Council (Council) to the extent possible. Federal managers are expected to work with State and Federal managers and the Chair and applicable members of the Council to minimize disruption to resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

- 1. Delegation:** The Togiak National Wildlife Refuge Manager is hereby delegated authority to issue emergency or temporary special actions affecting caribou on Federal lands as outlined under the Scope of Delegation of this section. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by Federal regulation at 36 CFR 242.19 and 50 CFR 100.19.
- 2. Authority:** This delegation of authority is established pursuant to 36 CFR 242.10(d)(6) and 50 CFR 100.10(d)(6), which states: “The Board may delegate to agency field officials the authority to set harvest and possession limits, define harvest areas, specify methods or means of harvest, specify permit requirements, and open or close specific fish or wildlife harvest seasons within frameworks established by the Board.”
- 3. Scope of Delegation:** The regulatory authority hereby delegated is limited to the following authorities within the limits set by regulation at 36 CFR 242.26 and 50 CFR 100.26:

- To open and close the season and set the harvest limit for caribou on Federal public lands in Unit 17A—all drainages west of Right Hand Point.
- To open and close the season, set the harvest limit (including any sex restrictions), and identify the hunt area for the may-be-announced season in Unit 17A remainder and 17C remainder.

This delegation may be exercised only when it is necessary to conserve the caribou population or to continue subsistence uses.

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

The Federal public lands subject to this delegated authority are those within Unit 17A—all drainages west of Right Hand Point, and those portions within Units 17A remainder and 17C remainder.

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

4. Guidelines for Delegation: You will become familiar with the management history of the wildlife species relevant to this delegation in the region, with current State and Federal regulations and management plans, and be up-to-date on population and harvest status information. You will review special action requests or situations that may require a special action and all supporting information to determine (1) consistency with 36 CFR 242.19, (2) if the request/situation falls within the scope of authority, (3) if significant conservation problems or subsistence harvest concerns are indicated, and (4) what the consequences of taking an action or no action may be on potentially affected subsistence users and non-Federally qualified users. Requests not within your delegated authority will be forwarded to the Federal Subsistence Board for consideration. You will maintain a record of all special action requests and rationale for your decision. A copy of this record will be provided to the Administrative Records Specialist in the Office of Subsistence Management no later than sixty days after development of the document.

You will notify the Office of Subsistence Management and coordinate with local ADF&G managers, the Bureau of Land Management, and the Chair of the Bristol Bay Subsistence Regional Advisory Council regarding special actions under consideration. You will issue decisions in a timely manner. Before the effective date of any decision, reasonable efforts will be made to notify the public, the Office of Subsistence Management, affected State and Federal managers, law enforcement personnel, and Council representatives. If an action is to supersede a State action not yet in effect, the decision will be communicated to the public, the Office of Subsistence Management, affected State and Federal Managers, and the local Council representatives at least 24 hours before the State action would be effective. If a decision to take no action is made, you will notify the proponent of the request immediately.

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

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

5. Support Services: Administrative support for regulatory actions will be provided by the Office of Subsistence Management, U.S. Fish & Wildlife Service, Department of the Interior.

Sincerely,

Tim Towarak
Chair, Federal Subsistence Board

cc: Assistants to the Board
Interagency Staff Committee
Chair, Bristol Bay Subsistence Regional Advisory Council
Commissioner, Alaska Department of Fish and Game
Coordinator, Bristol Bay Subsistence Regional Advisory Council
Subsistence Liaison, Alaska Department of Fish and Game
ARD, Office of Subsistence Management
Administrative Record

WP14-32 Executive Summary	
General Description	<p>Proposal WP14-32 requests a modification of the Paradise Controlled Use Area (Paradise CUA) boundary in Unit 21E under Federal regulations, by extending the eastern boundary two miles along the east bank of the Innoko River and along the east bank of Paimiut Slough. <i>Submitted by Robert Walker of Anvik.</i></p>
Proposed Regulation	<p>Unit 21E—Moose</p> <p><i>1 moose; however, only bulls may be taken from Aug. 25–Sept. 30. Aug. 25–Sept. 30 Feb. 15–Mar. 15</i></p> <p><i>During the Feb. 15 – Mar. 15 season, a Federal registration permit is required. The permit conditions and any needed closures for the winter season will be announced by the Innoko NWR manager after consultation with the ADF&G area biologist and the Chairs of the Western Interior Regional Advisory Council and the Middle Yukon Fish and Game Advisory Committee as stipulated in a letter of delegation. Moose may not be taken within one-half mile of the Innoko or Yukon River during the winter season.</i></p> <p><i>___.26(n)(26)(ii)(B) The Paradise Controlled Use Area, which consists of that portion of Unit 21 bounded by a line beginning at the old village of Paimiut, then north along the west bank of the Yukon River to Paradise, then northwest to the mouth of Stanstrom Creek on the Bonasila River; then northeast to the mouth of the Anvik River; then along the west bank of the Yukon River to the lower end of Eagle Island (approximately 45 miles north of Grayling), then to the mouth of the Iditarod River, then extending two miles easterly down the east bank of the Innoko River to its confluence with Paimiut Slough, then south along the east bank of Paimiut Slough to its mouth, and then to the old village of Paimiut, it closed during moose hunting seasons to the use of aircraft for hunting moose, including transportation of any moose hunter or part of moose; however, this does not apply to transportation of a moose hunter or part of moose by aircraft between publicly owned airports in the Controlled Use Area or between a publicly owned airport within the area and points outside the area.</i></p>

continued on next page

WP14–32 Executive Summary (continued)	
OSM Preliminary Conclusion	Oppose
Yukon/Kuskokwim Delta Regional Council Recommendation	
Western Interior Regional Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

DRAFT STAFF ANALYSIS WP14-32

ISSUES

Proposal WP14-32, submitted by Robert Walker of Anvik, requests a modification of the Paradise Controlled Use Area (Paradise CUA) boundary in Unit 21E under Federal regulations, by extending the eastern boundary two miles along the east bank of the Innoko River and along the east bank of Paimiut Slough.

DISCUSSION

The proponent states that transporters and guides are accessing lakes within two miles of the current boundary east of the Innoko River via aircraft to circumvent the present Paradise CUA boundary to hunt moose. The proponent states the Paradise CUA was created to protect resources for the villages of Holy Cross, Anvik, Grayling, and Shageluk, and that the proposed boundary changes would lessen the impact of those hunters on the moose population.

Existing Federal Regulation

Unit 21E—Moose

1 moose; however, only bulls may be taken from Aug. 25–Sept. 30.

Aug. 25–Sept. 30

Feb. 15–Mar. 15

During the Feb. 15 – Mar. 15 season, a Federal registration permit is required. The permit conditions and any needed closures for the winter season will be announced by the Innoko NWR manager after consultation with the ADF&G area biologist and the Chairs of the Western Interior Regional Advisory Council and the Middle Yukon Fish and Game Advisory Committee as stipulated in a letter of delegation. Moose may not be taken within one-half mile of the Innoko or Yukon River during the winter season.

_.26(n)(26)(ii)(B) The Paradise Controlled Use Area, which consists of that portion of Unit 21 bounded by a line beginning at the old village of Paimiut, then north along the west bank of the Yukon River to Paradise, then northwest to the mouth of Stanstrom Creek on the Bonasila River, then northeast to the mouth of the Anvik River, then along the west bank of the Yukon River to the lower end of Eagle Island (approximately 45 miles north of Grayling), then to the mouth of the Iditarod River, then down the east bank of the Innoko River to its confluence with Paimiut Slough, then south along the east bank of Paimiut Slough to its mouth, and then to the old village of Paimiut, it closed during moose hunting seasons to the use of aircraft for hunting moose, including transportation of any moose hunter or part of moose; however, this does not apply to transportation of a moose hunter or part of moose by aircraft between publicly owned airports in the Controlled Use Area or between a publicly owned airport within the area and points outside the area.

Proposed Federal Regulation

Unit 21E—Moose

1 moose; however, only bulls may be taken from Aug. 25–Sept. 30. *Aug. 25–Sept. 30*
Feb. 15–Mar. 15

During the Feb. 15 – Mar. 15 season, a Federal registration permit is required. The permit conditions and any needed closures for the winter season will be announced by the Innoko NWR manager after consultation with the ADF&G area biologist and the Chairs of the Western Interior Regional Advisory Council and the Middle Yukon Fish and Game Advisory Committee as stipulated in a letter of delegation. Moose may not be taken within one-half mile of the Innoko or Yukon River during the winter season.

*_.26(n)(26)(ii)(B) The Paradise Controlled Use Area, which consists of that portion of Unit 21 bounded by a line beginning at the old village of Paimiut, then north along the west bank of the Yukon River to Paradise, then northwest to the mouth of Stanstrom Creek on the Bonasila River; then northeast to the mouth of the Anvik River, then along the west bank of the Yukon River to the lower end of Eagle Island (approximately 45 miles north of Grayling), then to the mouth of the Iditarod River; then **extending two miles easterly** down the east bank of the Innoko River to its confluence with Paimiut Slough, then south along the east bank of Paimiut Slough to its mouth, and then to the old village of Paimiut, it closed during moose hunting seasons to the use of aircraft for hunting moose, including transportation of any moose hunter or part of moose; however, this does not apply to transportation of a moose hunter or part of moose by aircraft between publicly owned airports in the Controlled Use Area or between a publicly owned airport within the area and points outside the area.*

Existing State Regulation

Unit 21E—Moose

<i>Resident: One antlered bull</i>	<i>HT</i>	<i>Sept. 5–25</i>
<i>Nonresident: One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side by permit</i>	<i>DM837/839</i>	<i>Sept. 5 - 25</i>

Paradise Controlled Use Area: bounded by a line beginning at the old village of Paimiut, then north along the west bank of the Yukon River to Paradise, then northwest to the mouth of Stanstrom Creek on the Bonasila River, then northeast to the mouth of the Anvik River, then along the west bank of the Yukon River to the lower end of Eagle Island (approximately 45 miles north of Grayling), then to the mouth of the Iditarod River, then down the east bank of the Innoko River to its confluence with Paimiut Slough then south along the east bank of Paimiut Slough to its mouth and then to the old village of Paimiut. The area is closed to the use of aircraft for hunting moose, including transportation of any moose hunters, their hunting gear, and/or parts of moose; however, this does not apply to the transportation of moose hunters, their hunting gear, and/or parts of moose by aircraft between publicly owned airports within the controlled use area or the transportation into the area of game meat that has been processed for human consumption.

Extent of Federal Public Lands

Federal public lands comprise approximately 60% of Unit and consists of 48% BLM and 12% FWS managed lands (**Unit 21 Map**).

Customary and Traditional Use Determinations

Rural residents of Unit 21E, Aniak, Chuathbaluk, Kalskag, Lower Kalskag, and Russian Mission have a positive customary and traditional use determination to harvest moose in Unit 21E south of a line beginning at the western boundary of Unit 21E near the mouth of Paimiut Slough, extending easterly along the south bank of Paimiut Slough to Upper High Bank, and southeasterly in the direction of Molybdenum Mountain to the juncture of Units 19A, 21A, and 21E.

Rural residents of Unit 21E and Russian Mission have a positive customary and traditional use determination to harvest moose in the remainder of Unit 21E.

Regulatory History

The Paradise CUA is almost entirely within Unit 21E and was established in 1978 by the Alaska Board of Game in response to concerns that hunter success rates favored non-rural users and the total harvest of moose in the area was threatening the population. The Paradise CUA regulations placed a restriction on fly-in hunting for moose, air transport of hunters and hunting-related equipment, and the air transport of moose meat from the field. The Paradise CUA access restriction and the State's moose seasons for Units 21E were adopted by the Federal Subsistence Board (Board) in 1990.

In January 2005, a cooperative moose planning effort called the Yukon-Innoko Moose Management Working Group was launched. The goal of the planning effort was to develop a proactive management plan to help maintain the moose population while also providing for high levels of human consumptive uses of moose in Units 21A and 21E (ADF&G 2006). The working group included representatives of the GASH and Lower Yukon Fish and Game Advisory Committees, the Western Interior and Yukon-

Kuskokwim Delta Regional Advisory Councils, as well as non-local hunters and representatives who had commercial interests associated with hunting in the area. The result of the planning effort was the Yukon-Innoko Moose Management Plan (Management Plan), which was completed in March 2006. The Board endorsed the Management Plan in May 2006 through Resolution 06-01.

Biological Background

Population estimates have been sporadically conducted using Geospatial Population Estimation (GSPE) Surveys (Kellie and DeLong 2006). The 5,070 mi² GSPE survey area included mainly that portion of Unit 21E east of the Yukon River and includes portions of the Innoko and Yukon Delta National Wildlife Refuges, as well as BLM lands. Results from winter surveys in 2000, 2005, 2009, and 2012 suggest that the moose population in Unit 21E is stable, as the 90% confidence intervals for observable moose overlap between survey years (**Figure 1**).

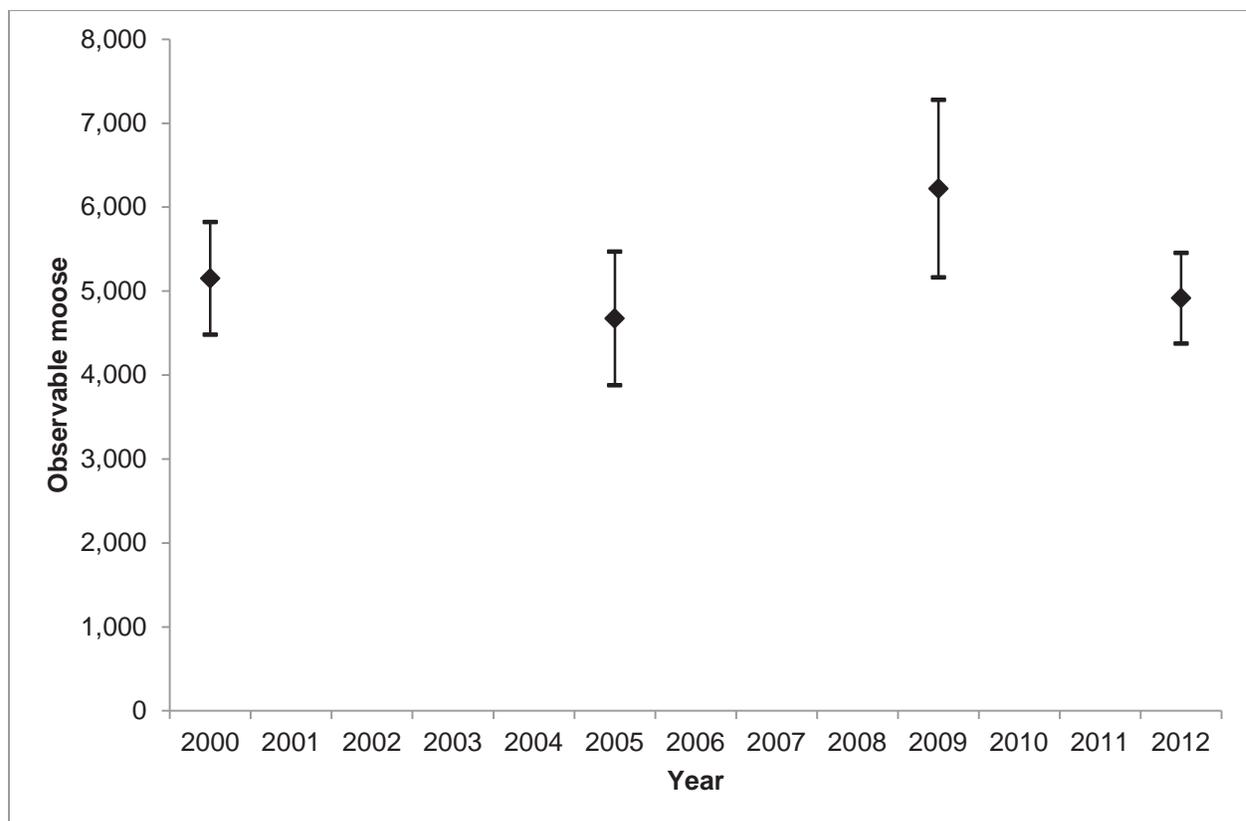


Figure 1. Unit 21E population estimates (\pm 90% CI) from Geospatial Population Estimation surveys conducted during March, 2000–2012 (Peirce 2010, 2012).

Four moose composition surveys were conducted in Unit 21E between 2007 and 2011; however, it is important to note that the surveys did not follow a rigid survey design (Peirce 2010). Therefore, variation in the number of observed moose could be attributed to changes in moose abundance or other factors, such as the amount of area searched or search intensity. Bull:cow ratios have generally been high (62–74 bulls:100 cows), although the ratio was lower in 2009 (**Table 1**). However, the low number of bulls in 2009 may be due to differences in survey area, as weather precluded biologists from including an area where high numbers of bull have been observed during previous surveys (Peirce and Seavoy 2010). Calf:cow ratios met the State management objective of 30–40 calves:100 cows in all years surveyed,

except for 2009 (**Table 1**). Twinning surveys showed an increasing trend in twinning rate between 2007 and 2009, but decreased to 32% in the 2013 survey (**Table 2**). There is an ongoing moose collaring study that should help address some of the moose survey data limitations in Unit 21E.

Table 1. Fall compositions surveys conducted in Unit 21E, 2007–2011 (Peirce 2012).

Year	Moose observed	Ratios		
		Bulls:100 cows	Yearling bulls:100 cows	Calves:100 cows
2007	84	74	26	66
2008	186	62	29	37
2009	153	32	21	18
2010	287	61	15	51
2011	201	64	22	47

Table 2. Spring moose twinning surveys conducted in Unit 21E, 2007–2013 (Peirce 2012, Seavoy 2013).

Year	Total Moose	Cows with 1 calf	Cows with 2-3 calves	Twinning rate (%)
2007	148	18	7	28
2008	194	17	15	47
2009	182	12	12	50
2010	256	32	22	41
2011	-	-	-	-
2012	-	-	-	-
2013	339	38	18	32

Harvest History

The total reported moose harvest by residents of Grayling, Anvik, Shageluk, Holy Cross (GASH communities) and Russian Mission under State regulations had a slightly increasing trend between 1983 and 2010 (**Figure 2**), and averaged 41 moose between 2000 and 2010 (OSM 2013). Federally qualified subsistence users also harvested 6, 9, and 7 moose during the Federal winter season in 2010, 2011, and 2012; respectively (OSM 2013). During the Federal winter seasons, an average of 46 Federal registration permits were issued (range: 45–48 permits) and 15–27 permits were reportedly used in attempts to harvest moose during 2010–2012 (OSM 2013). Harvest by other residents of Alaska increased between 1983 and 1997, but reported harvest has since declined from 158 moose in 1997 to 49 moose in 2010 (**Figure 2**). The nonresident harvest has generally been low, with recent annual harvests of 7 to 16 moose between 2005 and 2010 (**Figure 2**).

It should be noted that for some parts of Alaska, the ADF&G harvest ticket data do not typically reflect the actual level of harvest, although this data can provide an estimate of harvest trends over time for a

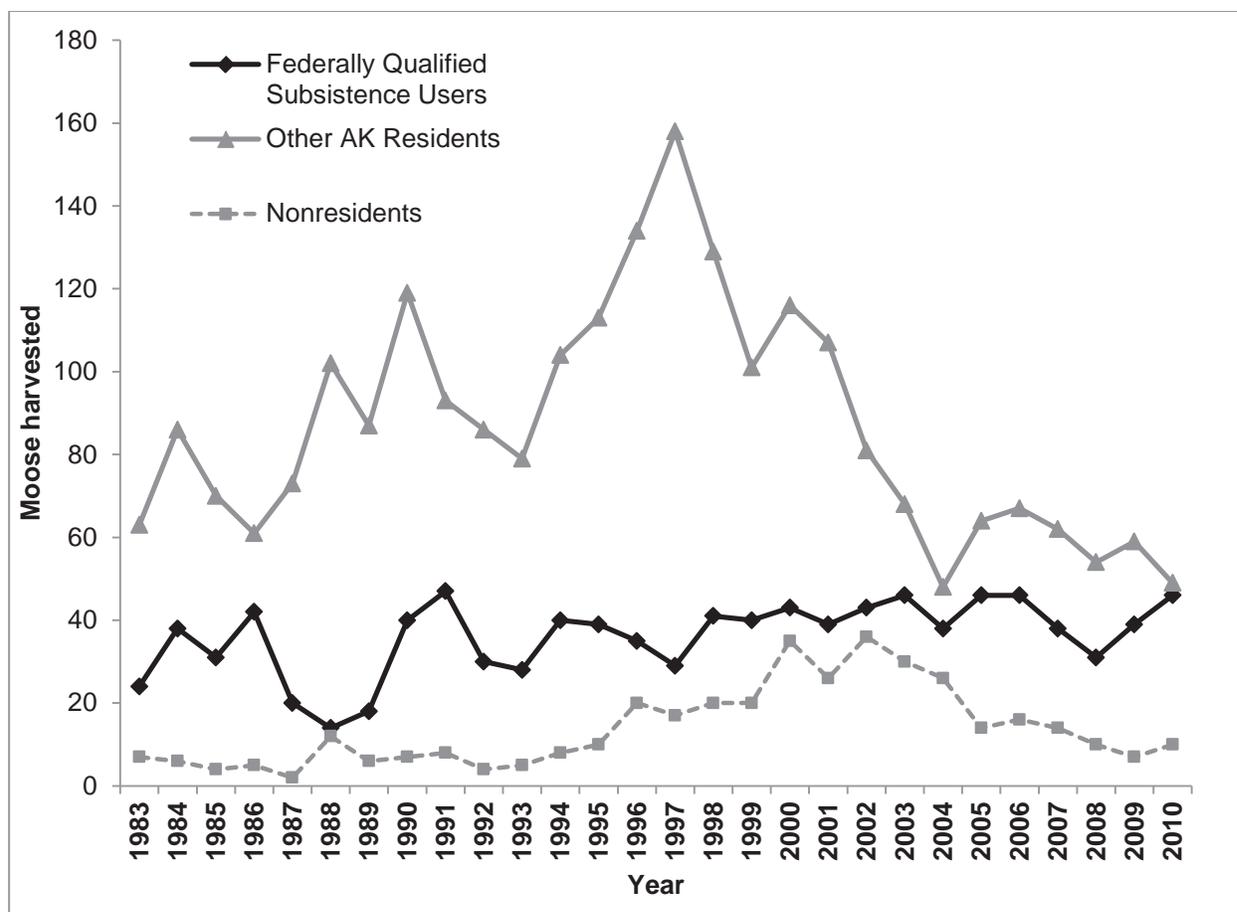


Figure 2. Reported harvest of moose under State harvest regulations in Unit 21E, by residency; 1983–2010 (OSM 2013). Federally qualified subsistence users were residents of Grayling, Anvik, Shageluk, Holy Cross, and Russian Mission.

particular area. A more accurate reflection of actual harvest for the GASH area communities is available for Unit 21E from two studies that included household surveys of moose harvests for calendar years 2002/2003 and 2003/2004 (Brown et al. 2004; Brown and Koster 2005). Household surveys conducted for 2002/2003 estimated a total harvest by GASH area residents of 133 moose ($\pm 6\%$ at 95% CI) in Unit 21E with 18 (10 cows) of those moose having been taken during the winter season (Brown et al. 2004). Household surveys conducted for the 2003/2004 calendar year estimated a total harvest by GASH area residents of 118 moose ($\pm 4\%$ at 95% CI) in Unit 21E with 16 (11 cows) of those moose having been taken during the winter season (Brown and Koster 2005). For these two study years the household survey data suggest that the total annual average moose harvest was much higher than the harvest reported in the harvest ticket database. Household surveys were also conducted in 1990/1991 and the total estimated harvest by GASH area residents was 169 moose in Unit 21E (Wheeler 1993).

Effects of the Proposal

If this proposal is adopted, the eastern boundary of the Paradise Controlled Use Area would be extended two miles east of the Innoko River under Federal regulations. However, the expanded portion of the controlled use area would not adequately address the proponent's concerns about non-Federally qualified subsistence users accessing lakes within two miles of the present boundary. The area affected by the boundary extension consists of approximately 57% Federal public land, consisting of Innoko National

Wildlife Refuge (NWR) and Yukon Delta NWR lands, and BLM managed lands (**Unit 21 Map**). Federal regulations would not apply on the remaining 43% of the area that consists of non-Federal land. In addition, Federal regulations only apply to Federally qualified users on Federal public land and would not impact non-Federally qualified subsistence users on Federal public lands within the boundary extension area. While the Federal Subsistence Board can technically create or modify controlled use areas under Federal regulations, they cannot modify the State definitions.

The Federal Subsistence Board does not have the authority to control access to Federal public lands; that would be under the purview of individual Federal land management agencies. For example, the Innoko NWR limits the number guides that can operate on the refuge, and guides and transporters must acquire special use permits to operate on refuge managed lands. Currently, Innoko NWR has three guide use areas, of which each can only have one guide operating in that specific area (Hill 2013, pers. comm.). The only authority the Federal Subsistence Board has over other users is to close Federal public lands to hunting. The moose population has been stable and harvest by non-Federally qualified users has declined, so there are no conservation concerns to justify a closure to Federal public lands within the controlled use area. In most instances, controlled use areas are aligned under State and Federal regulations. An example where they do not align is the Kanuti Controlled Use Area of Unit 24B, where the State changed the boundary of the controlled use area in 2010. Access to Federal public lands for hunting moose is still restricted by Federal regulations, but that is due to the closure of Federal public lands within the Kanuti Controlled Use Area, not the controlled use area.

OSM PRELIMINARY CONCLUSION

Oppose Proposal WP14–32.

Justification

The proposed modification to the Paradise Controlled Use Area in Unit 21E would not adequately address the proponent’s concerns about non-Federally qualified subsistence users accessing lakes within two miles of the present boundary. The Federal Subsistence Board does not have jurisdiction to control access to Federal public lands. The Board can only restrict other users via closure of Federal public land to hunting, and there are currently no conservation concerns that would justify a Federal closure in the affected area. To be effective in areas of mixed land management jurisdiction, like the affected area, both State and Federal controlled use area provisions need to be in place.

The moose population has been stable, and limited composition data suggests it can sustain current harvest levels. Reported harvest by Federally qualified subsistence users has remained relatively stable, while nonlocal harvest has declined.

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WP14-41 Executive Summary	
General Description	Proposal WP14-41 requests that the season and harvest limit for muskox in Unit 23SW (south of Kotzebue Sound and west of and including the Buckland River drainage) be changed to eliminate the cow hunt and create a continuous season from Aug. 1 to Mar. 15. In addition, it requests that language be added to authorize Federal managers to restrict the number of Federal permits to be issued. <i>Submitted by the National Park Service,</i>
Proposed Regulation	<p>Unit 23—Muskox</p> <p><i>Unit 23 — south of Kotzebue Sound and west of and including the Buckland River drainage — 1 bull by Federal permit or State Tier II permit. Aug. 1 – Dec. 31 Mar. 15</i></p> <p><i>Or</i></p> <p><i>1 muskox by Federal permit or State permit Jan. 1 – Mar. 15</i></p> <p><i>Federal public lands are closed to the taking of muskox except by Federally qualified subsistence users hunting under these regulations. Annual harvest quotas, the number of Federal permits to be issued, and any needed closures will be announced by the Superintendent of the Western Arctic National Parklands, in consultation with ADF&G and BLM.</i></p>
OSM Preliminary Conclusion	Defer WP14-41 pending 804 analysis.
Northwest Arctic Regional Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

DRAFT 2014 FISHERIES RESOURCE MONITORING PLAN

INTRODUCTION

BACKGROUND

Since 1999, under the authority of Title VIII of ANILCA, the Federal government has managed subsistence fisheries on Federal public lands in Alaska. Subsistence fisheries management requires substantial informational needs. Section 812 of ANILCA directs the Departments of the Interior and Agriculture, cooperating with the State of Alaska and other Federal agencies, to undertake research on fish and wildlife and subsistence uses on Federal public lands. To increase the quantity and quality of information available for management of subsistence fisheries, the Fisheries Resource Monitoring Program (Monitoring Program) was established within the Office of Subsistence Management. The Monitoring Program was envisioned as a collaborative, interagency, and interdisciplinary approach to support fisheries research for subsistence fisheries management on Federal public lands.

Biennially, the Office of Subsistence Management announces a funding opportunity for projects addressing subsistence fisheries on Federal public lands. The 2014 Funding Opportunity was focused on priority information needs developed either by strategic planning efforts or by expert opinion, followed by review and comment by the Subsistence Regional Advisory Councils. The Monitoring Program is administered by region, and strategic plans sponsored by this program were developed by workgroups of fisheries managers, researchers, Federal Subsistence Regional Advisory Councils' members, and other stakeholders for three of the six regions: Southeast, Southcentral (excluding Cook Inlet Area), and Southwest Alaska. These plans identify prioritized information needs for each major subsistence fishery and can be viewed on, or downloaded from, the Office of Subsistence Management's website: <http://alaska.fws.gov/asm/index.cfm>. Independent strategic plans were completed for the Yukon and Kuskokwim regions for salmon in 2005. For the Northern Region and the Cook Inlet Area, assessments of priority information needs were developed from the expert opinions of the Regional Advisory Councils, the Technical Review Committee, Federal and State managers, and staff from the Office of Subsistence Management. A strategic plan for research on whitefish species in the Yukon and Kuskokwim River drainages was completed in spring 2011 as a result of Monitoring Program project 08-206.

Cumulative effects of climate change will likely affect subsistence fishery resources, their uses, and how these resources are managed. Therefore, all investigators were asked to consider examining or discussing climate change effects as part of their project. Investigators conducting long-term projects were encouraged to participate in a standardized air and water temperature monitoring program for which the Office of Subsistence Management will provide calibrated temperature loggers and associated equipment, analysis and reporting services, and access to a temperature database. The Office of Subsistence Management has also specifically requested projects that would focus on effects of climate change on subsistence fishery resources and uses, and that would describe management implications.

The mission of the Monitoring Program is to identify and provide information needed to sustain subsistence fisheries on Federal public lands, for rural Alaskans, through a multidisciplinary, collaborative program.

To implement the Monitoring Program, a collaborative approach is utilized in which five Federal agencies (Fish and Wildlife Service, Bureau of Land Management, National Park Service, Bureau of Indian Affairs, and U.S. Forest Service) work with the Alaska Department of Fish and Game, Regional Advisory Councils, Alaska Native organizations, and other organizations. An interagency Technical Review Committee provides scientific evaluation of investigation plans. The Regional Advisory Councils provide

review and recommendations, and public comment is invited. The Interagency Staff Committee also provides recommendations. The Federal Subsistence Board takes into consideration recommendations and comments from the process, and approves the final monitoring plan.

PROJECT EVALUATION PROCESS

The Technical Review Committee evaluates investigation plans and makes recommendations for funding. The committee is co-chaired by the Fisheries and Anthropology Division Chiefs, Office of Subsistence Management, and is composed of representatives from each of the five Federal agencies and three representatives from the Alaska Department of Fish and Game. Fisheries and Anthropology staff from the Office of Subsistence Management provide support for the committee.

Four factors are used to evaluate studies:

1. Strategic Priority

Proposed projects should address the following and must meet the first criteria to be eligible for Federal subsistence funding.

Federal Jurisdiction—Issue or information needs addressed in projects must have a direct association to a subsistence fishery within a Federal conservation unit as defined in legislation, regulation, and plans.

Conservation Mandate—Risk to the conservation of species and populations that support subsistence fisheries, and risk to conservation unit purposes as defined in legislation, regulation, and plans.

Allocation Priority—Risk of failure to provide a priority to subsistence uses.

Data Gaps—Amount of information available to support subsistence management (i.e., higher priority given where a lack of information exists).

Role of Resource—Contribution of a species to a subsistence harvest (e.g., number of villages affected, pounds of fish harvested, miles of river) and qualitative significance (e.g., cultural value, unique seasonal role).

Local Concern—Level of user concerns over subsistence harvests (e.g., upstream vs. downstream allocation, effects of recreational use, changes in fish abundance, and population characteristics).

2. Technical-Scientific Merit

The proposed projects must meet accepted standards for design, information collection, compilation, analysis, and reporting. Projects should have clear study objectives, an appropriate sampling design, correct statistical analysis, a realistic schedule and budget, and appropriate products, including written reports. Projects must not duplicate work already being done.

3. Investigator Ability and Resources

Investigators must have the ability and resources to successfully complete the proposed work. Ability will be evaluated in terms of education and training, related work experience, publications, reports, presentations, and past or ongoing work on Monitoring Program studies. Resources

will be considered in terms of office and laboratory facilities (if relevant), technical and logistic support, and personnel and budget administration.

4. Partnership-Capacity Building

Partnerships and capacity building are priorities of the Monitoring Program. ANILCA mandates that the Federal government provide rural residents a meaningful role in the management of subsistence fisheries, and the Monitoring Program offers tremendous opportunities for partnerships and participation of local residents in monitoring and research. Investigators are requested to include a strategy for integrating local capacity development in their investigation plans. Investigators must complete appropriate consultations with local villages and communities in the area where the project is to be conducted. Letters of support from local organizations add to the strength of a proposal. Investigators and their organizations should demonstrate their ability to maintain effective local relationships and commitment to capacity building.

POLICY AND FUNDING GUIDELINES

Several policies have been developed to aid in implementing funding.

- Projects of up to four years duration may be considered in any year's monitoring plan.
- Studies must be non-duplicative with existing projects.
- Most Monitoring Program funding is dedicated to non-Federal agencies.
- Activities not eligible for funding under the Monitoring Program include: a) habitat protection, restoration, and enhancement; b) hatchery propagation, restoration, enhancement, and supplementation; c) contaminant assessment, evaluation, and monitoring; and d) projects where the primary objective is capacity building (e.g., science camps, technician training, intern programs). These activities would most appropriately be addressed by the land management agencies.
- When long-term projects can no longer be funded by agencies, and the project provides direct information for Federal subsistence fisheries management, the Monitoring Program may fund up to 50% of the project cost.

Finances and Guideline Model for Funding

The Monitoring Program was first implemented in 2000, with an initial allocation of \$5 million. Since 2001, a total of \$6.25 million has been annually allocated for the Monitoring Program. In 2010, the total funding was reduced to \$6.05 million. The Department of the Interior, through the U.S. Fish and Wildlife Service, has provided \$4.25 million. The Department of Agriculture, through the U.S. Forest Service, has historically provided \$1.80 million annually, but amount of 2014 funds available through the U.S. Forest Service for projects is uncertain. If the Department of Agriculture funding is not provided, none of the project investigation plans submitted for the Southeast Region would be funded.

The Monitoring Program budget funds continuations of existing projects (year-2, 3 or 4 of multi-year projects), and new projects in the biennial year. The Office of Subsistence Management issued funding opportunities on an annual basis until 2008, and then shifted to a biennial basis. Therefore, the next funding opportunity after 2014 will be in 2016. Budget guidelines are established by geographic region and data type, and for 2014, \$3.7 million is projected to be available for new project starts. Investigation Plans are solicited according to the following two data types:

5. Stock Status and Trends Studies (SST).

These projects address abundance, composition, timing, behavior, or status of fish populations that sustain subsistence fisheries with linkage to Federal public lands. The budget guideline for this category is two-thirds of available funding.

6. Harvest Monitoring and Traditional Ecological Knowledge (HM-TEK).

These projects address assessment of subsistence fisheries including quantification of harvest and effort, and description and assessment of fishing and use patterns. The budget guideline for this category is one-third of available funding.

2014 FISHERIES RESOURCE MONITORING PLAN

For 2014, a total of 56 investigation plans were received for consideration for funding (**Table 1**). Of these, 43 are SST projects and 13 are HM-TEK projects. The Technical Review Committee recommends funding 40 of these investigation plans.

Table 1. Number of Investigation Plans received for funding consideration in 2014, and number of recommended for funding by the Technical Review Committee. Data types are stock status and trends (SST), and harvest monitoring and traditional ecological knowledge (HM-TEK).

Geographic Region	Investigation Plans			Technical Review Committee		
	SST	HMTEK	Total	SST	HMTEK	Total
Northern Alaska	4	1	5	3	0	3
Yukon	9	3	12	7	2	9
Kuskokwim	8	6	14	6	5	11
Southwest Alaska	2	1	3	2	0	2
Southcentral Alaska	7	2	9	3	0	3
Southeast Alaska	12	0	12	11	0	11
Multiregional	1	0	1	1	0	1
Total	43	13	56	33	7	40

Total funding available from the Department of the Interior, through the U.S. Fish and Wildlife Service, for new projects in 2014 is \$3.7 million. Currently, the amount of funding available from the Department of Agriculture, through the U.S. Forest Service, is unknown. The proposed cost of funding all 56 projects submitted would be \$6.6 million. The 40 investigation plans recommended for funding by the Technical Review Committee have a total cost of \$4.8 million. In making its recommendations, the committee weighed the importance of funding new projects in 2014 with the knowledge that the next request for proposals will be issued in 2016. As has been done in past years, any unallocated Monitoring Program

funds from the current year will be used to fund subsequent years of new and ongoing projects so that more of the funds available in 2016 can be used to fund new projects.

The 2014 draft Monitoring Plan recommended by the Technical Review Committee would provide 21% of the funding to Alaska Native organizations, 29% to State agencies, 43% to Federal agencies, and 7% to other non-government organizations.

Yukon Overview

Issues and Information Needs

The 2014 Notice of Funding Opportunity for the Yukon Region identified the following priority information needs:

- Reliable estimates of Chinook and chum salmon escapements (for example, projects using weir, sonar, mark-recapture methods).
- Methods for including “quality of escapement” measures (for example, potential egg deposition, sex and size composition of spawners, spawning habitat utilization) in establishing Chinook salmon spawning goals and determining the reproductive potential and genetic diversity of spawning escapements.
- Effects of diminished salmon abundance on contemporary economic strategies and practices. Topics could include an evaluation of barter, sharing, and exchange of salmon for cash (customary trade), as well as other economic strategies and practices that augment and support subsistence activities. Of particular interest are distribution networks, decision making, and the social and cultural aspects of salmon harvest and use.
- Harvest and spawning escapement level changes through time in relation to changes in gillnet construction and use (for example, set versus drift fishing, mesh size changes) for Chinook salmon subsistence harvest in the mainstem Yukon River.
- Complete genetic baseline sampling and population marker development for sheefish spawning populations in the Yukon River drainage. Harvests, associated contextual information, and local knowledge of whitefish species in lower Yukon drainage communities, including Alakanuk, Kotlik, Nunam Iqua, Saint Marys, Pilot Station, and Marshall.
- An indexing method for estimating annual species-specific whitefish harvests for the Yukon drainage.
- Inseason harvest enumeration and sex and length information for northern pike taken during the winter subsistence fishery from Paimiut Slough to Holy Cross on the Yukon River.

Projects Funded Under the Fisheries Resource Monitoring Program

Since the inception of the Monitoring Program in 2000, 95 projects have been funded in the Yukon Region, and 9 will still be operating during 2014 (**Tables 1 and 2**). The ongoing projects address Chinook salmon, chum salmon and Bering cisco. Several projects are investigating age, sex, and length data, and run reconstructions of Chinook salmon. Assessments are being conducted for Chinook and chum salmon, and mixed-stock analyses are being conducted on chum salmon and Bering cisco. Inseason salmon harvest teleconferences hosted by the Yukon River Drainage Fisheries Association are also being funded through the Monitoring Program.

2014 Investigation Plans

Twelve investigation plans for research in the Yukon Region were submitted to the Office of Subsistence Management in response to the 2014 Notice of Funding Opportunity. In June 2013, the Technical Review Committee reviewed the investigation plans and recommended nine for funding. Detailed budgets submitted with each investigation plan allowed identification of funds requested by Alaska Native, State, Federal, and other organizations; funds that would be used to hire local residents; and matching funds from investigating agencies and organizations (**Tables 3 and 4**).

Available Funds

Federal Subsistence Board guidelines direct initial distribution of funds among regions and data types. While regional budget guidelines provide an initial target for planning, they are not rigid allocations. Upon review and evaluation, the Technical Review Committee, Regional Advisory Councils, Interagency Staff Committee and Federal Subsistence Board have the opportunity to address the highest priority projects across regions. For 2014, approximately \$1,073,000 will be available for funding new projects in the Yukon Region.

Recommendations for Funding

The mission of the Monitoring Program is to identify and provide information needed to sustain subsistence fisheries on Federal public lands for rural Alaskans through a multidisciplinary, collaborative program. It is the responsibility of the Technical Review Committee to develop the strongest possible monitoring plan for each region and across the entire state. After reviewing the twelve investigation plans, the Technical Review Committee recommended funding the following nine proposed projects (**Table 5**):

14-201	Gisasa River Salmon Weir Videography Integration	\$	24,900
14-202	East Fork Andreafsky R Chinook and Summer Chum Abundance	\$	149,100
14-203	Gisasa River Salmon Weir Chinook and Summer Chum Abundance	\$	137,700
14-206	Yukon River Coho Salmon Microsatellite Baseline	\$	29,300
14-207	Yukon River Chum Salmon Mixed-stock Analysis	\$	148,400
14-208	Koyukuk River Chum Salmon Radio Telemetry	\$	107,000
14-209	Henshaw Creek Adult Salmon Abundance and Run Timing	\$	73,400
14-252	Lower Yukon River Whitefish Harvest Monitoring	\$	114,300
14-253	Upper Yukon Area Customary Trade	\$	<u>131,800</u>
	Total	\$	915,900

The nine projects recommended for funding by the Technical Review Committee comprise a strong Monitoring Plan for the region by addressing strategically important information needs based on sound science and by promoting cooperative partnerships.

Summaries of Projects submitted for Funding

Each project submitted for funding in the Yukon Region in 2014 is summarized below (see Executive Summaries for more details on all projects).

Fund (9)

14-201 Gisasa River Salmon Weir Videography Integration

The Gisasa River weir is an established and successful salmon monitoring project that provides the primary escapement and run strength data used to ensure sustainability of subsistence fisheries in the Koyukuk National Wildlife Refuge and to conserve fisheries stocks in the Gisasa River. Funding of this project would allow for the installation and operation of an underwater video system in conjunction with the existing Gisasa River weir project (10-207), which has been supported by the OSM since 2004.

Adding video monitoring capability to the Gisasa River weir is anticipated to provide more reliable estimates of salmon abundance and identification, and also improve the long term data set necessary to monitor changes in adult salmon run strength on the Koyukuk National Wildlife Refuge. Annual cost savings are estimated to be approximately \$18,000 per year after installation, resulting in cost recovery of this project's request within the first two years of this four year project.

14-202 East Fork Andreafsky River Chinook and Summer Chum Abundance

Funding of this proposal would allow for the continuation of the East Fork Andreafsky River weir which is an established and successful monitoring project that provides escapement and run strength data used to ensure sustainability of subsistence fisheries and conserve fisheries stocks in the Andreafsky River. These stocks are harvested by a large lower river subsistence fishery, and pass through commercial fishing districts between the mouths of the Yukon River and Andreafsky River confluence. Fisheries managers regard escapement monitoring data provided by this project as a primary indicator of the status of lower Yukon River Chinook and summer chum stocks. The weir on this river system was initiated in 1994 making it one of the longest continuous data sets on the number and quality of escapement of salmon in the Yukon Basin. The data collected at the project site is used by U.S. Fish and Wildlife Service and Alaska Department of Fish and Game managers to help in-season management decision and post-season evaluations. This weir provides escapement counts for Chinook, chum, pink, sockeye, and coho salmon. A pilot study was conducted in 2012 to assess this East Fork Andreafsky River as a site to develop a monitoring plan for arctic lamprey.

14-203 Gisasa River Salmon Weir Chinook and Summer Chum Abundance

This four-year project would continue the operation of the Gisasa River weir. The Gisasa River weir is an established and successful salmon monitoring project that provides the primary escapement and run strength data used to ensure sustainability of subsistence fisheries in the Koyukuk National Wildlife Refuge and to conserve fisheries stocks in the Gisasa River. This project is supported by State and Federal fisheries managers and addresses an important data need identified in the request for proposals. The project is technically sound and supports one of the most comprehensive data sets (18 consecutive years to date) for salmon escapement in the middle Yukon River. This project is also viewed as high priority because of its strategic location as an index of escapement for Chinook and summer chum salmon in the lower Koyukuk River and as a platform for conducting other salmon studies, including temperature monitoring under project 08-701 since 2008. Koyukuk River salmon stocks contribute to subsistence harvests in communities located along the Koyukuk and lower Yukon Rivers.

14-206 Yukon River Coho Salmon Microsatellite Baseline

This two-year project is being proposed to update Yukon River coho salmon genetic information to improve the ability of managers to conduct a mixed-stock analysis (MSA) for Yukon River coho salmon. Objectives for this study are clear, measurable, and achievable and the study design is appropriate for genetic analysis and testing.

14-207 Yukon River Chum Salmon Mixed-stock Analysis

This proposal seeks four years of funding for continuing the in-season mixed stock genetic assessment of summer and fall chum salmon in conjunction with passage estimates at the Pilot Station sonar project at river mile 123 of the Yukon River. Information garnered from this project allows fisheries managers to calculate in-season stock abundance estimates supporting in-season management of chum salmon fisheries. Estimates of stock composition are provided to managers within 24–48 hours of receiving the

genetics samples at the lab in Anchorage. This project addresses one of the priority information needs identified in the 2014 request for proposals and would support continuation of inseason stock assessment/genetic identification of summer and fall runs of Yukon River chum salmon. With the high cost of current monitoring projects, it is hoped that this genetic stock identification project in the lower Yukon River will provide a long term and cost effective alternative for salmon management.

14-208 Koyukuk River Chum Salmon Radio Telemetry

Koyukuk River summer chum salmon (*Oncorhynchus keta*) stocks makeup one of the largest contributors to the Yukon River summer chum population, however accurate information on their overall abundance and distribution is lacking. The proposed project will use radio telemetry to estimate the proportional distribution of chum salmon throughout the Koyukuk River drainage. Results from the project will provide fisheries managers with more detailed information on the proportional distribution, run timing, and critical spawning areas of chum salmon in the Koyukuk River drainage. The project addresses a priority information need, is well-designed and objectives appear achievable with proposed budget. Results from the project should provide fisheries managers with more detailed information on the proportional distribution, run timing, and critical spawning areas of Koyukuk River chum salmon, an important stock in the Yukon River drainage.

14-209 Henshaw Creek Adult Salmon Abundance and Run Timing

This proposal seeks funding for a four-year continuation of the Henshaw Creek weir. This project allows managers to determine daily escapement, run timing, and age, sex, and length composition of adult salmon as well as the number of resident fish passing the weir during the study period. Additionally, the weir site serves as an outreach platform for Kanuti National Wildlife Refuge Staff and Tanana Chiefs Conference Partners Program fisheries biologists to conduct an onsite science camp. The Henshaw Creek weir is the only upper Koyukuk River drainage escapement project and is valuable in providing data to effectively manage the subsistence Yukon salmon fisheries.

14-252 Lower Yukon River Whitefish Harvest Monitoring. Fund Pending Modification.

This study proposes to collect traditional ecological knowledge on and assess the harvest of whitefish species (along with other nonsalmon fish species) utilized by residents of Alakanuk, Kotlik, Nunam Iqua, Saint Marys, Pilot Station, and Marshall in the Lower Yukon River area. This project has potential to provide useful information to subsistence fisheries managers for the Lower Yukon River. It addresses at least two priority information needs identified for the Yukon Region, has a strong link to federal land, and is focused on an important subsistence resource, whitefish. The investigation plan review includes several recommendations and asks for more details and clarification regarding the objectives, methods, and analyses. If concerns are adequately addressed in a modification of the investigation plan, our recommendation is to fund this project.

14-253 Upper Yukon Area Customary Trade. Fund with Modification.

Funding of this project would support ethnographic studies to document historic and contemporary practices of customary trade in upper Yukon River communities, with particular attention to understanding the nature and scope of customary trade and its role in a larger continuum of exchange practices. This project builds on earlier research on customary trade in the region, focusing specifically on the customary trade of salmon in upper Yukon River communities.

The project has clear objectives that should be achievable by this research team. However, the evaluation of this proposal did include several recommendations. If concerns are adequately addressed in a modification of the investigation plan, the recommendation will be to fund this project.

Do Not Fund (3)

14-204 Anvik River Sonar

This four-year project would continue funding of the Anvik River sonar project, for escapement monitoring and management of chum salmon in the Yukon. Daily estimates of chum salmon passage collected at this project site are provided to Federal and State fishery managers daily for consideration in management actions that can directly affect subsistence harvest in the Yukon Delta National Wildlife Refuge, as well as other upstream harvest and escapement needs. During the fishing season information is also presented during the weekly Yukon River Drainage Fisheries Association teleconference.

The recommendation of “Do Not Fund” is based largely on the review and recommendations provided for this project in the 2012 application for funding (monitoring project 12-204). In the 2012 review, it is stated that: “...the overall long term priority of this project to address Federal subsistence management issues may not be sufficient to justify longer term support. Therefore, it is recommended that the project be funded for only an additional two years. Funding beyond 2013 could be considered in response to the 2014 Request for Proposals; but given competing priorities and budget limitations, investigators should begin seeking other funding sources.”

14-205 Yukon River Bering Cisco Spawning Using DIDSON Sonar

This three-year project will attempt to estimate a catchability coefficient for Bering cisco at Rampart Rapids, which will be then be used to develop a minimum spawning population abundance and abundance-based, commercial harvest allocations, while ensuring population sustainability and continued subsistence use of this fishery resource.

The reasons for a recommendation of “Do Not Fund”: This project has lots of implications for the commercial fishery at the mouth of the Yukon River. In addition, the project is premature, in that, the level of subsistence harvest of Bering Cisco should be determined first. Projects of this nature should have a State co-investigator, with a State of Alaska match involved, due to the State-sanctioned commercial harvest of Bering Cisco in the Yukon River.

14-251 Upper Yukon River Salmon Oral History

This project would address the effects of diminished salmon abundance on contemporary economic strategies and practices of the subsistence fishermen in the Yukon Flats and Upper Yukon area, in relation to traditional trade, sharing and bartering. Studies on customary trade of salmon were identified as a priority information need in the 2014 request for proposals. This study would address data gaps that are needed to support management of traditional subsistence use and customary trade practices in the Upper Yukon area between Rampart and Eagle, Alaska and would establish historical data and an understanding of customary trade and how subsistence management can establish provisions that address the practice.

The reason for a recommendation of **Do Not Fund**: Per her resume, the investigator does not have a track record for doing the type of social science research proposed in this project. Therefore, the investigator is encouraged to partner with additional social scientists, and modify and re-submit this proposal during the next funding cycle (2016).

Table 1. Summary of Fisheries Resource Monitoring Program projects completed in the Yukon since 2000. Abbreviations used for investigators are: AC=Alaskan Connections, ADFG=Alaska Department of Fish and Game, AVCP=Association of Village Council Presidents, AV= Arctic Village, BF=Bill Fliris, BLM=Bureau of Land Management, BSFA=Bering Sea Fisherman's Association, CATG=Council of Athabaskan Tribal Governments, COK=City of Kaltag, DFO=Department of Fisheries and Oceans, EMV= Emmonak Village Council, NPS=National Park Service, LTC=Louden Tribal Council, NVE=Native Village of Eagle, NVHB= Native Village of Hooper Bay, NVV=Native Village of Venetie, RN=Research North, RW=Robert Wolfe and Associations, SVNRC= Stevens Village, SZ=Stan Zuray, TCC=Tanana Chiefs Conference, TTC=Tanana Tribal Council, UAF=University of Alaska Fairbanks, USFWS=U.S. Fish and Wildlife Service, USGS=U.S. Geological Survey, UW=University of Washington, and YRDFA=Yukon River Drainage Fisheries Association.

Project Number	Project Title	Investigators
<u>Yukon River Salmon Projects</u>		
00-003	Effects of <i>Ichthyophonus</i> on Chinook Salmon	UW
00-005	Tanana Upper Kantishna River Fish Wheel	NPS
00-018	Pilot Station Sonar Upgrade	ADFG
00-022	Hooper Bay Test Fishing	ADFG, NVHB
00-024	Pilot Station Sonar Technician Support	AVCP
00-025	Henshaw Creek Salmon Weir	USFWS
00-026	Circle and Eagle Salmon and Other Fish TEK	NVE
01-014	Yukon River Salmon Management Teleconferences	YRDFA
01-015	Yukon River Salmon TEK	YRDFA
01-018	Pilot Station Sonar Technician Support	AVCP
01-026	East Fork Andreafski River Salmon Weir	BSFA
01-029	Nulato River Salmon Weir	BSFA
01-032	Rampart Rapids Tagging Study	USFWS
01-038	Kateel River Salmon Weir	USFWS
01-048	Innoko River Drainage Weir Survey	USFWS
01-050	Kaltag Chinook Salmon Age-Sex-Length Sampling	COK
01-058	East Fork Andreafsky Weir Panel Replacement	USFWS
01-122	Lower Yukon River Salmon Drift Test Fishing	ADFG, EMV
01-177	Rampart Rapids Extension	USFWS
01-197	Rampart Rapids Summer CPUE Video	SZ
01-199	Tanana Fisheries Conservation Outreach	TTC
01-200	Effects of <i>Ichthyophonus</i> on Chinook Salmon	USGS
01-211	Upper Yukon, Porcupine, & Black River Salmon TEK	CATG
02-009	Pilot Station Sonar Technician Support	AVCP
02-011	Rampart Rapids Fall Chum Handling/mortality	USFWS
02-097	Kuskokwim & Yukon Rivers Sex-ratios of Juvenile & Adult Chinook	USFWS
02-121	Yukon River Chinook Salmon Genetics	USFWS, ADFG, DFO
02-122	Yukon River Chinook & Chum Salmon In-season Subsistence	USFWS
03-009	Tozitna River Salmon Weir	BLM
03-013	Gisasa River Salmon Weir	USFWS
03-015	Phenotypic Characterization of Chinook Salmon Subsistence Harvests	YRDFA, USFWS
03-034	East Fork Andreafsky River Salmon Weir	USFWS
03-038	Yukon River Sub-district 5-A Test Fishwheel	BF
04-206	Tozitna River Salmon Weir	BLM
04-208	East Fork Andreafsky River Salmon Weir	USFWS
04-209	Gisasa River Salmon Weir	USFWS
04-211	Henshaw Creek Salmon Weir	USFWS

Table 1. continued.

Project Number	Project Title	Investigators
<u><i>Yukon River Salmon Projects (continued)</i></u>		
04-217	Rampart Rapids Fall Chum Salmon Abundance	USFWS
04-228	Yukon River Chum Salmon Genetic Stock Identification	USFWS
04-229	Lower Yukon River Salmon Drift Test Fishing	ADFG
04-231	Yukon River Chinook Salmon Telemetry	ADFG
04-234	Kaltag Chinook Salmon Age-Sex-Length Sampling	COK
04-251	Fort Yukon Traditional Ecological Knowledge Camp	TCC, CATG, ADFG
04-255	Yukon River Salmon Fishery Traditional Ecological Knowledge	NPS
04-256	Tanana Conservation Outreach	TTC, USFWS
04-263	Yukon River Salmon Management Teleconferences	YRDFA
04-265	Yukon River TEK of Customary Trade of Subsistence Fish	YRDFA
04-268	Hooper Bay Subsistence Monitoring	ADFG, HBTC
05-203	Yukon River Coho Salmon Genetics	USFWS
05-208	Anvik River Salmon Sonar Enumeration	ADFG
05-210	Tanana River Fall Chum Salmon Abundance	ADFG
05-211	Henshaw Creek Salmon Weir	TCC, USFWS
05-254	Yukon River Salmon Inseason Subsistence Harvest Monitoring	USFWS
06-205	Yukon River Chum Salmon Mixed Stock Analysis	USFWS
07-202	East Fork Andreafsky River Salmon Weir	USFWS
07-204	Lower Yukon River Salmon Drift Test Fishing	ADFG
07-207	Gisasa River Salmon Weir	USFWS
07-208	Tozitna River Salmon Weir	BLM
07-209	Yukon River Salmon Management Teleconferences	YRDFA
07-210	Validation of DNA Gender Test Chinook Salmon	USFWS
07-211	Kaltag Chinook Salmon Age-Sex-Length Sampling	COK
07-253	Yukon River Salmon Harvest Patterns	RWA, AC
08-200	Kaltag Chinook Salmon Age-Sex-Length Sampling	COK
08-201	Henshaw Creek Salmon Weir	TCC
08-202	Anvik River Chum Salmon Sonar Enumeration	ADFG
08-253	Yukon River Teleconferences and Inseason Management	YRDFA
10-206	Nulato River Salmon Assessment	TCC
<u><i>Yukon River Non-Salmon Projects</i></u>		
00-004	Humpback Whitefish/Beaver Interactions	USFWS, CATG
00-006	Traditional Ecological Knowledge Beaver/Whitefish Interactions	ADFG, CATG
00-021	Dall River Northern Pike	ADFG, SV
00-023	Upper Tanana River Humpback Whitefish	USFWS
01-003	Old John Lake TEK of Subsistence Harvests and Fish	ADFG, AV, USFWS
01-011	Arctic Village Freshwater Fish Subsistence Survey	ADFG, AV, USFWS
01-100	Koyukuk Non-salmon Fish TEK and Subsistence Uses	ADFG, TCC
01-140	Yukon Flats Northern Pike	ADFG, SV
01-238	GASH Working Group	USFWS
02-006	Arctic Village Freshwater Fish Subsistence	ADFG, NVV
02-037	Lower Yukon River Non-salmon Harvest Monitoring	ADFG, TCC
02-084	Old John Lake Oral History and TEK of Subsistence	USFWS, AV, ADFG
04-253	Upper Tanana Subsistence Fisheries Traditional Ecological Knowledge	USFWS, UAF, ADFG
04-269	Kanuti NWR Whitefish TEK and Radio Telemetry	USFWS, RN

Table 1. continued.

Project Number	Project Title	Investigators
<i>Yukon River Non-Salmon Projects</i>		
06-252	Yukon Flats Non-salmon Traditional Ecological Knowledge	ADFG, BLM, USFWS, CATG
06-253	Middle Yukon River Non-salmon TEK and Harvest	ADFG, LTC
07-206 ^a	Innoko River Inconnu Radio Telemetry	USFWS, ADFG
08-206	Yukon and Kuskokwim Coregonid Strategic Plan	USFWS, ADFG
08-250	Use of Subsistence Fish to Feed Sled Dogs	RN, AC

^a Final Report in preparation.

Table 2. Summary of ongoing 2013 projects funded under the Fisheries Resource Monitoring Program in the Yukon Region. Abbreviations used for investigators are: ADFG=Alaska Department of Fish and Game, BC=Bue Consulting, CoK=City of Kaltag, USFWS=U.S.Fish Wildlife Service, and YRDFA=Yukon River Drainage Fisheries Association.

Project Number	Data Project Title	Investigators	Budget 2013
<i>Yukon River Salmon</i>			
10-200	Yukon River Chinook Salmon Run Reconstruction	BC	\$6.9
10-201	Yukon River Chinook Salmon ASL Data	YRDFA	\$16.7
10-202	East Fork Andreafsky River Salmon Assessment	USFWS	\$149.6
10-205	Yukon River Chum Salmon Mixed-Stock Analysis	USFWS	\$124.8
10-207	Gisasa River Chinook and Summer Chum Salmon Assessment	USFWS	\$141.9
12-204	Anvik River Sonar	ADFG	\$97.0
12-205	Kaltag Chinook Salmon Sampling	CoK	\$12.0
12-251	Inseason Salmon Harvest Teleconferences	YRDFA	\$127.7
<i>Yukon River Non-Salmon</i>			
10-209	Yukon Delta Bering Cisco Mixed-Stock Analysis	USFWS	\$13.9
Total Yukon Monitoring Program			\$690.5

Table 3. Yukon project costs, by organization (Alaska Native, State, Federal, other), for investigation plans submitted to the Fisheries Resource Monitoring Program for funding consideration in 2014.

Project Number	Title	Budget (\$000s)			
		Alaska Native	State	Federal	Other
<i>Stock Status and Trends Projects</i>					
14-201	Gisasa River Salmon Weir Videography Integration			\$24.9	
14-202	East Fork Andreafsky R Chinook and Summer Chum Abundance			\$149.1	
14-203	Gisasa River Salmon Weir Chinook and Summer Chum Abundance			\$137.7	
14-204	Anvik River Sonar		\$97.1		
14-205	Yukon River Bering Cisco Spawning using DIDSON Sonar			\$79.0	
14-206	Yukon River Coho Salmon Microsatellite Baseline			\$29.3	
14-207	Yukon River Chum Salmon Mixed-stock Analysis			\$148.4	
14-208	Koyukuk River Chum Salmon Radio Telemetry			\$107.0	
14-209	Henshaw Creek Adult Salmon Abundance and Run Timing	\$73.4			
<i>Harvest Monitoring and Traditional Ecological Knowledge Projects</i>					
14-251	UYukon R Salmon Oral History				\$106.9
14-252	LYukon R Whitefish Harvest Monitoring		\$114.3		
14-253	U Yukon Area Customary Trade				\$131.8

Table 4. Yukon local hire and matching funds for investigation plans submitted to the Fisheries Resource Monitoring Program for funding consideration in 2014. Abbreviations used are: ADFG= Alaska Department of Fish and Game, RCons=Raven's Wing Consulting, TCC=Tanana Chiefs Conference, USFWS=U.S. Fish and Wildlife Service, and YRDFA=Yukon River Drainage Fisheries Association.

Project Number	Lead Organization	Title	Funding (\$000s)	
			Local Hire	Matching
<u>Stock Status and Trends Projects</u>				
14-201	USFWS	Gisasa River Salmon Weir Videography Integration	\$0.0	\$25.7
14-202	USFWS	East Fork Andreafsky R Chinook and Summer Chum Abundanc	\$12.5	\$58.0
14-203	USFWS	Gisasa River Salmon Weir Chinook and Summer Chum Abund:	\$12.4	\$37.7
14-204	ADFG	Anvik River Sonar	\$0.0	\$101.3
14-205	USFWS	Yukon River Bering Cisco Spawning using DIDSON Sonar	\$0.0	\$8.2
14-206	USFWS	Yukon River Coho Salmon Microsatellite Baseline	\$0.0	\$5.5
14-207	USFWS	Yukon River Chum Salmon Mixed-stock Analysis	\$31.5	\$27.5
14-208	USFWS	Koyukuk River Chum Salmon Radio Telemetry	\$10.4	\$30.7
14-209	TCC	Henshaw Creek Adult Salmon Abundance and Run Timing	\$0.0	\$6.8
<u>Harvest Monitoring and Traditional Ecological Knowledge Projects</u>				
14-251	RCons	Upper Yukon River Elders Speak: Traditional Knowledge	\$12.0	\$2.5
14-252	ADFG	Lower Yukon River Whitefish Harvest Monitoring	\$0.0	\$18.6
14-253	YRDFA	Upper Yukon Area Customary Trade	\$0.0	\$0.8

Table 5. Funding recommendations by the Technical Review Committee (TRC) for the Yukon 2014 Fisheries Resource Monitoring Program.

Project Number	Title	TRC	Requested Budget (\$000)			
			2012	2013	2014	2015
<u>Stock Status and Trends Projects</u>						
14-201	Gisasa River Salmon Weir Videography Integration	YES	\$24.9	\$0.0	\$0.0	\$0.0
14-202	East Fork Andreatsky R Chinook and Summer Chum Abundance	YES	\$149.1	\$140.1	\$146.9	\$154.4
14-203	Gisasa River Salmon Weir Chinook and Summer Chum Abundant	YES	\$137.7	\$143.6	\$150.7	\$158.3
14-204	Anvik River Sonar	NO	\$97.1	\$98.6	\$101.1	\$102.6
14-205	Yukon River Bering Cisco Spawning using DIDSON Sonar	NO	\$79.0	\$119.2	\$73.6	\$0.0
14-206	Yukon River Coho Salmon Microsatellite Baseline	YES	\$29.3	\$29.3	\$0.0	\$0.0
14-207	Yukon River Chum Salmon Mixed-stock Analysis	YES	\$148.4	\$150.1	\$150.0	\$151.6
14-208	Koyukuk River Chum Salmon Radio Telemetry	YES	\$107.0	\$95.8	\$98.6	\$0.0
14-209	Henshaw Creek Adult Salmon Abundance and Run Timing	YES	\$73.4	\$70.4	\$70.4	\$0.0
<u>Harvest Monitoring and Traditional Ecological Knowledge Projects</u>						
14-251	UYukon R Salmon Oral History	NO	\$106.9	\$78.3	\$0.0	\$0.0
14-252	LYukon R Whitefish Harvest Monitoring	Yes w/Mod	\$114.3	\$164.3	\$137.0	\$43.1
14-253	U Yukon Area Customary Trade	Yes w/Mod	\$131.8	\$84.9	\$64.6	\$0.0
Total			\$1,198.9	\$1,174.6	\$992.9	\$610.0
Funding Guideline			\$1,073.0			
TRC Recommendation			\$915.9	\$878.5	\$818.2	\$507.4

EXECUTIVE SUMMARY

Project Number: 14-201

Title: Gisasa River Salmon weir videography integration.

Geographic Region: Yukon

Information Type: Stock Status and Trends

Principle Investigator: Jeffery Melegari, U.S. Fish and Wildlife Service, 101 12th Ave., Room 110, Fairbanks Alaska, 99701, phone: 907-456-0550, Fax: 907-455-1853, email: jeff_melegari@fws.gov.

Co- investigator(s):

Jeremy Mears, U.S. Fish and Wildlife Service, 101 12th Ave., Room 110, Fairbanks Alaska, 99701, phone: 907-456-0390, Fax: 907-455-1853, email: jeremy_mears@fws.gov.

Jeremy Carlson, U.S. Fish and Wildlife Service, 101 12th Ave., Room110, Fairbanks Alaska, 99701, (907) 456-0515, FAX (907) 455-1853, email: jeremy_carlson@fws.gov.

Cost:

2014	2015	2016	2017
\$24,850	0	0	0

Issue: This project will address the priority information need of obtaining reliable estimates of Chinook salmon and chum salmon. Accurate escapement estimates are necessary for managers to make informed decisions. Integration of videography into the existing Gisasa River weir, if funded, will: allow for long term cost savings by reducing the time required to count passing fish, thus reducing crew size and personnel costs; reduce the impact to migrating salmon by reducing the period of time that the weir would be closed and potentially interrupting salmon migration; increase accuracy of counts by allowing video to be reviewed to verify counts or species identification; and provide the opportunity to increase public awareness by sharing video through social media.

Objectives:

1. Construct, install, and operate an underwater video system at the existing Gisasa River weir to improve escapement monitoring.
2. Verify video system performance by validating motion capture video counts with real time counts.

Methods: The necessary components, supplies, and equipment to construct and install the video system will be purchased; based on information from previously successful video weir operations. Normal weir operations (counting and sampling) will continue while the video system is setup and verified. An underwater video camera will be housed in a sealed box filled with filtered water, and connected to a passage chute on the front of the existing weir trap. To maintain consistent lighting and video quality

the passage chute will be isolated from exterior light and illuminated with pond lights. Video will be recorded with a computer based Digital Video Recorder (DVR) 24 hours per day, 7 days a week. During the evaluation period, the DVR will record real time and with motion detection to allow comparison and evaluation of performance. Once performance has been verified, the DVR will record with motion detection to minimize the amount of empty video footage and review time. Both numbers and species identification will be considered during comparisons. After initial validation of the motion capture video, periodic comparisons of hourly counts from motion capture video to counts from real time video will be conducted to ensure accuracy is maintained.

Partnerships and Capacity Building: Both FFWFO and the Koyukuk Refuge are committed to continually promoting capacity building. Some local hires have been hired over the years, and a few students in the Alaska Native Science & Engineering Program (ANSEP) have assisted at the Gisasa weir, and one of these ANSEP students was hired as a technician in subsequent years by our office. If this project is funded, the opportunity to increase public awareness by sharing video through social media and other means could contribute to these partnerships and capacity building efforts.

EXECUTIVE SUMMARY

Project Number: 14-202

Title: East Fork Andreafsky River Chinook and summer chum salmon abundance and run timing, Yukon Delta National Wildlife Refuge, Alaska.

Geographic Region: Yukon

Data Type: Stock Status and Trends.

Principal Investigator: Jeremy Mears, US Fish and Wildlife Service, Fairbanks Field Office, Subsistence Fisheries Branch, 101 12th Ave., Room 110, Fairbanks, Alaska 99701. Phone (907) 456-0390; Fax (907) 455-1853; e-mail: jeremy_mears@fws.gov.

Project Cost:

2014	2015	2016	2017	Total
\$149,102	\$140,069	\$146,935	\$154,44	\$590,551

Issue Addressed: The USFWS considers Yukon River salmon stocks as high priority species for research and management due to their prominence in the watershed, the public’s direct reliance upon these species as food resources, and because of recent instability in the stocks production rates. The East Fork Andreafsky River is of particular interest to the service as it lies within the Yukon Delta Wildlife Refuge and is listed as Wild and scenic river and provides important spawning and rearing habitat for both salmon species that significantly contribute to the complex Yukon River mixed stock fisheries. The data collected at the project site is used by USFWS and ADF&G-DCF managers to help in-season management decisions and post-season evaluations.

Assessment of management actions for Yukon River salmon fisheries is difficult due to the limited number of escapement studies in the drainage. In season management of Yukon River salmon is outcome based and delivered by adapting management actions as the run develops and the success or failure is measured by the conservation of those stocks. The East Fork Andreafsky River weir has been collecting data on Chinook and summer chum escapement for 19 years and is one of the longest continuous data sets on the number and quality of escapement for the Yukon Basin. Given current data gaps such as the mechanisms behind shifts in productivity, effects of changing gear types in the subsistence and commercial fisheries, or the effects of climate change, it is imperative to continue collecting these data. The project’s core function is to collect data on migratory salmon which are a major resource for subsistence users throughout the Yukon region; stocks headed for the Andreafsky River contribute to the approximately 11,000 Chinook, 60,000 summer chum, 4,500 pink, and 2,500 coho salmon annually harvested below the Andreafsky River by subsistence users (Jallen et al. 2012). In recent years there has been an effort to expand data collection to include other fishes taken by subsistence users such as whitefish and Arctic lamprey.

This project addresses or contributes information to the following priority information needs for Yukon River salmon identified for 2014:

1. Reliable estimates of Chinook and chum salmon escapements: Weir data offers robust and reliable counts based on direct observation in close proximity to the fish (versus towers or aerial surveys) and generally does not need to be expanded or apportioned.
2. Measures of quality of escapement: Age, sex, and length data is collected to assess run composition. The systematic sampling used at the weir was designed according to the recommendations of Cochran (1977), have been evaluated for performance, and are among the most reliable types of data collected for migratory salmon.
3. Harvest and spawning escapement level changes through time: In 2014, this project will have been in operation for 20 years. Continued collection of long term data sets is essential in understanding temporal trends for Yukon salmon. Furthermore, these data assist in establishing and implementing conservation measures (e.g. run projections and in-season assessment), and monitoring the effects of those actions (e.g. run reconstructions, assessing the effects of altering gear types).
4. Harvests associated contextual information, and local knowledge of whitefish species in the lower Yukon River: The weir has monitored whitefish (*Coregonus sp.*) movement through the weir since 1994. Since 2011, additional data (i.e. gonadosomatic indices) has been collected on whitefish to understand spawning condition for whitefish species on the East fork Andreafsky River which will enhance understanding of basic whitefish biology and habitat use and contribute to the management of the developing commercial market in the lower Yukon River. Further, the conversion of the weir to video weir monitoring will allow for better species level reporting on whitefish.

Objectives: This project is proposed as a four year (2014-2017) study. The objectives are:

1. Determine the daily and seasonal passage of Chinook salmon and summer chum salmon;
2. Describe the age, sex, and length of these species for the year and add to the long-term data collection at this site;
3. Enumerate the daily passage of other fish species, and where possible act as a platform to expand our understanding of lesser studied salmon and non-salmon species.

Methods: A resistance board weir will be constructed in mid-June and be operational through early-August in each of the project years. All fish species that move through the weir are counted. An effort to convert the manual count to video count is currently underway; this will only verify counts and enhance accuracy. The project timing coincides with both the Chinook and summer chum salmon runs. Fish are counted 7 days a week, 24-hours a day to provide daily inseason data on the run to both state and federal managers. Sampling for age, sex, and length will be conducted on Chinook and summer chum salmon to understand run composition. A stratified random sample design allows for the count data to be combined with ASL data, from which the composition of runs of Chinook and summer chum and accurately estimated.

Partnerships/Capacity Building: The FFWFO has strived for local involvement and capacity building with this project and is committed to continually promoting capacity building by describing project opportunities at RAC, YRDFA, and Refuge coordination meetings. For several years the project has served as a platform to host a science camp for children from Yukon River communities. The Alaska Department of Fish and Game has been consulted and will assist by ageing scales. In 2013 the project is in the process of bringing on a local hire from St. Mary's to work at the weir.

EXECUTIVE SUMMARY

Project Number: 14-203

Project Title: Gisasa River Chinook and summer chum salmon abundance and run timing assessment, Koyukuk National Wildlife Refuge, Alaska.

Geographic Region: Yukon River

Data Type: Stock Status and Trends

Principle Investigator: Jeremy Carlson, U.S. Fish and Wildlife Service, 101 12th Ave., Room110, Fairbanks Alaska, 99701, phone: (907) 456-0515, email: jeremy_carlson@fws.gov.

Co-Investigator: Jeff Melegari, U.S. Fish and Wildlife Service, 101 12th Ave., Room 110, Fairbanks Alaska, 99701, phone: (907)-456-1853, email: jeff_melegari@fws.gov.

Project Cost: Please see Budget section for explanation of the two alternatives.

Alt. 1	2014	2015	2016	2017
	\$137,726	\$143,561	\$150,741	\$158,278
TOTAL: \$590,306 without video conversion				

Alt. 2	2014	2015	2016	2017
	\$137,726	\$126,402	\$132,754	\$139,423
TOTAL: \$536,305 with video conversion				

Issue Addressed: The USFWS is considering Yukon River Chinook and chum salmon stocks as high priority species for research and management due to their prominence in the watershed, the public’s direct reliance upon these species as food resources, and because of recent instability in the stock’s production rates. Adult Chinook and chum salmon returning to the Gisasa River, Koyukuk River Sub-basin, directly contribute to the subsistence harvest of communities throughout the lower and middle Yukon River Basin (Basin). However, the successful delivery and assessment of management actions, conservation and utilization alike, in this region is difficult due to the complexity of the individual salmon runs, the mixed stock fishery, and the limited number of escapement studies like the Gisasa River weir in the Basin. The Koyukuk River which flows through the Koyukuk National Wildlife Refuge (Refuge) is one of the largest tributaries to the middle-lower Yukon River and has significant runs of Chinook and summer chum salmon. The Gisasa River weir is currently one of only two projects within the Koyukuk River drainage that provide in-season run information. These data assist in the adaptive management process Federal and State managers use throughout the Basin. For 19 years, federal and state managers and research biologists have consistently identified this project as an important source of information for fishery management and assessment.

Annual returns of Yukon River Chinook salmon and summer chum salmon have displayed wide variability in run size, timing, and age and sex composition, with recent Chinook salmon returns dropping to alarming levels. Last year the Gisasa River weir recorded the lowest number of returning Chinook

in 19 years which corresponded with low returns throughout the Yukon Basin. The reasons for these reductions have been difficult to determine due to the multitude of factors (e.g. marine bycatch and productivity, commercial and subsistence fishing time and mesh regulations), but match reductions in harvest experienced across the Yukon Basin. These circumstances accentuate the need to collect accurate escapement estimates from Yukon River tributaries and underscore the importance of augmenting long term data sets, especially in the face of stressors such as climate change, disease, selective harvest, and overall demand on the resources of the dynamic Yukon River system. After the 2013 field season, this project will have 20 years of data on Chinook and chum salmon making it one of the most consistent long term data sets in the Yukon Basin. In addition, the Gisasa River weir provides a platform from which to conduct additional sampling in the local area at a reduced cost.

This project addresses or contributes information to the following priority information needs for Yukon River salmon identified for 2014:

- Obtain reliable estimates of Chinook and chum salmon escapements (e.g. weir and sonar projects).
- Examine long-term trends in age, sex, and length composition of Chinook salmon harvests and escapements in relation to environmental changes and harvest practices.
- Utilize methods for including “quality of escapement” measures (e.g., egg deposition, size composition, habitat utilization) in establishing Chinook salmon spawning goals and determining the reproductive potential of spawning escapements.

Objectives:

- Determine daily passage, estimate seasonal escapement, and describe run timing of adult Chinook salmon and summer chum salmon.
- Determine sex and size composition of adult Chinook salmon and summer chum salmon.

Methods: A resistance board weir will be installed and operated on the Gisasa River from mid-June to the end of July/early August each year from 2014-2017. A live trap, installed near mid-channel, will allow fish to be held for sampling or passed through and enumerated. All fish, except whitefish *Coregonus* and *Prosopium* spp., passing through the weir will be identified to species and enumerated. Sex, age, and length information from salmon species will be collected and this data will then be phoned in to the Fairbanks Fish and Wildlife Field Office by satellite phone daily. Sampling will begin at the beginning of each week with a goal to sample approximately 25 fish per day over a seven day period for each species until the weekly goal is reached. Three scales will be collected from Chinook salmon and one scale will be collected from summer chum salmon. Once the scales are removed, they will be placed on scale gum cards for later analysis. Lengths of Chinook and chum salmon will be measured to the nearest 1 mm from mid-eye to fork of the caudal fin (MEF). Sex will be determined by visual inspection of secondary sexual characteristics. Sex and length data will be entered into an electronic ADF&G adult salmon age-sex-length excel spreadsheet. The age-sex-length spreadsheet and accompanying scale gum cards will be sent to ADF&G, Commercial Fisheries Division for age analysis.

Partnerships and Capacity Building: FFWFO and the Refuge have strived for local involvement and capacity building with the project. Plans are also being made for FFWFO staff to assist the Refuge in a mark and recapture pilot study within the Koyukuk River drainage. In addition, the Refuge has contributed support in the FFWFO effort to assist the Tanana Chiefs Conference (TCC) with the installation and maintenance of the Henshaw Creek weir project which is also located in the Koyukuk River drainage near Allakaket. Both FFWFO and the Refuge have been committed to continually

promoting capacity building by describing project opportunities at RAC, YRDFA, and Refuge coordination meetings. During the 2008 season a student in the Alaska Native Science & Engineering Program (ANSEP) working at the Koyukuk NWR assisted at the Gisasa weir for a short period of time, and she was hired by our office for the 2009 field season. Field seasons 2010 and 2011 also included ANSEP students assisting with weir installation. In 2012, a local hire from Koyukuk helped out at the weir site for a couple of weeks. She received training and subsequent experience in project planning, weir installation, watercraft operations, data entry and data sharing with ADFG. She is scheduled to return for the 2013 season.

EXECUTIVE SUMMARY

Project Number: 14-204

Title: Anvik River Sonar Project

Principal Investigator: Carl T. Pfisterer, Alaska Department of Fish and Game, 1300 College Road, Fairbanks, AK 99701, phone: (907) 459-7323 office, (907) 459-7271 fax, email: carl.pfisterer@alaska.gov

Co-Investigator: Malcolm McEwen, Alaska Department of Fish and Game

Project Cost:

2014	2015	2016	2017	TOTAL
\$97,128	\$98,610	\$101,118	\$102,600	\$399,456

Issue: The Anvik River contributes to the subsistence chum salmon fishery in the lower Yukon River, which is part of the Yukon Delta National Wildlife Refuge. The subsistence summer chum fishery occurs in the Yukon Delta National Wildlife Refuge from approximately June 10 through July 15. The Anvik River sonar project is a continuing project that directly addresses the identified Yukon Region priority need “reliable estimates of Chinook and chum salmon escapements (e.g., weir and sonar projects)”.

The Anvik River sonar project has provided reliable estimates of chum salmon escapement to the Anvik River since 1979 and is one of only two projects in the Yukon River drainage with an established Biological Escapement Goal (BEG) for summer chum salmon (Brannian, Evenson et al. 2006). A BEG is the escapement that provides the greatest potential for maximum sustained yield and is the primary management objective for escapement. The Anvik River sonar project’s longevity and history of being one of the largest producers of summer chum salmon in the Yukon River drainage (Lingnau 2002) combine to make this one of the most important projects for escapement monitoring and management of chum salmon in the Yukon Region. Daily estimates of chum salmon passage are provided to Federal and State fishery managers daily for consideration in management actions that can directly affect subsistence harvest in the Yukon Delta National Wildlife Refuge and the rest of the Yukon River drainage.

Objectives:

1. Estimate chum salmon fish abundance in the Anvik River using DIDSON sonar from approximately June 16 through July 26.
2. Collect between 162-210 chum salmon samples during each of 3 to 4 stratum throughout the season to estimate the age, sex, and length (ASL) composition of the Anvik River chum salmon passage, such that simultaneous 95% confidence intervals of age composition in each sample are no wider than 0.20 ($\alpha = 0.05$ $\alpha \vee \delta = 0.10$).
3. Monitor selected climatic and hydrological parameters daily at the project site for use as baseline data.

Methods: The Anvik River sonar project will be operated from its customary location approximately 76 km upstream of the confluence of the Anvik and Yukon Rivers, 5 km below Theodore Creek in Sections

34 and 35, Township 31 North, Range 61 West, Seward Meridian, at latitude/longitude 62° 44.208" N 160° 40.724" W.

Dual Frequency Identification Sonar (DIDSON) will be used to count salmon migrating past the site. The DIDSON sonar is a state-of-the-art imaging sonar that produces video like images making it easy to identify fish, the direction of travel, and even limited ability to estimate size. Sonar will be deployed on each bank of the Anvik River and data will be collected 30 minutes of each hour, 24-hours per day, 7 days a week for the duration of the study. This will provide a total of 12 hours of data per day per bank. Counts will be expanded for the fraction of the day sampled to estimate daily passage. The only fish species present in large numbers during the chum salmon run is pink salmon. When pink salmon are present a tower will be used to estimate the relative proportion of chum and pink salmon. These proportions will be used to apportion the sonar counts to species.

Region wide standards have been set for the sample size needed to describe age composition of a salmon population. These would apply to the time period or stratum in which the sample is collected. Sample size goals are based on accuracy (d) and precision (a) objectives of $d = 0.10$ and $a = 0.05$ for a rejection rate of 10%. Sample sizes will be based on obtaining 162 summer chum salmon for each of the following time strata: June 16-30; July 1-7; July 8-14; and July 15-26.

Climatic and hydrologic data will be collected at approximately 1800 hours each day at the sonar site. River depth is monitored using a staff gauge marked in 1 cm increments. Change in water depth will be presented as negative or positive increments from the initial reading of 0.0 cm. Subjective notes on wind speed and direction, cloud cover and precipitation will be recorded. Water and air temperature will be measured using a HOBO temperature logger, which will electronically record the temperature every hour.

Partnerships/Capacity Building: Due to the technical nature of the work, limited opportunities exist to develop partnerships and build local capacity. During the fishing season information is presented during the weekly YR DFA teleconference. Currently we have a technician working on the project from a village downriver of Anvik. When there is a vacancy with the crew we are trying to hire from the local villages.

EXECUTIVE SUMMARY**Project Number:** 14-205**Title:** Enumeration of the Spawning Migration of Yukon River Bering Cisco using DIDSON Sonar**Geographic Region:** Yukon Region (Yukon River main stem from the mouth to upper Yukon Flats)**Data Type:** Stock Status and Trends (SST).**Principal Investigators:** Randy J. Brown, U.S. Fish and Wildlife Service, Fairbanks FWFO;
Suresh A. Sethi, U.S. Fish and Wildlife Service, FES Biometrics**Co-Investigator:** Stan Zuray, Rapids Research Center**Project Cost:**

2014	2015	2016	TOTAL
\$78,972	\$119,178	\$73,643	\$271,793

Issue Addressed: Bering cisco *Coregonus laurettae* are anadromous salmonids with three known spawning populations, one each in the Yukon, Kuskokwim, and Susitna rivers. The Yukon River population is thought to spawn in main-stem reaches of the upper Yukon Flats and rear in coastal habitats in western Alaska. Most maturing fish return to spawn between 5 and 7 years of age. The scarcity of older fish in the spawning population suggests high mortality following spawning. Subsistence fishers harvest Bering cisco throughout their range and the species is particularly favored in most coastal communities of western Alaska. Annual subsistence harvest data for Bering cisco have not been collected, however, harvest is assumed to be substantial. The Yukon Delta commercial Bering cisco fishery has reported annual catches averaging more than 9,000 fish since its inception in 2005. This amount has been considered conservative by fishery managers but there are no abundance estimates to support or refute this perspective. A recent genetics project estimated that more than 97% of Bering cisco captured in the commercial fishery came from the Yukon River population and a statistically negligible fraction from the Kuskokwim River population. The commercial fishery on Yukon Delta Bering cisco supplies a market in New York City, which has always requested a much larger allocation than they have been allowed. Some coastal subsistence users are concerned about the developing commercial fishery and its potential impact on their harvests, particularly if the fishery is permitted to expand. While we have learned a great deal about Bering cisco populations during the last few years, we still have no quantitative data on the magnitude of the annual spawning population in any of the three natal rivers. This project will provide a means of getting the quantitative data required for effective management of the fishery.

Objectives: 1) enumerate daily passage of the Yukon River Bering cisco spawning migration along north and south banks of the Yukon River at Rapids using two DIDSON sonar units; 2) test the hypothesis that daily catches of Bering cisco from the Rapids video fish wheel (fish per 24 hrs; CPUE) are directly proportional to daily passage of Bering cisco (daily sonar counts); 3) assuming that fish wheel CPUE data for Bering cisco are proportional to sonar passage data, estimate minimum annual Bering cisco spawning population abundances with appropriate confidence intervals.

Methods: The Rapids is a unique location where the Yukon River is highly constricted in a canyon with a rock island in the middle of the river. The currents of the two deep channels of the river that split

around the rock island are extraordinarily swift. Upstream migrating fish are therefore concentrated along the sides of the river making them more available to shore-based capture methods. Between mid-June and early August, three primary fish species are captured at Rapids: Bering cisco (30 and 45 cm FL), Chinook salmon (50 to 100 cm MEFT), and chum salmon (50 to 72 cm MEFT). Because of the large size differences between Bering cisco and salmon species, Bering cisco can be identified in the imaging sonar and counted as they migrate upstream. By mid-August other coregonid species similar in size to Bering cisco become common and our ability to count Bering cisco with the imaging sonar will decline.

Partnerships and Capacity Building: The primary partnership in this project is with Mr. Stan Zuray, an elder fisherman from the community of Tanana. We have had a long term association with Mr. Zuray, since 1996, and his annual contributions to fish monitoring and management activities on the Yukon River testify to the great capacity he has gained through this association and many others that have sprung from it. We have gained also from Mr. Zuray's experiential knowledge of the river and the fish and our projects have been enhanced through this partnership. Additionally, we gain exposure to the rural community by working with Mr. Zuray. Many people traveling the river stop in and ask questions about our activities and other research and management issues up and down the river. Many of these people would not stop and talk with us if we were not associated with Mr. Zuray. By working at Rapids, we have an extended opportunity to share our perspectives with the rural community and clarify matters related to bycatch in the Bering Sea pollock fishery, commercial fishery issues within the Yukon River drainage, Board of Fish proposals, escapement goals for salmon into the Canadian portion of the drainage, and many other topics that we are familiar with through our professions but are difficult for rural residents to access and understand. Additionally, Mr. Zuray has sponsored summer work experiences with young rural residents who are paid to assist Mr. Zuray in his fisheries activities and he assigns them to work with us while we are there. In this way, we provide a certain amount of fisheries training and professional exposure to a substantial number of young people as they consider their future education and employment goals.

Executive Summary

Project Number: 14-206

Title: Yukon River Coho Salmon microsatellite baseline

Geographic Area: Yukon River

Information Type: Stock Status and Trends (SST).

Investigator(s): Blair Flannery and John Wenburg, Conservation Genetics Laboratory (CGL), U.S. Fish and Wildlife Service (USFWS), 1011 East Tudor Road, Anchorage, AK 99503; (907) 786-3355; Fax (907) 786-3978; blair_flannery@fws.gov.

Project Cost:

FY 2014	FY 2015	TOTAL
\$29,260	\$29,260	\$58,520

Issue: Coho salmon are an important Yukon River subsistence fishery, comprising 10% of the salmon subsistence harvest. With the recent decline in Yukon River chum and Chinook salmon, demand for coho has risen, with 76% of the coho salmon run harvested in 2011, emphasizing the need for more data to manage this resource. The current Yukon River coho salmon genetic baseline was assayed at microsatellite loci of inherently low variability, an average of only four alleles per locus (Flannery et al. 2006). This has resulted in limited power for identifying stocks in mixtures, with only two stocks having greater than 90% mixed-stock analysis (MSA) simulation accuracy. Since the formation of the Yukon River coho salmon genetic baseline, a standardized suite of microsatellite loci has been developed for coho salmon by the Washington Department of Fish and Wildlife and the Department of Fisheries and Oceans Canada. This standardized suite of loci is highly variable, an average of 30 alleles per locus. Power for MSA is directly related to the number of independent alleles, so these loci should greatly improve baseline performance for Yukon River coho salmon. Therefore, we propose to update the Yukon River coho salmon baseline by genetically analyzing 1,672 samples at 18 standardized microsatellite loci in order to increase the applicability of MSA for Yukon River coho salmon.

Objectives: 1) Genotype 14 coho salmon stocks with a standardized suite of microsatellite loci; 2) Provide preliminary estimates of the power of genetic data for use in various mixed-stock analyses (MSA) of Yukon River coho salmon.

Methods: The population structure and genetic diversity for Yukon River coho salmon will be evaluated using samples collected from 14 locations: Archuelinguk, Andreafsky, Anvik, Rodo, Kaltag, Clear, Kantishna, Glacier, Nenana-17 mile slough, Otter, Lignite, Delta, Old Crow, Fishing Branch. These samples will be assayed for genetic variation at 18 microsatellite loci currently in use for coho salmon research. The data will be tested to determine if sufficient variation exists for mixed-stock analysis applications.

Partnerships/Collaboration: Due to the technical nature of this project, partnership and capacity development are limited.

EXECUTIVE SUMMARY

Project Number: 14-207

Title: Application of mixed-stock analysis for Yukon River chum salmon

Geographic Area: Yukon River

Information Type: Stock Status and Trends

Investigators: Blair Flannery, Conservation Genetics Laboratory (CGL), USFWS, 1011 E. Tudor Rd., Anchorage, AK 99503. Phone (907) 786-3355. Fax (907) 786-3978. Email: blair_flannery@fws.gov
John Wenburg, CGL, USFWS, 1011 E. Tudor Rd., Anchorage, AK 99503. Phone (907) 786-3858. Fax (907) 786-3978. Email: john_wenburg@fws.gov

Project Cost:

FY2014	FY2015	FY2016	FY2017	TOTAL
\$148,362	\$149,951	\$149,951	\$151,606	\$599,870

Issue: This project relates to the following priority information need identified in the 2014 Office of Subsistence Management (OSM) Request for Proposals:

- *Reliable estimates of Chinook and chum salmon escapements.*

This proposal is a continuation of Fisheries Resource Monitoring Program (FRMP) projects 04-228, 06-205, and 10-205, which have provided in-season stock composition estimates of chum salmon to fishery managers within 24 to 48 hours of receiving samples from the Pilot Station sonar test fishery. The products of the sonar and stock composition estimates provide stock abundance estimates in the lower river, which facilitates management of the fishery and run to meet escapements for specific drainages.

Yukon River chum salmon move through numerous federal holdings during their spawning migration and are an important food resource for residents of the Yukon River drainage, whose take of chum salmon accounts for 81% of the Yukon River salmon harvested in subsistence fisheries. Returns of Yukon River chum salmon have fluctuated widely, and low returns have resulted in subsistence shortfalls because of fishery closures and restrictions. Such shortfalls are especially hard on residents where a subsistence lifestyle is a necessity because of limited economic opportunities.

The disparate strength of individual stocks within and among years makes it clear that in-season stock return data assists management to meet escapement. It provides a real-time tool that allows for informed decisions on regulating fisheries to meet escapement and harvest goals, whereas terminal escapement projects provide a post-season report card on whether management decisions were successful in meeting escapement. The USFWS, ADFG, and Department of Fisheries and Oceans Canada (DFO) personnel responsible for fishery management have requested that this work be continued. In this project, we will provide estimates of stock compositions for major summer and fall chum salmon stock groups to continue to facilitate Yukon River chum salmon management.

Objectives:

- 1) Estimate the stock compositions of summer and fall chum salmon sampled from the Pilot Station test fishery each year (June 1 – September 7).
- 2) Assess the accuracy of the results and their utility for management by comparison with other sources of escapement and harvest data.

Methods: Genetic samples will be collected from every chum salmon caught in the Pilot Station sonar test fishery from June 1 – September 7, and sent to the CGL every week and at the conclusion of each run pulse. Samples will be stratified by time period or run pulse and a subsample of size 288, selected so that daily sample size is proportional to the daily sonar passage estimate within a stratum, will be genotyped for each stratum of the run. Stock composition will be estimated using Bayesian mixture modeling and reported to fishery managers as soon as practicable. Stock abundance estimates will be derived by combining the sonar passage estimates with the stock composition estimates. To evaluate the concordance of various data sources, a post season analysis will be conducted to compare these stock specific abundance estimates against escapement and harvest estimates, which should prove useful for assessing the study design of this and other enumeration projects.

Partnerships/Collaboration: We will work with ADFG biologists to coordinate sample collection from the Pilot Station sonar test fishery. We will contract with the Association of Village Council Presidents (AVCP) to hire a local to collect the genetic samples. We will work with USFWS Yukon Delta National Wildlife Refuge staff to transport samples from Pilot Station. We completed the baseline in partnership with the DFOC. We will consult, collaborate and coordinate with ADFG, USFWS, and DFOC managers.

EXECUTIVE SUMMARY

Project Number: 14-208

Title: Koyukuk River Chum Salmon Radio Telemetry, Proportional Distribution Study.

Geographic Region: Yukon Region.

Data Type: Stock Status and Trends.

Principal Investigator: Frank Harris, U.S. Fish and Wildlife Service (USFWS), Koyukuk/Nowitna National Wildlife Refuge.

Co-Investigator(s): Aaron Martin, USFWS. Alyssa Frothingham, Tanana Chiefs Conference.

Project Cost:

2014	2015	2016	2017	TOTAL
\$107,027	\$95,775	\$98,595	\$0	\$301,397

Issue: Koyukuk River summer chum salmon (*Oncorhynchus keta*) stocks makeup one of the largest contributors to the Yukon River summer chum population, yet accurate information on their overall abundance and distribution is severely lacking. The reliance on Koyukuk River stocks as a subsistence resource to people along the Yukon River through the Yukon Delta National Wildlife Refuge (NWR) and along the Koyukuk River within the Koyukuk and Kanuti NWRs has likely increased during the last five years as other major stocks of Yukon River chum populations have experienced decreasing returns. Overall, returns throughout the Yukon River drainage have remained relatively constant, indicating a shift in production to other rivers. For example, the Anvik River (lower Yukon River) used to account for 40% of the summer chum returning to the Yukon River, and has declined to less than 25% during recent times (McEwen 2011). Conversely, the Koyukuk River has experienced an increase in escapements in its tributaries over the past 12 years (Bergstrom et al 2009, Berkbigler 2010, Dupuis 2012, and Carlson 2012). Currently it is not understood why these shifts are occurring. Recent changes in commercial fishing policy within the Yukon River Basin will likely increase commercial fishing opportunities during years of low Chinook salmon abundance; potentially increasing harvest pressure on certain stocks of chum salmon. An increased harvest on the first half of the chum run may increase the harvest of chum bound for the Koyukuk River drainage. Increasing harvest on a stock requires increased knowledge on the stock to keep returns viable. Current subsistence harvest estimates show a minimum of 8%-15% of the entire summer chum harvested in Yukon subsistence districts 1-4 come from the Koyukuk River drainage (Busher et al 2009; Jallen and Hamazaki 2011; and Jallen et al 2012). Those estimates are only from villages on the Koyukuk River and do not include subsistence harvest outside of that drainage.

The proposed project will use radio telemetry to estimate the proportional distribution of chum salmon throughout the tributaries of the Koyukuk River (middle Yukon River Drainage). Aside from two functioning escapement projects (Gisasa River weir and Henshaw Creek weir), aerial survey data provides the only recent information (Alaska Department of Fish and Game 2013b) on the abundance and distribution of chum throughout the 81,327 km² drainage (National Hydrography database, 2011). Results will provide fisheries managers with more detailed information on the proportional distribution, run timing, and critical spawning areas of chum salmon in Koyukuk River drainage.

Current mixed stock genetic analysis groups the upper Koyukuk River chum salmon stocks (i.e. S.F. Koyukuk, Jim River, Henshaw Creek) with middle Yukon River stocks (i.e. Tozitna, Tanana) and are therefore grouped together for reporting for inseason management goals (Flannery et al 2009, Flannery and Evenson 2010, and Flannery and Wenburg 2012). Information from this study will give managers a better idea how important the upper Koyukuk River stocks are in respect to the overall production of this genetic group. Detailed information on spawning locations of chum in the Koyukuk River drainage will be mapped and reported, which will further build on the baseline information needed prior to assessing the effects of various management actions or environmental changes on these stocks.

Objectives:

1. Use radio telemetry to estimate proportional distribution of chum salmon in the Koyukuk River drainage with 95% confidence that the estimate is within 10% of true proportion.
2. Use radio telemetry to detect the ultimate spawning destination upstream of tagging location (rkm 38), via the presence of at least two tagged fish, of a population comprising 2.5% or more of all the chum passing the capture site during each temporal stratum.
3. Describe migration rates and run timing in the Koyukuk River.
4. Identify and document previously unknown chum spawning locations.

Methods: Radio telemetry will be used to track migrating adult chum to their spawning grounds in the Koyukuk River drainage. A two person team will capture the fish using drift gill nets (10.6 cm x 18.3m x 3m) approximately 30 km upstream from the mouth of the Koyukuk River. One person will set the net while the other operates the boat. Once a fish is detected in the net, the net will be removed from the water. The tangled fish will be placed in a tote filled with water while being untangled. Mid eye to fork length collected, sex determined, and date recorded. All healthy fish will receive an individually numbered spaghetti tag.

Two hundred and twenty Advanced Telemetry Systems model F1835B (16 grams in air) will be inserted into adult chum following standard esophageal implantation techniques. All radio tagged fish will also receive a numbered spaghetti tag along with an individually coded radio tag. Radio tags will be deployed in proportion to run abundance. A tag deployment schedule will be developed based on run timing at the Gisasa River weir and run timing at the tagging locations. Preliminary information from the 2012 field season showed about 12 days of travel time from Pilot Station to the proposed tagging locations, approximately 55 km/day (34 miles/day).

Radio tracking will be conducted by both fixed station receivers and aerial telemetry. Fixed station logging receiver will be located at strategic locations throughout the drainage to record tags as the fish swim past. Aerial telemetry will cover the majority of the drainage to record fish in spawning locations. Waypoints will be collected for each tag detected. Spawning locations will be documented and distribution throughout the drainage will be mapped.

Partnerships and Capacity Building: This project will partner with Tanana Chiefs Conference (TCC). Seasonal employees will be hired by TCC, and attempts will be made to hire from local communities. The Kanuti NWR has agreed to fly the upper drainage aerial surveys and supports the project.

EXECUTIVE SUMMARY

Project Number: 14-209

Title: Abundance and Run Timing of adult salmon in Henshaw Creek

Geographic Region: Yukon Region

Federal Conservation System Unit: Kanuti National Wildlife Refuge (KNWR)

Data Type: Stock Status Trends (SST)

Investigator(s): Alyssa Frothingham, Tanana Chiefs Conference

Co-Investigator(s): Aaron Martin, US Fish and Wildlife Fairbanks Field Office

Project Cost:

2014	2015	2016	TOTAL
\$ 73,444	\$ 70,434	\$ 70,434	\$214,312

Issue: Management of the Koyukuk River salmon fishery is complex. The Alaska Department of Fish and Game, Division of Commercial Fisheries (ADF&G-DFC) has conducted aerial surveys within this drainage since 1960 (Barton, 1984) but the usefulness and reliability of that information is limited. This project addresses the priority information needs outlined for Yukon River salmon, including maintaining reliable estimates of Chinook and chum salmon escapement over time, and assessment of trends in Chinook age, sex and length.

Both Chinook *Oncorhynchus tshawytscha* and chum *O. keta* salmon from Henshaw Creek contribute to the harvests of subsistence and commercial fisheries occurring in the Yukon River. Information collected at Henshaw Creek weir is important to fisheries managers who possess the difficult task in managing the complex mixed stock subsistence and commercial salmon fisheries in the Yukon River. In-season management and post season evaluations of management actions are enhanced by the data from this project. Further, the Henshaw Creek weir is the only Upper Koyukuk River drainage salmon escapement monitoring project and its information can facilitate comparisons with lower drainage escapement projects (Berkbigler and Elkin 2006). In more recent years, subsistence and commercial harvesters have identified a concern with the apparent decrease in the size of Chinook salmon (JTC 2013). The continuation of reliable escapement estimates and the collection of age, sex, and length (ASL) data at Henshaw Creek will assist in future analyses of trends in Chinook salmon and summer chum salmon run timing, escapements, gender composition, and size and age structure over time. In addition, this project aids the Kanuti National Wildlife Refuge (KNWR) in meeting objectives outlined in the 1993 KNWR Fishery Management Plan, and addresses the priority information needs outlined for Yukon Region salmon by providing reliable estimates of Chinook and chum escapements. With the Tanana Chiefs Conference (TCC) as the primary investigator and through the hire of local residents, this project will enhance capacity building to allow local communities a continued role in the management of the resources.

Objectives:

1. Determine daily escapement and run timing of adult salmon
2. Determine age, sex and length (ASL) composition of adult salmon
3. Determine the number of resident fish passing the weir
4. Serve as an outreach platform for KNWR staff and TCC Partners Program fisheries biologist to conduct an onsite science camp

Methods:

A resistance board weir will be installed and operated on Henshaw Creek located 721 km upriver from the mouth of the Koyukuk River in north central Alaska (Figure 1). A live trap, installed near mid-channel, will allow salmon and resident species to move through the weir. Their passage will be enumerated daily and will provide an area where fish will be sampled to collect biological information. The daily counting period will begin at midnight and end at midnight the following day. Sampling will begin at the beginning of each week and will be conducted over a 3-4 day period to collect 160 fish per week for each species. Sample size goals were established so that simultaneous 90% interval estimates of the sex and age composition for each week have maximum widths of 0.20 (Bromaghin 1993). The sample size obtained using this method was increased to account for the expected number of unreadable scales. Lengths of Chinook salmon will be measured to the nearest 1 mm and chum measured to the nearest 5mm from mid-eye to fork of the caudal fin (MEFL). Sex ratios will be determined by visual inspection of secondary sexual characteristics. Scales will be used for aging salmon, with ages being reported using the European technique (Foerster 1968). Three scales will be collected from Chinook salmon and one scale will be collected from summer chum salmon. Scales will be taken from the area located on the left side of the fish, two rows above the lateral line on a diagonal line from the posterior insertion of the dorsal fin to the anterior insertion of the anal fin (Price, ADF&G, personal communication). Once the scales are removed, they will be placed on scale gum cards for later analysis with ADF&G.

The staff at KNWR and TCC will continue to work with the local schools to identify students from each of the four villages, Bettles/Evansville, Allakaket, Alatna, and Hughes to be participants in the Henshaw Creek science camp. Students will be exposed to the operations of a weir and will receive lessons in fisheries management, stream ecology, aquatic invertebrates, fish identifications, natural resources career opportunities, the plants and wildlife in the KNWR, and traditional and cultural knowledge.

Partnerships/Capacity Building:

The partnerships the TCC has developed with the USFWS, KNWR, ADF&G and local tribal councils presents a great opportunity to build capacity within the TCC and the local communities of the Upper Koyukuk River. The relationships TCC already has with Federal and state resource management agencies will continue to be strengthened through the continuation of this project and will be an important asset to the fishery program at TCC. The local communities of the Upper Koyukuk River will be strengthened through this project as well. TCC plans to continue to hire weir staff within these communities, which will provide much needed employment opportunities and will expose people to the project and different aspects of fishery management. Additionally, the annual science camp will engage local youth with the issues facing fishery resource managers and will provide elders a chance to interact with the students and teach them traditional skills.

EXECUTIVE SUMMARY

Project number: 14-252

Title: Harvest Monitoring and TEK of Whitefishes in the Lower Yukon River

Geographic Region: Lower Yukon Area

Data Type: Harvest Assessment (HM) and Traditional Ecological Knowledge (CK/TEK)

Principal Investigator: Dave Runfola, Division of Subsistence, Alaska Department of Fish and Game

Co-Investigators: Caroline Brown and Dave Koster, Division of Subsistence, Alaska Department of Fish and Game; Deena Jallen, Division of Commercial Fisheries, Alaska Department of Fish and Game

Project Cost:

2014	2015	2016	2017	TOTAL
\$114,309	\$164,324	\$137,025	\$43,113	\$458,771

Issue: Whitefish resources are a critical subsistence resource and an emerging commercial one; however, the management of these species is not well informed regarding stock status, harvest levels, or critical life history variables given the paucity of research on these species. This proposal is submitted in response to a more recent focus on whitefish species for subsistence and commercial use, information needs identified by the USFWS 2014 Fisheries Resource Monitoring Program Priority Information Needs, and the information gaps identified in Brown et.al. (2012) that call for traditional knowledge research on whitefish species in the lower Yukon River along with a monitoring program for the subsistence harvests of whitefish species. This study proposes to collect Traditional Ecological Knowledge (TEK) on and assess the harvest of whitefish species (along with other nonsalmon fish species) utilized by residents of the lower Yukon river area communities of Alakanuk, Kotlik, Nunam Iqua, Saint Marys, Pilot Station, and Marshall (Map 1). A component of the project will also be devoted to exploring the development of methods that will assist in estimating annual whitefish harvests in the Yukon drainage through the use of “index” communities. An index-based model applies adjustment factors from the index community to the reported mean harvest of the sampled index community.

Objectives:

1. Document local knowledge related to traditional and contemporary patterns of subsistence whitefish harvests in Alakanuk, Nunam Iqua, Saint Marys, and Kotlik, including:
 - a. species utilized and local names used with introductory nomenclature analysis
 - b. fish ecology, including information about habitat, spawning and seasonal movements
 - c. contemporary and traditional methods and timing of harvest
 - d. contemporary and traditional methods of preparation and preservation
 - e. spatial mapping of harvest areas and other significant habitats by species and season
 - f. traditional management practices and the effects on fish populations
 - g. fish-related place-names
 - e. relative abundance and population trends.

2. Estimate subsistence harvest levels and percentages of households using, harvesting, giving away, and receiving resident freshwater fish species (nonsalmon) for the calendar years 2014 and 2015 by species and season for the communities of Alakanuk, Kotlik, Nunam Iqua, Saint Marys, Pilot Station, and Marshall in the lower Yukon River. Harvest data set will also include basic demographic information, households' assessment of harvests and use compared to recent years, and questions tracking the harvest, processing, and sharing networks present within and between communities.

3. Explore Indexing method of estimating annual community subsistence harvests of whitefish species in the lower Yukon River area. Appropriate statistical tests will be applied to collected variables to identify significant factors in whitefish harvests. Further exploration will occur using multiple regression to identify more complex relationships in collected data, and inform the development of adjustment factors to the mean of the index community.

Methods: Methods for this project are largely defined by an ethnographic approach, including both qualitative and quantitative methods of data collection. The ethnographic research for this project will include anthropological methods of participant observation and semi-structured interviews. In each community, individuals considered to be knowledgeable about whitefish species will be identified with the assistance of tribal council and other community members using a snowball method of learning about other experts. Researchers will attempt to interview 6-10 individuals per community, depending on size; researchers will strive to include experts across a variety of demographics, including age, gender, and profession. Key respondent interviews will lead off the data collection effort with the first round of interviews occurring in the fall and winter of 2014-2015. A smaller set of interviews will occur after the harvest data collection and initial analysis in order to follow-up on any questions arising from the harvest data. Subsequent to the interviews, interview data will be downloaded into Atlas.ti, a qualitative data analysis software, coded, and analyzed based on emergent themes and relationships captured in the coding.

The primary harvest data collection method will be systematic household surveys. Because of the relatively large sizes of most of the communities, researchers anticipate that an estimated 60% of households would be invited to participate in the harvest survey. The first year of harvest data will be collected between January and March 2015 for the calendar year 2014; the second year of harvest data will be collected a year later (January to March 2016) for calendar year 2015. SPSS will also be used for analyzing the harvest survey information.

The research will be conducted consistent with the Division of Subsistence policy on research ethics. Participation in both key respondent interviews and the survey will be voluntary and information will be kept confidential, except in the case of key respondent interviews where respondents will be asked if they want to be identified by name. All study communities will have the opportunity to review and comment upon the preliminary study findings, and final results will be provided to each community.

Partnerships/Capacity Building: The principal investigators will work with tribal councils in the study communities to hire local project assistants to select key respondents and facilitate community meetings. The local research assistants will be trained in sampling methods. This adds to local involvement and local understanding of the Yukon River whitefish management issues; PIS will work with local research assistants to develop a presentation on study results for community review. It will also increase coordination between agencies, Tribal entities, and community members – working together in data collection increases communication and leads to better understanding of local issues and local understanding of science and management issues.

EXECUTIVE SUMMARY

Project number: 14-253

Title: Customary Trade in the Upper Yukon River

Geographic Region: Upper Yukon Area

Data Type: Harvest Assessment (HM) and Traditional Ecological Knowledge (CK/TEK)

Principal Investigator: Catherine Moncrieff, Yukon River Drainage Fisheries Association

Co-Investigators: Caroline Brown and David Koster, Division of Subsistence, Alaska Department of Fish and Game

Project Cost:

2014	2015	2016	TOTAL
\$131,781	\$84,886	\$64,570	\$281,237

Issue: This projects builds on earlier research on customary trade in the region (Moncrieff 2007), focusing specifically on the customary trade of salmon in upper Yukon River communities. At their 2013 meeting and in response to growing concerns about the sale of a declining resource, the Federal Subsistence Board restricted the customary trade of Yukon River Chinook salmon to transactions between those who live in communities with a customary and traditional use determination—that is, between rural users. While discussing these proposed regulations, the Board identified the need for additional information regarding the nature and scope of customary trade of fish throughout the Yukon River.

With the continued low Chinook salmon numbers, Yukon River residents remain divided over the issue of customary trade. Indeed, the YRDFA Board executive committee was unable to obtain consensus on the issue before the Federal Subsistence Board meeting of 2013. Board members’ concerns ranged from the need to limit the harvest of Chinook salmon to provide for adequate spawning and escapement numbers, the role of traditional practices in subsistence economies, the need for opportunities for earned income, and an equitable distribution of the harvest.

This project will examine the historic and contemporary customary trade of salmon in the Upper Yukon and Tanana Rivers. It will take place in three communities: Fort Yukon, Stevens Village, and Manley Hot Springs. Declining Chinook salmon abundance has required Yukon River fishers to reevaluate the ways in which they use salmon as evidenced by declining harvests, shifting strategies for maximizing harvests (Brown et al. in prep), and increased debate over various priority uses of salmon, such as customary trade. This research will greatly increase our understanding of the role of customary trade, both historically and today, in the customary and traditional patterns of salmon use in the upper Yukon River.

Objectives: This two-year study will develop case studies, addressing the following objectives:

1. Through ethnographic methods, describe how customary trade practices fit within the overall subsistence use of salmon in the upper Yukon area, both historically and in present times of declining salmon.

2. Using a survey on barter and exchange practices, document the scope and local nature of customary trade in three upper Yukon River communities. Describe exchange networks and transaction in terms of the species and types (e.g. processing) of fish traded. Where possible, quantify transactions.
3. Improve understanding of the role of customary trade within a continuum of exchange practices, including any potential effects on customary trade resulting from declining runs within the context of subsistence management and uses.

Methods: This study will take place in three communities along the upper Yukon and Tanana rivers, including Stevens Village and Fort Yukon on the upper Yukon River and Manley Hot Springs in the Tanana River drainage. The ethnographic research for this project will include anthropological methods of participant observation and semi-structured interviews. Individuals will be interviewed using a semi-structured interview format outlining general areas of knowledge and developed in advance by ADF&G, YR DFA, and Tribal personnel. Researchers will attempt to interview 5-8 individuals per community, depending on size. Key respondents should represent a variety of demographics primarily focused on fishing household characteristics and other economic variables in order to capture the breadth of motivations for engaging in customary trade or other exchange practices in order to explore more broadly how salmon are distributed and general perspectives on the sale of subsistence caught fish. Key respondent interviews will lead off the data collection effort with the first round of interviews occurring in the fall and winter of 2014-2015. Subsequent to the interviews, interview data will be downloaded into Atlas.ti, a qualitative data analysis software, coded, and analyzed based on emergent themes and relationships captured in the coding.

Community-level characterizations of customary trade will be made through the use of a short, confidential survey on barter and trade practices by community households. The survey will be primarily designed to document local views and *prevalence* of different types of exchange involving salmon, in addition to quantifying or estimating the actual extent of those practices on a household or community level. Researchers will administer surveys to a stratified random sample of all households in each community based on the same strata used in the Division of Commercial Fishing post-season salmon survey. Because many salmon exchanges occur between fishing households and non-fishing households, the sample will include households in all strata of fishing effort from heavy harvesters to non-fishing households. The survey will include questions about the frequency of different types of exchanges, including sharing (analyzed through forms of reciprocity), barter, and customary trade. These questions will be directed toward both individual household activities (recorded as “actual” exchanges), as well as the community in general (recorded as “typical” exchanges). It will also include questions about the types of items traded and bartered and the reported reasons for doing so. Community surveys will be administered during ethnographic field trips to conduct key respondent interviews and analyzed using SPSS.

A final trip will be taken to each community to present preliminary findings and follow-up with any outstanding gaps in information. These trips will occur between January and March 2016. All activities within this study will begin with informed consent and if allowed, will be tape-recorded.

Partnerships/Capacity Building: The principal investigators will work with tribal councils in the study communities to hire local project assistants, to select key respondents, and facilitate community meetings. The local research assistants will be trained in anthropological sampling methods. This adds to local involvement and local understanding of the Yukon River Chinook salmon management issues. This also increases coordination between agencies, Tribal entities, and community members – working together

in data collection increases communication and leads to better understanding of local issues and local understanding of science and management issues.

KUSKOKWIM REGION OVERVIEW

Issues and Information Needs

The 2014 Notice of Funding Opportunity for the Kuskokwim Region identified ten priority information needs:

- Reliable estimates of Chinook, chum, sockeye, and coho salmon escapement (for example, projects using weir, sonar, mark-recapture methods).
- Methods for including “quality of escapement” measures (for example, potential egg deposition, sex and size composition of spawners, spawning habitat utilization) in establishing Chinook salmon spawning goals and determining the reproductive potential and genetic diversity of spawning escapements.
- Subsistence harvest of Chinook salmon from the Bethel Area by nonresidents of the Kuskokwim River drainage.
- Temporal timing of tributary stocks of Chinook salmon through the lower Kuskokwim River subsistence fishery.
- Early life history of Chinook salmon stocks, with particular emphasis on determining freshwater density dependence factors.
- Broad whitefish population assessment, including distribution and age structure.
- Complete genetic baseline sampling and population marker development for sheefish spawning populations in the Kuskokwim River drainage.
- Local knowledge of whitefish species to supplement information from previous research. Groups of communities might include Kwethluk, Akiachak, Napaskiak, and Tuluksak or Cheformak, Kipnuk, Kongiganek, and Kwigillingok.
- Harvest and associated contextual information for whitefish species in the lower Kuskokwim drainage communities of Eek, Tuntutuliak, Nunapitchuk, Atmauthluak, and Kasigluk.
- An indexing method for estimating species-specific whitefish harvests on an annual basis for the Kuskokwim drainage. Researchers should explore and evaluate an approach where sub-regional clusters of community harvests can be evaluated for regular surveying with results being extrapolated to the rest of the cluster, contributing to drainage-wide harvest estimates.

Projects Funded Under the Fisheries Resource Monitoring Program

Since the inception of the Monitoring Program in 2000, 81 projects have been funded in the Kuskokwim Region, and fourteen of these will still be operating during 2014 (**Tables 1 and 2**). These projects provide information needed to manage and conserve subsistence fisheries resources, address fisheries issues and priorities identified by the Kuskokwim Regional Advisory Councils, and address regulatory actions. Presently, the Monitoring Program supports over 50% of all fisheries monitoring and research conducted in the Kuskokwim Region.

2014 Investigation Plans

Fourteen investigation plans for research in the Kuskokwim Region were submitted to the Office of Subsistence Management in response to the 2014 Notice of Funding Opportunity. In June 2013, the Technical Review Committee reviewed the investigation plans and recommended 11 for funding. Detailed budgets submitted with each investigation plan allowed identification of funds requested by Alaska Native, State, Federal, and other organizations; funds that would be used to hire local residents; and matching funds from investigating agencies and organizations (**Tables 3 and 4**).

Available Funds

Federal Subsistence Board guidelines direct initial distribution of funds among regions and data types. While regional budget guidelines provide an initial target for planning, they are not rigid allocations. Upon review and evaluation, the Technical Review Committee, Regional Advisory Councils, Interagency Staff Committee and Federal Subsistence Board have the opportunity to address the highest priority projects across regions. For 2014, approximately \$1,073,000 would be available for funding new projects in the Kuskokwim Region (**Table 5**).

Recommendations for Funding

The mission of the Monitoring Program is to identify and provide information needed to sustain subsistence fisheries on Federal public lands for rural Alaskans through a multidisciplinary, collaborative program. It is the responsibility of the Technical Review Committee to develop the strongest possible monitoring plan for each region and across the entire state. After reviewing the 14 investigation plans, the Technical Review Committee recommended funding 11 of the proposed projects (**Table 5**):

14-301	Broad Whitefish Spawning above McGrath	\$ 100,032
14-302	Tatlawiksuk River Salmon Escapement Monitoring	\$ 210,879
14-303	George River Salmon Escapement Monitoring	\$ 208,409
14-304	Kanektok & Goodnews Rivers Salmon Run Assessments	\$ 237,927
14-307	Upper Kuskokwim Sheefish Enumeration	\$ 114,636
14-308	Kwethluk River Salmon Run Timing and Abundance	\$ 198,431
14-351	Kuskokwim Delta Chinook Salmon Non-local Harvesters	\$ 106,763
14-352	Kuskokwim Area Salmon Post-season Subsistence Harvest Surveys	\$ 166,011
14-353	Kuskokwim River Salmon Inseason Subsistence Survey	\$ 33,929
14-354	Kuskokwim River Support for Cooperative Management	\$ 62,991
14-356	Lower Kuskokwim Villages Whitefish Non-salmon Local Knowledge	\$ <u>127,972</u>
	TOTAL	\$1,567,980

The eleven projects recommended for funding by the Technical Review Committee comprise a strong Monitoring Plan for the region by addressing strategically important information needs based on sound science and by promoting cooperative partnerships.

Summaries of Projects submitted for Funding

Each project submitted for funding in the Kuskokwim Region in 2014 is summarized below (see Executive Summaries for more details on all projects).

Fund (11)

14-301 Broad Whitefish Spawning above McGrath. This three-year project addresses the priority information need in the 2014 Notice of Funding Opportunity regarding Broad whitefish population assessment in the Kuskokwim River drainage and also addresses one of the priority research needs identified in the OSM-funded *Strategic Plan for Research of Whitefish Species in the Yukon and Kuskokwim River Drainages in Alaska*. Broad whitefish are presumed to be heavily utilized by Federally-qualified subsistence users within the Yukon Delta National Wildlife Refuge, as well as other locations in the Kuskokwim River drainage. Local users have expressed concerns that numbers have decreased and some populations may be over-exploited; however, population demographics and harvest data are very limited in the upper Kuskokwim River. Study design calls collecting up to 610 mature broad whitefish destined for spawning areas above McGrath. Data will be collected and recorded on the age, sex, length and weight of these fish. Investigators will take advantage of their time while collecting broad whitefish to do a feasibility assessment of future studies using mark-recapture techniques to estimate abundance.

14-302 Tatlawiksuk River Salmon Escapement Monitoring. This four-year project would continue operation of the Tatlawitsuk River weir to monitor salmon escapement. Daily and annual escapement estimates and the annual composition of age, sex, and length will be made for Chinook, chum, sockeye, and coho salmon. In addition, high school interns will be mentored on-site and an education curriculum will be administered. Daily weather and stream observations will also be made and recorded at the weir site. High school interns will be mentored on-site and an education curriculum will be administered. The weir has been operated cooperatively by Alaska Department of Fish and Game and Kuskokwim Native Association since 1998, and supported by Monitoring Program funds since 2005. This project addresses one of the 2014 priority information needs

14-303 George River Salmon Escapement Monitoring. This four-year project would continue operation of the George River weir to monitor salmon escapement. Daily and annual escapement estimates and the annual composition of age, sex, and length will be made for Chinook, chum, sockeye, and coho salmon. In addition, high school interns will be mentored on-site and an education curriculum will be administered. The weir has been operated cooperatively by Alaska Department of Fish and Game and Kuskokwim Native Association since 1996, and supported by Monitoring Program funds since 2005. This project addresses one of the 2014 priority information needs

14-304 Kanektok & Goodnews Rivers Salmon Run Assessments. This four-year project would continue operations of the Kanektok River and Goodnews River weirs to enumerate escapements of Chinook, sockeye, chum and coho salmon, and Dolly Varden. The Goodnews and Kanektok River salmon stocks spawn in the upper reaches of the Togiak National Wildlife Refuge. These stocks support subsistence fisheries in the villages of Platinum, Goodnews and Kwinhagak. Escapement data from these weirs are utilized for the management and conservation of stocks in the Kuskokwim Bay subregion. The two weirs provide the primary data on the timing, structure and abundance of escapements for Kuskokwim Bay fisheries. Used in concert with other projects, these projects have greatly increased the depth of knowledge about Dolly Varden char and will help to ensure future sustainable salmon populations. This project addresses one of the 2014 priority information needs

14-307 Upper Kuskokwim Sheefish Enumeration. This three-year project is basically a feasibility study of the use of DIDSON sonar to enumerate sheefish (also referred to as inconnu) in the lower Big River. Sheefish are highly valued by Kuskokwim Area subsistence users and account for a large percentage of the total annual subsistence harvest of non-salmon fish species. This project addresses one

of the 2014 priority information needs, as well as at least one of the inconnu research needs identified in the OSM-funded Whitefish Strategic Plan for the Yukon and Kuskokwim Rivers

14-308 Kwethluk River Salmon Run Timing and Abundance. This four-year project would continue operation of the Kwethluk River weir to monitor salmon escapement. The project will estimate escapements of Chinook, sockeye, chum, pink, and coho salmon into the Kwethluk River. The Kwethluk River drainage is within the boundaries of the Yukon Delta National Wildlife Refuge and harvest of this stock occurs within Refuge boundaries. In addition to the subsistence, Kuskokwim River salmon stocks also support commercial and recreational fisheries. The Kwethluk River has the second largest average Chinook return out of the six tributaries with weir projects; in some years the Kwethluk River Chinook return surpasses the Chinook return to the Kogrukuk River. The weir has been operated since 2000 (except for three years of high water) by the U.S. Fish and Wildlife Service and the Organized Village of Kwethluk, supported by Monitoring Program funds. This project addresses one of the 2014 priority information needs.

14-351 Kuskokwim Delta Chinook Salmon Non-local Harvesters. The goal of this one-year project is to describe the subsistence harvest of salmon from the Bethel and Aniak areas by non-local residents of the drainage. Investigators will interview airplane passengers at local airports during the summer months to obtain the information. Through this one-year pilot study, investigators will develop a statistical sampling design to be used in future research. Investigators should respond with the sampling design to the 2016 Request for Proposals for continuing funding. The project is a partnership with the Association of Village Council Presidents, the Kuskokwim Native Association, and the University of Montana, Missoula. The project addresses a 2014 priority information need.

14-352 Kuskokwim Area Salmon Post-season Subsistence Harvest Surveys. This four-year project funds the Kuskokwim Subsistence Salmon Harvest Monitoring Program, which the Alaska Department of Fish and Game has implemented since 1960. The overall goal of the project is to estimate the annual harvest of salmon for subsistence purposes, which is of high importance to both state and federal managers of this fishery. The project includes proven partnerships between the state, Kuskokwim Native Association, and Orutsararmut Native Council. The technical and scientific merit and the investigators' abilities and resources are highly rated. The Office of Subsistence Management has contributed funds to the project since 2000. This investigation plan is a request to continue that funding. Residents of the Kuskokwim Fisheries Management Area harvest five species of salmon for subsistence uses within the boundaries of the Yukon Delta and the Togiak national wildlife refuges. This investigation plan describes little to no consultation or partnering with the wildlife refuges in the region. Increased communication and collaboration with these federal land managers would improve the quality of this project.

14-353 Kuskokwim River Salmon Inseason Subsistence Survey. The Office of Subsistence Management has contributed funds to the project since 2000. This investigation plan is a request to continue that funding. The project uses a structured questionnaire to survey rural residents at their family fish camps during the subsistence salmon season in the vicinity of the community of Bethel. The study provides in-season information to the Kuskokwim River Salmon Working Group, which can be used to aid management of the salmon fisheries in the Kuskokwim Area. The project is viewed as a high priority by fisheries managers and stakeholders in the region. This project provides a capacity building component that has proven successful, but it has been modified by adding the requirement of a community deliverable to increase partnering and sharing of data with subsistence fishers in the region. The investigators will develop a deliverable for the communities and arrange a presentation at a high school or council meeting in Bethel to summarize and communicate trends in the data over the years in a community- friendly format(s). The community deliverable will focus on survey data about subsistence

needs for salmon and how well these have been met over the life of the project. Investigators may also examine trends in fishers' observations about how natural conditions affect fishing across the study years. The budget for this proposal has been increased to fund the additional deliverable.

14-354 Kuskokwim River Support for Cooperative Management. The subsistence salmon fishery of the Kuskokwim River is one of the largest in the state, and this project is of high strategic importance. This investigation plan requests four years of funding for the Kuskokwim River Salmon Management Working Group. Formed in 1988, the Working Group is considered to be a successful model of collaboration, and it provides a much needed public forum in which rural subsistence fishers and other stakeholders can meet and have discussions with managers regarding use and management of this important salmon resource. The investigator's ability and resources are highly rated. The Office of Subsistence Management has contributed funds to the Working Group process since 2006. This is a request to continue that funding. The budget for this study proposal has been modified.

14-356 Lower Kuskokwim Villages Whitefish Non-salmon Local Knowledge. Over four years, residents of the lower Kuskokwim River drainage communities of Nunapitchuk, Atmautluak, Kasigluk (the tundra villages); and Napakiak, Napaskiak, and Oscarville will document their patterns of nonsalmon fish use. The primary method will be "topic specific gatherings." A gathering of representatives of all six villages in Bethel will be followed by a gathering in one of the three tundra villages and a gathering in one of the three lower river villages. An important goal of the project is to provide experience and instruction to an assistant bi-lingual interpreter. Two sets of transcripts from the gatherings will be produced in English and Yup'ik. Transcripts will be analyzed to identify emergent themes, which will then be developed into a narrative. Emergent themes might include local taxonomy of whitefish, life history, and past and present harvesting methods. This project addresses a 2014 priority information need.

Do Not Fund (3)

14-305 Takotna River Salmon Weir. This four-year project would continue operation of the Takotna River weir to monitor salmon escapement. The weir has been operated cooperatively by the Alaska Department of Fish and Game and Takotna Tribal Council since 1999, and supported by Monitoring Program funds since 2005. While the investigation plan addresses a priority information need for salmon escapement monitoring, the Takotna River weir project has only enumerated an average of 388 Chinook salmon over the past 13 years (includes 2012 data). In addition, the ADF&G is implementing a new, lower escapement goal for Chinook salmon for the Kuskokwim River as a whole, starting in 2013. The ADF&G will mainly be relying on information from the Bethel Test Fishery for inseason management decisions, and from the weirs on the Kwethluk River, the Kogrukluak River and the George River, postseason, to determine the level of escapement throughout the Kuskokwim River basin. The information collected from the Takotna River weir would be ancillary, at best, for management decision making. The low escapement that occurs on the Takotna contributes minimally to the overall management of Chinook salmon into the Kuskokwim River, and the overall cost to run this weir for four years may no longer be justified, based on the amount of fish, especially Chinook salmon, enumerated.

14-306 Tuluksak River Salmon Weir. This four-year project would continue operation of the Tuluksak River weir to monitor salmon escapement. The weir has been operated by the U.S. Fish and Wildlife Service from 1991 through 1994, and then again from 2002 to present; the latter time period with funding from the Monitoring Program. The Chinook salmon run from 1991 through 2006 averaged 1,611 fish, while the run from 2007 to 2011 averaged 384 fish. While this project would address the 2014 priority information need for reliable estimates of salmon escapement for the Kuskokwim River, the low number of Chinook returning to the Tuluksak to spawn contributes minimally to the overall Chinook salmon

management of the Kuskokwim River, and the overall cost to run this weir for four years may no longer be justified, based on the amount of fish, especially Chinook salmon, enumerated.

14-355 North Kuskokwim Bay Chinook Salmon Natural Indicators. This three-year project would investigate and document the salmon fishing patterns of residents of the coastal communities of Toksook Bay, Kipnuk, Kongiganek, and Kwigillingok. Investigators plan to spend about a month in each community engaged in participant observation and semi-structured interviews with people of varied ages, abilities, and knowledge. General themes and patterns that emerge will be described in a final report. A shorter report will be written in Yup'ik. The project does not address a 2014 priority information need, the investigation plan and budget lack consistency and accuracy, the principal investigator has not completed a traditional knowledge study of this size in the past, and a key participant in the research could not be identified.

Table 1. Summary of Fisheries Resource Monitoring Program projects completed in the Kuskokwim since 2000. Abbreviations used for investigators are: ADFG=Alaska Department of Fish and Game, AVCP=Association of Village Council Presidents, BC=Bue Consulting, BSFA=Bering Sea Fisherman's Association, KNA=Kuskokwim Native Association, MNVC=McGrath Native Village Council, NPT=Nuniwarmiut Piciryarata Tamaryalkuti, Inc., ONC=Orutsarmiut Native Council, OVK=Organized Village of Kwethluk, TNC=Tuluksak Native Community, and USFWS=U.S. Fish and Wildlife Service.

Project Number	Project Title	Investigators
<i><u>Kuskokwim River Salmon</u></i>		
00-007	Tatlawiksuk River Salmon Weir	ADFG, KNA
00-008	Bethel Inseason Subsistence Harvest Data	ONC
00-009	Bethel Postseason Harvest Monitoring	ADFG, ONC
00-019	Kwethluk River Salmon Weir	USFWS, OVK
00-029	Documentation/Communication on Floating Weirs	AVCP
00-030	Kuskokwim Salmon Project Site Surveys	ADFG, USFWS
01-019	Planning Meetings in AVCP Region	AVCP, KNA
01-023	Upper Kuskokwim River Inseason Data	ADFG, MNVC
01-024	Bethel Postseason Fishery Household Surveys	ADFG, ONC
01-053	Tuluksak River Salmon Weir	USFWS, TNC
01-070	Kuskokwim River Chinook Salmon Genetic Diversity	ADFG, USFWS
01-086	Kuskokwim River Escapement Project Technician	ONC
01-088	Natural Resource Internship Program	KNA
01-116	Kuskokwim River Salmon Work Group support	ADFG
01-117	Kuskokwim Salmon Age-Sex-Length Assessment	ADFG
01-132	Bethel Inseason Subsistence Salmon Harvest Data	ONC, ADFG
01-141	Holitna River Chinook, Chum and Coho Telemetry	ADFG
01-147	Aniak River Sport Fisheries Survey	ADFG, KNA
01-225	Middle Kuskokwim River Inseason Salmon Harvest	KNA, ADFG, USFWS
01-226	Subsistence Fisheries Research Capacity Building	ADFG
02-036	Aniak Postseason Subsistence Fishery Surveys	ADFG, KNA
02-046	Kuskokwim River Chinook Salmon Inriver Abundance	ADFG
03-030	Kuskokwim River Salmon Mark-Recapture	ADFG, KNA
03-041	Kuskokwim Coho Salmon Genetics	ADFG, USFWS
03-931	Kuskokwim Science Plan	BSFA
04-301	Kwethluk River Salmon Weir	USFWS, OVK
04-302	Tuluksak River Salmon Weir	USFWS, TNC
04-306	Holitna River Chinook and Chum Salmon Telemetry	ADFG
04-307	Kuskokwim Age-Sex-Length Sampling	ADFG
04-308	Kalskag Salmon Mark-Recapture	ADFG
04-309	Kuskokwim Native Association Internship Program	KNA
04-310	Tatlawiksuk River Salmon Weir	ADFG, KNA
04-311	Kuskokwim Coho Salmon Genetic Mixed Stock Assessment	USFWS
04-353	Bethel Inseason Subsistence Salmon Data Collection	ADFG, ONC
04-359	Kuskokwim Postseason Salmon Subsistence Harvest Surveys	ADFG, KNA, ONC
05-302	Kuskokwim River Chinook Salmon Inriver Abundance	ADFG

Table 1 continued.

Project Number	Project Title	Investigators
<u><i>Kuskokwim River Salmon</i></u> (continued)		
05-304	George and Takotna River Salmon Weirs	ADFG
05-305	Kuskokwim Chinook Salmon Genetic Stock Identification	ADFG
05-307	Lower Kuskokwim Subsistence Fisheries Catch Monitoring	ONC
06-306	Lower Kuskokwim Salmon Inseason Subsistence Catch Monitoring	ADFG
06-307	Kuskokwim River Salmon Management Working Group	ADFG
07-302	Kuskokwim River Chum Salmon Run Reconstruction	ADFG, BC
07-304	Tatlawiksuk River Salmon Weir	ADFG, KNA
07-306	Kwethluk River Salmon Weir	USFWS, OVK
07-307	Tuluksak River Salmon Weir	USFWS, TNC
08-302	Lower Kuskokwim Subsistence Chinook Salmon Age-Sex-Length	ADFG
08-303	George River Salmon Weir	ADFG
08-304 ^a	Takotna River Salmon Weir	ADFG
08-351	Tuluksak River Subsistence Chinook Salmon Age-Sex-Length	USFWS
08-352	Bethel and Aniak Postseason Subsistence Salmon Harvest Surveys	ADFG
<u><i>Kuskokwim Bay Salmon</i></u>		
00-027	Goodnews River Salmon Weir	ADFG
00-028	Kanektok River Salmon Weir	ADFG, USFWS
01-118	Kanektok River Salmon Weir	ADFG, BSFA
04-305	Kanektok River Salmon Weir	ADFG, BSFA
04-312	Goodnews River Coho Salmon Weir	ADFG
04-351	Kuskokwim Bay Traditional Ecological Knowledge and Oral History	USFWS
05-353	Nunivak Island Subsistence Cod Fisheries	NPT
<u><i>Resident Species</i></u>		
01-052	Whitefish Lake Humpback & Broad Whitefish	USFWS, KNA
01-112	Aniak River Subsistence Fisheries Study	ADFG, KNA
01-235	Upper Kuskokwim Community Use Profiles	ADFG
04-304	Whitefish Lake Whitefish Telemetry	USFWS
05-301	Whitefish PIT Tags	USFWS
06-303	Kuskokwim River Whitefish Migratory Behaviour	USFWS, KNA
06-305	Kuskokwim River Inconnu Spawning Distribution	ADFG
06-351	Lower Kuskokwim Non-salmon Harvest and TEK	ADFG, AVCP
08-300	Aniak River Rainbow Trout Seasonal Distribution	ADFG
10-305 ^a	Kuskokwim River Sheefish Spawning, Distribution and Timing	ADFG

^a Final Report in preparation.

Table 2. Summary of ongoing 2013 projects funded under the Fisheries Resource Monitoring Program in the Kuskokwim by subsistence fishery. Abbreviations used for investigators are: ADFG=Alaska Department of Fish and Game, KNA=Kuskokwim Native Association, and USFWS=U.S. Fish and Wildlife Service.

Project Number	Project Title	Investigators	2013
<u><i>Kuskokwim River Salmon</i></u>			
10-300	Kanektok and Goodnews River Salmon Assessment	ADFG	\$146.0
10-303	Kuskokwim River Salmon Age Sex Length Assessment	ADFG	\$121.4
10-304	Tatlawiksuk River Salmon Assessment	ADFG	\$200.4
10-306	Kwethluk River Salmon Assessment	USFWS	\$224.3
10-307	Tuluksak River Salmon Assessment	USFWS	\$157.5
10-352	Kuskokwim Salmon Postseason Harvest Monitoring	ADFG	\$101.1
10-353	Kuskokwim Salmon Working Group Support	ADFG	\$53.9
10-354	Kuskokwim Salmon Inseason Harvest Monitoring	ADFG	\$21.5
12-302	L Kuskowkwim River Chinook Salmon Harvest ASL	ADFG	\$100.3
12-303	George River Salmon Weir	ADFG	\$171.1
12-304	Takotna River Salmon Escapement Monitoring	ADFG	\$116.1
<u><i>Kuskokwim River Non-Salmon</i></u>			
12-312	Highpower Creek Sheefish Status	ADFG	\$100.8
12-313	Kuskokwim River Bering Cisco Spawning Origins	KNA	\$72.1
12-352	U Kuskokwim River Shiterish Climate Change Trends	ADFG	70.4
Total Kuskokwim Monitoring Program			\$1,413.6

Table 3. Kuskokwim project costs, by organization (Alaska Native, State, Federal, other), for investigation plans submitted to the Fisheries Resource Monitoring Program for funding consideration in 2014.

Project Number	Title	Budget (\$000s)			
		Alaska Native	State	Federal	Other
<u>Stock Status and Trends Projects</u>					
14-301	Kuskokwim R Broad Whitefish Spawning above McGrath		\$100.0		
14-302	Tatlawiksuk R Salmon Weir	\$93.8	\$117.1		
14-303	George R Salmon Salmon Weir	\$91.8	\$116.6		
14-304	Kanektok Goodnews R Salmon Weir		\$214.6	\$23.3	
14-305	Takotna R Salmon Weir	\$3.8	\$97.8		
14-306	Tuluksak R Salmon Weir	\$54.5		\$123.1	
14-307	U Kuskokwim River Sheefish Enumeration		\$114.6		
14-308	Kwethluk River Salmon Weir Abundance and Run Timing	\$60.1		\$138.3	
<u>Harvest Monitoring and Traditional Ecological Knowledge</u>					
14-351	Kuskokwim Delta Chinook Salmon Non-local Harvesters	\$53.5			\$53.3
14-352	Kuskokwim Area Salmon Post-season Subsistence Harvest Surveys	\$64.5	\$94.8		
14-353	Kuskokwim River Salmon Inseason Subsistence Survey	\$18.7	\$15.2		
14-354	Kuskokwim River Support for Cooperative Management		\$63.0		
14-355	N Kuskokwim Bay Chinook Salmon Natural Indicators	\$102.2	\$87.1		
14-356	L Kuskokwim Villages Whitefish Non-salmon Local Knowledge	\$127.9			

Table 4. Kuskokwim local hire and matching funds for investigation plans submitted to the Fisheries Resource Monitoring Program for funding consideration in 2014. Abbreviations used are: ADFG=Alaska Department of Fish and Game, AVCP=Association of Village Council Presidents, USFS=U.S. Forest Service, and USFWS=U.S. Fish and Wildlife Service.

Project Number	Lead Organization	Title	Funding (\$000s)	
			Local Hire	Matching
<u>Stock Status and Trends Projects</u>				
14-301	USFWS	Kuskokwim R Broad Whitefish Spawning above McGrath	\$0.0	\$38.0
14-302	ADFG	Tatlawiksuk R Salmon Weir	\$32.6	\$40.3
14-303	ADFG	George R Salmon Salmon Weir	\$32.6	\$40.1
14-304	ADFG	Kanektok Goodnews R Salmon Weir	\$0.0	\$214.0
14-305	ADFG	Takotna R Salmon Weir	\$35.1	\$71.4
14-306	USFWS	Tuluksak R Salmon Weir	\$37.4	\$33.4
14-307	ADFG	U Kuskokwim River Sheefish Enumeration	\$3.0	\$84.2
14-308	USFWS	Kwethluk River Salmon Weir Abundance and Run Timing	\$44.7	\$45.0
<u>Harvest Monitoring and Traditional Ecological Knowledge</u>				
14-351	USFS	Kuskokwim Delta Chinook Salmon Non-local Harvesters	\$19.2	\$45.6
14-352	ADFG	Kuskokwim Area Salmon Post-season Subsistence Harvest Surveys	\$29.3	\$146.0
14-353	ADFG	Kuskokwim River Salmon Inseason Subsistence Survey	\$0.0	\$23.6
14-354	ADFG	Kuskokwim River Support for Cooperative Management	\$0.0	\$55.8
14-355	AVCP	N Kuskokwim Bay Chinook Salmon Natural Indicators	\$0.0	\$31.1
14-356	AVCP	L Kuskokwim Villages Whitefish Non-salmon Local Knowledge	\$23.1	\$14.0

Table 5. Funding recommendations by the Technical Review Committee (TRC) for the Kuskokwim 2014 Fisheries Resource Monitoring Program.

Project Number	Title	TRC	Requested Budget (\$000)			
			2014	2015	2016	2017
<u>Stock Status and Trends Projects</u>						
14-301	Kuskokwim R Broad Whitefish Spawning above McGrath	Yes	\$100.0	\$60.5	\$13.5	\$0.0
14-302	Tatlawiksuk R Salmon Weir	Yes	\$210.9	\$216.0	\$221.4	\$226.8
14-303	George R Salmon Salmon Weir	Yes	\$208.4	\$213.5	\$218.8	\$224.2
14-304	Kanektok Goodnews R Salmon Weir	Yes	\$237.9	\$206.2	\$213.6	\$184.0
14-305	Takotna R Salmon Weir	No	\$102.2	\$105.3	\$107.9	\$111.2
14-306	Tuluksak R Salmon Weir	No	\$177.6	\$183.9	\$196.2	\$226.8
14-307	U Kuskokwim River Sheefish Enumeration	Yes	\$114.6	\$93.9	\$82.4	\$0.0
14-308	Kwethluk River Salmon Weir Abundance and Run Timing	Yes	\$198.4	\$202.4	\$217.6	\$234.7
<u>Harvest Monitoring and Traditional Ecological Knowledge</u>						
14-351	Kuskokwim Delta Chinook Salmon Non-local Harvesters	Yes	\$106.8	\$0.0	\$0.0	\$0.0
14-352	Kuskokwim Area Salmon Post-season Subsistence Harvest Surveys	Yes	\$166.0	\$174.8	\$182.8	\$191.3
14-353	Kuskokwim River Salmon Inseason Subsistence Survey	Yes	\$33.9	\$35.4	\$36.9	\$38.5
14-354	Kuskokwim River Support for Cooperative Management	Yes	\$63.0	\$64.7	\$66.4	\$68.3
14-355	N Kuskokwim Bay Chinook Salmon Natural Indicators	No	\$189.3	\$166.0	\$143.7	\$0.0
14-356	L Kuskokwim Villages Whitefish Non-salmon Local Knowledge	Yes	\$127.9	\$124.4	\$115.5	\$29.5
Total			\$2,036.9	\$1,847.0	\$1,816.7	\$1,535.3
Funding Guideline			\$1,073.0			
TRC Recommendation			\$1,567.8	\$1,391.8	\$1,368.9	\$1,197.3

EXECUTIVE SUMMARY

Project Number: 14-301

Title: Describe Kuskokwim River Broad Whitefish Spawning Demographics above McGrath, Alaska.

Geographic Region: Kuskokwim Region

Information Type: Stock Status and Trends

Principal Investigator(s): Kenneth S. Gates, U.S. Fish and Wildlife Service, Kenai Fish and Wildlife Field Office (KFWFO), 43655 Kalifornsky Beach Road, Soldotna, AK 99669; (907) 262-9863; Fax (907) 262-7145; Kenneth_gates@fws.gov.

Co-Investigator: Ken C. Harper, U.S. Fish and Wildlife Service, Kenai Fish and Wildlife Field Office (KFWFO), 43655 Kalifornsky Beach Road, Soldotna, AK 99669; (907) 262-9863; Fax (907) 262-7145; Ken_Harper@fws.gov.

Project Cost:

FY2014	FY2015	FY2016	TOTAL
\$100,032	\$60,532	\$13,497	\$174,061

Issue Addressed: Basic life-history information is needed for broad whitefish *Coregonus nasus* to establish population baselines, assess future population status, and develop management strategies. Current federal subsistence regulations are limited and allow for unlimited year-round harvest for broad whitefish within the Kuskokwim River region. Broad whitefish are an important subsistence species in the Kuskokwim River region and are harvested within the Yukon Delta National Wildlife Refuge including Whitefish Lake in the Ophir Creek drainage and other locations along the Kuskokwim River including a spawning area identified above McGrath. There has been a growing concern from area residents along the Kuskokwim River that fewer whitefish are available for harvest today compared to recent history, particularly larger whitefish. Krauthoefer et al. (2007) noted during an interview of a subsistence fisher that there are fewer whitefish now compared to the past and that whitefish reached much larger sizes in the past than what are seen today. Simon et al. (2007) also documented that the most significant non-salmon resident fish species harvested by Bethel residents during 2001 was whitefish. This project will assist the U.S. Fish and Wildlife Service (Service) in meeting the legislative intent of Section 303 (7) (B) of ANILCA. Section 303 sets forth the purpose for which the Yukon Delta National Wildlife Refuge (Refuge) was established, and mandates the Service to: (i) conserve fish and wildlife populations and habitats in their natural diversity, and (ii) provide, in a manner consistent with the purposes set forth in paragraph (I), the opportunity for continued subsistence uses by local rural residents. This project will also address a biological objective developed for broad whitefish in the Service’s Strategic Habitat Conservation approach to landscape-scale conservation of managing broad whitefish in the Yukon and Kuskokwim rivers for sustainable subsistence and commercial fisheries. In addition, the project will address the need to collect population-specific length and age data identified by Brown et al. (2012) which carried forward as a specific priority information need outlined by the 2014 Federal Subsistence Fisheries Resource Monitoring Program (U.S. Fish and Wildlife Service, Office of Subsistence Management 2012).

Objective(s):

1. Estimate the proportional age and sex composition of mature broad whitefish spawning above McGrath, Alaska such that estimates are within 5% of the actual true population proportions 95% of the time.
2. Estimate the mean length and weight of mature broad whitefish spawning above McGrath, Alaska such that estimate are within 10% of the actual population means 95% of the time.

The project will also address two tasks in addition to the above objective. Tasks include

- a. a feasibility assessment of future studies using mark-recapture techniques to estimate abundance. Capture methods for a mark-recapture study would likely be similar to methods used in this study and would require a standardized measure of catch per unit effort, identification of areas important for marking and recapturing tagged fish, knowledge of broad whitefish run timing past the study area, and the ability to capture sufficient numbers of fish to be marked and recaptured for marks;
- b. a second task would be to record and catalog any reported harvests of Floy® t-bar anchor tagged fish from this study during subsequent subsistence fisheries. All handled fish in this study will be marked with a Floy tag labeled with contact information and a unique tag number. By recording the times and locations of harvested fish, a database can be created and if sufficient numbers are reported we can begin to identify where and when broad whitefish are being harvested. This will aid in the development of future creel census studies of the subsistence fishery.

Methods: A boat outfitted with an electrofishing unit and a three person crew will be used to sample 610 broad whitefish from 15 August to 10 October during 2014 and 2015. The boat will be equipped with a pulsed-DC variable-voltage pulsator (Coffelt Model VVP-15), or equivalent model, powered by a 5,000-W single-phase gasoline generator. The electrical output (voltage, amperage, and duty cycle) will be adjusted to the minimum level necessary to achieve electrotaxis (forced swimming) and will be adjusted based on observed response of shocked fish to minimize stress. Gillnets set along the shorelines will be used as a secondary capture technique in the event that the electrofishing boat requires repairs or maintenance. Set gillnets would be actively monitored and anchored in likely habitats and checked every 1-3 hours or more frequently depending on fish abundance to minimize fish mortality. Capture of fish using either technique will extend from approximately 25 rkm below McGrath (N62.86649; W155.65817, NAD 83) to approximately 75 rkm above McGrath (N62.99231; W155.20682, NAD 83; **Figure 1**).

Sampling methods including merwin traps, electrofishing, and gillnets, were tested and used to capture 294 broad whitefish during a feasibility study near McGrath from 18 September to 10 October, 2012 (U.S. Fish and Wildlife Service, Kenai Fish and Wildlife Field Office, 2012 unpublished data). Of the three methods, electrofishing was the most versatile and produced the greatest number of broad whitefish ($n=187$). Gillnets set in strategic locations proved to be successful ($n=104$) late in the sampling period when fish were found in larger groups near or on spawning areas.

Partnerships and Capacity Building: The KFWFO gained full support from residents of McGrath for the feasibility study conducted during 2012. We also employed individuals from the Village of Kwethluk to help in data collection. This included training in whitefish identification, sampling protocols, operation of electrofishing boats, and radio telemetry techniques. We intend to distribute Region 7's 2014 Fishery Technician Pre-Announcement to the communities in the surrounding area. This announcement outlines the available seasonal employment opportunities with the U.S. Fish and Wildlife Service and provides contacts and web addresses for further inquiries.

EXECUTIVE SUMMARY

Project Number: 14-302

Title: Tatlawiksuk River Salmon Weir

Geographic Region: Kuskokwim Region

Information Type: Stock Status and Trends (SST)

Principle Investigator: Brittany J. Blain, Alaska Department of Fish and Game.

Co-Investigators: (1) Dan Gillikin, Kuskokwim Native Association, (2) Kevin Schaberg, Alaska Department of Fish and Game

Project Cost:

2014	2015	2016	2017	TOTAL
\$210,879	\$215,982	\$221,401	\$226,816	\$875,078

Issue: Tatlawiksuk River salmon contribute to subsistence, commercial, and recreational fisheries within the Yukon Delta National Wildlife Refuge Federal nexus. Contributing to numerous initiatives that are inclusive of the entire Kuskokwim River drainage, the Tatlawiksuk River weir is one of several projects used to develop reliable estimates of abundance, run timing, stock structure, productivity, and carrying capacity of salmon stocks over a broad geographic scale in the Kuskokwim Region (Area), issues identified by OSM as a priority information need. The project provides fundamental escapement information necessary to facilitate inseason management decisions and to assess trends in salmon populations. This project has been essential as a platform for several other projects such as the Chinook salmon run reconstruction, serving as a tag recovery site, and for developing escapement goals. In addition, the escapement age, sex, and length information collected at Tatlawiksuk River provides part of the context needed to assess the impacts of subsistence harvest practices.

Salmon escapements from this project have been monitored successfully at the Tatlawiksuk River weir 13 out of 15 years since operations began in 1998. Information from this project has become integrated into the annual management process, both by providing insights into escapement and stock specific run timing through the fishery. In 2013, a drainage-wide goal was introduced, which will be implemented during the 2013 field season which is currently the last year of funding by OSM. Tatlawiksuk River weir is an important input into the run reconstruction tool which managers will use to assess this newly developed drainage-wide escapement goal and its continuation is vital.

Similar run reconstruction models are currently under development for Kuskokwim River coho and sockeye salmon, and the potential development for chum salmon exists as well. Such models are important management tools, as total run abundance estimates contribute to determination of annual exploitation rates, comparison of exploitation among age/sex components, assessment of high seas interception, examination of the influence of environmental factors on variability in abundance, and creation of drainage-wide escapement goals. The Tatlawiksuk River weir is one of many projects in the Kuskokwim Region that plays an important role in the run reconstruction model and the development of escapement goals.

Most importantly, this project also incorporates substantial capacity building and outreach components, including a KNA High School Internship program that has fostered understanding and cooperation between stakeholders and agencies across the region. In addition, the project hosts KNA college interns that gain valuable career building experience working at the weir and learning biological sampling techniques.

Objectives:

1. Determine daily and total annual Chinook, chum, sockeye, and coho salmon escapements from 15 June to 20 September;
2. Estimate age-sex-length (ASL) composition of annual Chinook, chum, and coho salmon escapements to the Tatlawiksuk River such that 95% confidence intervals of age composition will be no wider than $\pm 10\%$ ($\alpha=0.05$, $d=0.10$);
3. Provide mentorship and administer education curriculum to KNA high school interns.

Methods: Investigators will install a resistance board weir on the Tatlawiksuk River. Passage gates in the weir will allow fish to be identified by species and counted as they pass upstream and a live trap will be used to sample salmon for sex and length information and scales for age data that will be processed post-season. Data collected will be published in an *Escapement Monitoring Report* and an *Age, Sex, Length Catalogue*. Investigators will also record daily water temperature, water level, and weather conditions. A local technician hired by KNA will operate the project along with a lead crew member provided by ADF&G. The project will also serve as a platform for future studies such as a recovery site for mark-recapture projects.

Partnership/Capacity Building:

KNA and ADF&G operate the Tatlawiksuk River weir jointly at the Partnership Level. Planning, operation, and data analysis associated with the weir is done through an interactive feedback between staff from both organizations, including the KNA fishery biologist who is employed through the OSM Fishery Partners Program. KNA has a proven track record of effective involvement in weir operation. Past interactions between KNA, ADF&G/CF, and local communities has created a high level of public awareness about salmon management and stock status, and has fostered career interests in fisheries through the student internship program.

The Tatlawiksuk River weir hosts an established high school internship program, which facilitates broad community awareness and understanding, interest, and direct involvement fisheries management. The KNA High School intern program sponsors between 15 and 20 high school age students from throughout the Kuskokwim Area on week-long internships, which includes a curriculum of activities and assignments on salmon life history and management. Student interns witness how western science works in conjunction with traditional knowledge to protect their fisheries resources, and interns share their experiences with other family and community members. This outreach program is a long-term investment that develops informed individuals who will serve as the future technicians, biologists, board members, public leaders, and the voting citizens who will influence the course of future events through their decisions. Many past interns have subsequently been hired as fisheries technicians or college interns by KNA, Association of Village Council Presidents, or ADF&G.

EXECUTIVE SUMMARY

Project Number: 14-303

Title: George River Salmon Weir

Geographic Region: Kuskokwim Region

Information Type: Stock Status and Trends (SST)

Principle Investigator: Brittany J. Blain, Alaska Department of Fish and Game.

Co-Investigators: (1) Dan Gillikin, Kuskokwim Native Association, (2) Kevin Schaberg, Alaska Department of Fish and Game

Project Cost:

2014	2015	2016	2017	TOTAL
\$208,409	\$213,452	\$218,804	\$224,156	\$864,821

Issue: George River salmon contribute to subsistence, commercial, and recreational fisheries within the Yukon Delta National Wildlife Refuge Federal nexus. Contributing to numerous initiatives that are inclusive of the entire Kuskokwim River drainage, the George River weir is one of several projects used to develop reliable estimates of abundance, run timing, stock structure, productivity, and carrying capacity of salmon stocks over a broad geographic scale in the Kuskokwim Region (Area), issues identified by OSM as a priority information need. The project provides fundamental escapement information necessary to facilitate inseason management decisions and to assess trends in salmon populations. This project has been essential as a platform for several other projects such as the Chinook salmon run reconstruction, serving as a tag recovery site, and for developing escapement goals. In addition, the escapement age, sex, and length information collected at George River provides part of the context needed to assess the impacts of subsistence harvest practices.

Salmon escapements from this project have been monitored successfully 15 out of 17 years since 1996. Information from this project has become integrated into the annual management process, both by providing insights into escapement and stock specific run timing through the fishery. In 2007, an escapement goal was established for Chinook salmon on the George River. In 2013, revisions were made to the tributary escapement goal and a drainage-wide goal was introduced, both of which will be implemented during the 2013 field season already funded by OSM. George River weir is an important input into the run reconstruction tool which managers will use to assess this newly developed drainage-wide escapement goal and its continued operation is vital to determining the success of this tool.

Similar run reconstruction models are currently under development for Kuskokwim River coho and sockeye salmon, and the potential development for chum salmon exists as well. Such models are important management tools, as total run abundance estimates contribute to determination of annual exploitation rates, comparison of exploitation among age/sex components, assessment of high seas interception, examination of the influence of environmental factors on variability in abundance, and creation of drainage-wide escapement goals. The George River weir is one of many projects in the Kuskokwim Region that plays an important role in the run reconstruction model and the development of escapement goals.

Most importantly, this project also incorporates substantial capacity building and outreach components, including a KNA High School Internship program that has fostered understanding and cooperation between stakeholders and agencies across the region. In addition, the project hosts KNA college interns that gain valuable career building experience working at the weir and learning biological sampling techniques.

Objectives:

1. Determine daily and total annual Chinook, chum, sockeye, and coho salmon escapements from 15 June to 20 September;
2. Estimate age-sex-length (ASL) composition of annual Chinook, chum, and coho salmon escapements to the George River such that 95% confidence intervals of age composition will be no wider than $\pm 10\%$ ($\alpha=0.05$, $d=0.10$);
3. Provide mentorship and administer education curriculum to KNA high school interns.

Methods: Investigators will install a resistance board weir on the lower George River. Passage gates in the weir will allow fish to be identified by species and counted as they pass upstream and a live trap will be used to sample salmon for sex and length information and scales for age data that will be processed post-season. Data collected will be published in an *Escapement Monitoring Report* and an *Age, Sex, Length Catalogue*. Investigators will also record daily water temperature, water level, and weather conditions. A local technician hired by KNA will operate the project along with a lead crew member provided by ADF&G. The project will also serve as a platform for future studies such as a recovery site for mark-recapture projects.

Partnership/Capacity Building: KNA and ADF&G operate the George River weir jointly at the Partnership Level. Planning, operation, and data analysis associated with the weir is done through an interactive feedback between staff from both organizations, including the KNA fishery biologist who is employed through the OSM Fishery Partners Program. KNA has a proven track record of effective involvement in weir operation. Past interactions between KNA, ADF&G/CF, and local communities has created a high level of public awareness about salmon management and stock status, and has fostered career interests in fisheries through the student internship program.

The George River weir hosts an established high school mentorship program, which facilitates broad community awareness and understanding, interest, and direct involvement fisheries management. The KNA High School intern program sponsors between 15 and 20 high school age students from throughout the Kuskokwim Area on week-long internships, which includes a curriculum of activities and assignments on salmon life history and management. This outreach program is a long-term investment that develops informed individuals who will serve as the future technicians, biologists, board members, public leaders, and the voting citizens who will influence the course of future events through their decisions. Several former High School and college interns from this program have already gone on to become fisheries technicians with both KNA and the Department of Fish and Game. Several others are now completing college degrees, having gotten a start through this program.

EXECUTIVE SUMMARY

Project Number: 14-304

Project Title: Kanektok and Goodnews River Salmon Run Assessment Projects

Geographic Region: Kuskokwim Region

Information Type: Stock Status and Trends (SST)

Principle Investigator: Aaron Tiernan, Alaska Department of Fish and Game.

Co-Investigators: (1) Jacqueline Cleveland, Native Village of Kwinhagak (2) Mark Lisac, U.S. Fish and Wildlife Service, Togiak National Wildlife Refuge.

Project Cost:

2014	2015	2016	2017	TOTAL
\$235,417	\$206,235	\$213,649	\$184,009	\$839,310

Issue: Kanektok and Goodnews River salmon contribute to subsistence, commercial, and recreational fisheries within the Togiak National Wildlife Refuge (TNWR). Weir projects on these rivers are used to develop estimates of abundance, run timing, and escapement estimates, in the Kuskokwim Bay area, issues identified by OSM as a priority information need. The projects provide escapement information necessary to facilitate inseason management decisions and to assess trends in salmon populations. This project also incorporates capacity building for the Native Village of Kwinhagak (NVK) and outreach components with the communities of Quinhagak and Goodnews Bay.

Salmon escapement on the Kanektok River has been monitored adequately for 9 out of last 10 years. The floating weir on Goodnews River has been in operation since 1998. These weirs are the only projects available to address information gaps in salmon escapement data within Kuskokwim Bay drainages. Escapement and other data collected by both projects increase the ability to effectively manage for the subsistence priority and other uses of Kuskokwim Bay salmon resources.

Age and sex samples collected at both weirs, can contribute to management forecasting, and aid in monitoring for sustainable yields. Total abundance estimates facilitate the identification of both harvestable surpluses and conservation concerns. Environmental variables monitored at the project sites provide a baseline for charting environmental change over time. Information from these projects contributes to regulatory and management decisions that directly affect subsistence use, addressing the issue of “allocation priority” as defined in the RFP.

Methods: Resistance board weirs will be installed on the Kanektok and Middle Fork Goodnews Rivers. Passage chutes in the weir will allow species identification and passage monitoring. Live traps will be used to sample Chinook, sockeye, chum, and Coho salmon for scales, sex and length information (ASL). ASL data is processed post-season under *Kuskokwim Salmon ASL Assessment Project* (OSM 10-303). Results and samples collected will be shared with cooperative organizations. Investigators will also record daily water temperature, water level, and weather conditions. ADF&G/CF staff will be responsible for maintaining the information used for in-season management.

Products: Findings will be summarized in ADF&G Fishery Data Series reports and area management reports (AMR) for the Kuskokwim area. Collected data will also, be posted to the ADF&G web site.

Investigators Ability and Resources: Aaron Tiernan is the Assistant Kuskokwim Area Management Biologist with ADF&G Commercial Fisheries Division. Mr. Tiernan will be involved in fisheries management decisions for the Kuskokwim Bay. Jacqueline Cleveland is the Natural Resources Director for the Native Village of Kwinhagak. Ms. Cleveland will provide NVK budget management support for weir operation and logistic support for local hired crew members. Funding for NVK Technicians and operational cost is provided by Coastal Villages Regional Fund (CVRF). Mark Lisac is a Fisheries Biologist with United States Fish and Wildlife Service (USFWS), TNWR. TNWR provides one technician and support on the Goodnews River. TNWR aids in project management and review of associated FDS reports.

Partnership/Capacity Building:

The Kanektok River weir project is operated cooperatively by ADF&G, NVK, and TNWR. Staff includes ADF&G technicians and two to three NVK Fishery Technicians assisting in project operations. The camp is a cooperative setting teaching fisheries monitoring skills and encouraging teamwork and self-motivation. ADF&G provides a proactive role in the mentoring of NVK staff and technicians.

The Middle Fork Goodnews River weir project is operated cooperatively by ADF&G and the TNWR. Staff includes ADF&G technicians and one local hire TNWR Fisheries Technician. Staffing may be supplemented in-kind by ADF&G and TNWR technicians and interns.

ADF&G will continue its lead role in the development of both projects, oversight of seasonal operations, and post-season data analysis and reporting requirements. Regular consultations between ADF&G, NVK, USFWS, CVRF, and local stakeholders will occur throughout the year to coordinate logistics, discuss results, and exchange ideas.

EXECUTIVE SUMMARY

Project Number: 14-305

Title: Takotna River Salmon Weir

Geographic Region: Kuskokwim Region

Information Type: Stock Status and Trends (SST)

Principle Investigator: Brittany J. Blain, Alaska Department of Fish and Game.

Co-Investigators: (1) Nell Huffman, Takotna Community Association, (2) Dick Newton, Takotna Community Association (3) Kevin Schaberg, Alaska Department of Fish and Game

Project Cost:

2014	2015	2016	2017	TOTAL
\$102,158	\$105,278	\$107,878	\$111,161	\$426,475

Issue: Takotna River salmon contribute to subsistence, commercial, and recreational fisheries within the Yukon Delta National Wildlife Refuge Federal nexus. Contributing to numerous initiatives that are inclusive of the entire Kuskokwim River drainage, the Takotna River weir is one of several projects used to develop reliable estimates of abundance, run timing, stock structure, productivity, and carrying capacity of salmon stocks over a broad geographic scale in the Kuskokwim Region (Area), issues identified by OSM as a priority information need. The project provides fundamental escapement information necessary to facilitate inseason management decisions and to assess trends in salmon populations. This project is essential as a platform for several other projects and for developing escapement goals. This project also incorporates substantial capacity building and outreach components, including a TCA High School Internship program that has fostered understanding and cooperation between stakeholders and agencies across the region.

Salmon escapements from this project have been monitored successfully 15 out of 18 years since 1996. Escapement and age, sex, length information provided from Takotna River weir, in conjunction with other projects, are valuable input for the Chinook salmon run reconstruction model that estimates total annual Chinook salmon abundance for the entire Kuskokwim River. Similar run reconstruction models are currently under development for Kuskokwim River coho and sockeye salmon, and the potential development for chum salmon exists as well. Such models are important management tools, as total run abundance estimates contribute to determination of annual exploitation rates, comparison of exploitation among age/sex components, assessment of high seas interception, examination of the influence of environmental factors on variability in abundance, and creation of drainage-wide escapement goals.

While the Takotna River also contributes to run reconstruction models and assessment of drainage-wide escapement goals, it also represents an area of interest to managers in that it appears to be a system recovering from over fishing and habitat loss in the early twentieth century. The original development of this project was based on resident and ADF&G interest in documenting this perceived recovery. Continued study may offer researchers and managers perspectives on managing recovering salmon runs.

Objectives:

1. Determine daily and total annual Chinook, chum, and coho salmon escapements from 15 June to 20 September;
2. Estimate age-sex-length (ASL) composition of annual Chinook, chum, and coho salmon escapements to the George River such that 95% confidence intervals of age composition will be no wider than $\pm 10\%$ ($\alpha=0.05$, $d=0.10$);
3. Provide mentorship and administer education curriculum to KNA high school interns.

Methods: Investigators will install a resistance-board weir on the lower Takotna River to encompass the target operational period of 24 June to 20 September. Passage gates in the weir will allow fish to be identified by species and counted as they pass upstream and a live trap will be used to sample salmon for sex and length information and scales for age data that will be processed post-season. Data collected will be published in an *Escapement Monitoring Report* and an *Age, Sex, Length Catalogue*. Investigators will also record daily water temperature, water level, and weather conditions. A local, lead crew member hired by ADF&G along with local technicians provided by TCA will operate the project. The project will also serve as a platform for future studies.

Partnership/Capacity Building:

TCA and ADF&G operate the Takotna River weir jointly at the Partnership Level. Planning, operation, and data analysis associated with the weir is done through an interactive feedback between staff from both organizations. TCA is the recognized village government of the village of Takotna and has a proven track record of grant and project management, with effective involvement in weir operation since 2012 when they took over project responsibility from Takotna Tribal Council. TCA is committed to continuing development of public awareness about salmon management and stock status, and fostering career interests in fisheries through the student internship program.

The Takotna River weir hosts an established high school internship program, which facilitates broad community awareness and understanding, interest, and direct involvement fisheries management. The TCA internship program provides part-time employment throughout the season to high school students who work directly with full-time adult crew members. This outreach program is a long-term investment that develops informed individuals who will serve as the future technicians, biologists, board members, public leaders, and the voting citizens who will influence the course of future events through their decisions. The current ADF&G technician started as a high school intern with TCC.

EXECUTIVE SUMMARY

Project Number: 14-306

Title: Tuluksak River Salmon Run Timing and Abundance

Geographic Area: Kuskokwim (Map 6).

Data Type: Stock Status and Trends.

Principal Investigator: Ken Harper, U.S. Fish and Wildlife Service, Kenai Fish and Wildlife Field Office, 43655 Kalifornsky Beach Road, Soldotna, AK 99669; (907) 262-9863; ken_harper@fws.gov; Fax (907) 262-7145.

Co-Investigator(s): Steve J. Miller, U.S. Fish and Wildlife Service, Kenai Fish and Wildlife Field Office, c/o Yukon Delta NWR, Box 346, Bethel, AK 99559; (907) 543-1009; steve_miller@fws.gov; Fax (907) 543-4413.

Wassca Fly, Council President, Tuluksak Native Community (TNC), Box 95, Tuluksak, AK 99679; (907) 695-6420, darlenepeter1@yahoo.com, Fax 907) 695-6932, DUNS # 021711960.

Project Cost:

2014	2015	2016	2017	TOTAL
\$177,586	\$183,926	\$196,184	\$226,752	

Issue Addressed: This project focuses on strategic priority information needs identified in the 2012 Fisheries Resource Monitoring Plan (eg. Obtaining reliable estimates of salmon returns; methods including the quality of escapement). Management of Kuskokwim Area salmon fisheries is complex because of annual variability in run size, timing, and harvest of mixed stocks, overlapping runs of multiple species, allocation issues, and the immense size of the Kuskokwim River drainage. Weirs that monitor salmon returning to Kuskokwim River tributaries provide: 1) accurate escapement numbers, 2) fish age and sex information, 3) run timing, 4) a platform for other research projects, as well as 5) provide insight for sustainable salmon management. These data are heavily relied upon by state and federal managers for management of the Kuskokwim River commercial fisheries and one of the largest subsistence fisheries in Alaska. Without adequate and accurate escapement monitoring of salmon returns to the Kwethluk River, there is a risk to the conservation and maintenance of Chinook *Onchorynchus tshawytscha*, chum *O. keta*, sockeye *O. nerka*, pink *O. gorbuscha*, and coho salmon *O. kisutch* populations. Monitoring of salmon returns to the Kwethluk River is essential to ensuring that Federal conservation mandates are fulfilled within the Yukon Delta National Wildlife Refuge (Alaska National Interest Lands Conservation Act ((Section 303 (7) (8) a, b, c)). Escapement monitoring also helps reduce the risk of failure to provide a priority to subsistence uses, and risk that subsistence harvest needs will not be met. This project has been in operation during 1991–1994, 2001–2013 and if funded continue to operate through 2017.

Objectives:

1. Enumerate the daily passage and characterize the run timing of Chinook, chum, coho, sockeye, and pink salmon and resident fish species through the weir.

2. Estimate the weekly sex and age composition of Chinook, chum, and coho salmon such that the simultaneous 95% confidence intervals have a maximum width of 0.20.
3. Estimate the mean length of Chinook, chum and coho salmon by sex and age.
4. Identify and count other fish species passing through the weir and enumerate salmon carcasses passing back over the weir.

Methods: The monitoring project has been operated during 1991–1994 and 2001–2012. It is funded for 2013 (OSM-FRMP project 10-307). The KFWFO and TNC operates a resistance board weir affixed with an underwater video system spanning a 60 m section of the Tuluksak River approximately 49 river kilometers (rkm) upstream from the confluence with the Kuskokwim River . Enumeration of salmon normally occurs between June 20 and September 10 Fish will be passed through the weir and video camera chute twenty four hours each day, seven days a week. All fish passing upstream will be counted and identified to species. Gill net marked fish will be included in the daily escapement counts, but recorded separately.

The video system will facilitated fish sampling during various river stage heights and allow for salmon passage and enumeration 24 hours each day. The video system and weir are operated in unison. The video system will provide live video of fish passage and capture video footage using motion detection software and a DVR. An object will be passed in front of the video camera periodically to confirm the camera is operating correctly, and to adjust the motion sensing software if needed. Paired comparison counts of fish passage using live video and captured video footage (motion detection) will be conducted daily to validate the motion detection software. For a paired count comparison a one hour time block will be selected randomly and fish tallied by species. This passage will be compared by reviewing the same time using the captured video (archived) from the DVR. If discrepancies are found the trap will be closed for a short time until adjustments to the motion detection can be corrected.

Data on fish age, sex, and length (ASL) will be collected using a temporally stratified sampling design, with statistical weeks defining strata. A sample of fish will be drawn weekly for ASL information. Sample size goals for each stratum will be adopted to meet Objective 2. Sampling consists of measuring length, determining sex, collecting scales, examining fish for gill net marks, and then releasing the fish upstream of the weir. Salmon will be measured from mideye to forkofcaudalfin, and to the nearest 5 mm. Sex will be determined by observing external characteristics. Sample data for salmon will be recorded on all-weather ASL field forms and transferred into electronic format for Service and State databases. One scale will be collected from each chum salmon and four scales will be collected from each Chinook and coho salmon. Scales will be removed from the preferred area for age determination. Salmon scales will be clean and properly affixed to gummed scale cards and pressed on acetate to make an impression. Scales will be aged by the Service's Kenai Fish and Wildlife Field Office (KFWFO) in Soldotna, Alaska. Scale analysis and reporting will utilize methods described by Mosher (1969). Age determinations for Chinook salmon include the number of years spent in freshwater as a juvenile and the number of years spent in saltwater as an adult. The KFWFO will archive scale cards and acetates, and tabulated ASL data will be provided to ADF&G and maintained in ADF&G's Arctic Yukon Kuskokwim salmon escapement database.

Characteristics of fish passing through the weir were estimated using standard stratified random sample estimators. Days with partial or zero counts will be considered incomplete and estimates will be calculated for those dates. Estimates will be based on the average daily proportion of passage from previous years. An average of the daily proportions for previous years will be calculated since daily escapement can vary between years. The sum of the averaged daily proportions, calculated for days with partial or zero counts, will be the estimated total proportion of the missed escapement. The

total escapement will be the sum of the observed counts for the current year divided by one minus the proportion missed during the current year. Prior years with estimates will not be used to calculate the current year estimates.

Partnerships and Capacity Building: TNC is a co-investigator with the Tuluksak River weir project (1991–1994 and 2001–present). Tribal members from the village of Tuluksak comprise the majority of staff operating the Tuluksak River weir. TNC members are trained in biological techniques, computer skills, and safety (e.g. bear and firearms, watercraft, aircraft). Administrative support for the weir project is also provided by TNC. Village council members are encouraged to visit project sites. TNC and OVK technicians have been exchanged intermittently between weir projects during the season and have been incorporated into other Kuskokwim River projects to expand their knowledge of fisheries projects in the drainage. Kenai-FWFO continues to mentor and train residents hired by the villages to work at the weirs and other project operations.

This project has been supported by the TNC, the Yukon Delta National Wildlife Refuge, the Kuskokwim River Salmon Management Working Group (Working Group), Orutsararmuit Native Council (ONC), Kuskokwim Native Association (KNA), the Association of Village Council Presidents (AVCP), the Lower Kuskokwim State Advisory Committee and ADF&G. The Kuskokwim River Salmon Management Working Group is comprised of village elders, subsistence users, representatives from sport and commercial interests and ADF&G. Working group is funded by OSM.

EXECUTIVE SUMMARY

Project Number: 14-307

Title: Enumeration and spawning area characterization of sheefish in the Upper Kuskokwim River

Geographic Region: Kuskokwim Region.

Data Type: Stock Status and Trends

Principle Investigator: Lisa Stuby, Alaska Department of Fish and Game, Sport Fish Division

Project Cost (State Fiscal Years):

2014	2015	2016	TOTAL
\$114,636	\$93,888	\$82,374	\$290,898

Issues: The greatest use of sheefish in the Kuskokwim River drainage has been for subsistence with the majority of this harvest occurring in the lower and middle Kuskokwim River within the boundaries of the Yukon Delta National Wildlife Refuge. Little is known of the stock composition of the harvest or the abundance or productivity of the various spawning populations, and this information is essential for evaluating sustainability of the fishery. Using the knowledge gained from FIS 06-305 and FIS 10-305, an attempt will be made to deploy a dual-frequency identification sonar (DIDSON produced by Sound Metrics Corp.) near the Big River mouth during 2014-2016 to acquire inriver estimates of spawning sheefish. Approximately 80% of radiotagged sheefish from this 5 year study travelled to the Big River to spawn. Given these fish were tagged at major lower and middle Kuskokwim River tributaries, it can be assumed that the Big River spawners represent a significant proportion of the total inriver sheefish population.

The mouth of Highpower Creek and Swift Fork was documented as a sheefish spawning area in the 1970's. Several residents from Nikolai and Telida have informed the project biologist that this once important resource has not been seen since the 1990's. An effort (OSM Project 12-312) is being made to try and identify the current status of this spawning stock. So far efforts to capture and radiotag sheefish that spawn in Highpower Creek and Swift Fork have been unsuccessful. To better understand habitat changes that may have adversely affected this spawning population, the project biologist will examine a time series of synthetic aperture radar (SAR) and optical satellite images, paying particular attention to upwelling locations at this and the other 4 sheefish spawning areas. Winter upwelling is important to egg survival. In addition, 50 radio transmitters will be deployed at previously unidentified summer upriver feeding areas near McGrath. These upriver feeding sheefish may exhibit life history patterns that have not been noted, such as fall spawning migrations to Highpower Creek and/or additional undocumented spawning areas. Fin clips taken during tagging would add data to the genetic baseline data for the Kuskokwim.

Radiotagged sheefish from OSM Project 12-312 were detected on the South Fork of the Kuskokwim River near the Little Tonzona River at an area not previously noted for spawning activity. Locating aggregations of radiotagged sheefish during the spawning period does not necessarily provide conclusive evidence of spawning in a particular location. Verification of spawning requires site visits to those areas to sample sheefish and assess their spawning condition. Therefore, a site visit will be made in 2015 to collect age, sex, and length data, record habitat characteristics, and collect fin clips for genetics analysis.

Development of methods to estimate the abundance of sheefish spawning populations in the Kuskokwim River drainage, completing genetic baseline sampling and population marker development, locating and confirming additional spawning areas, determining the status of the sheefish spawning population in Highpower Creek, and collecting population-specific length and age data for known spawning populations have been identified as priority research needs by the strategic plan for research of whitefish species in the Yukon and Kuskokwim River Drainages (Brown, et al. 2012) and the 2014 Fisheries Research Monitoring Program. Management of sheefish populations for long-term sustainability requires a better understanding of their reproductive biology, life history traits, and their population size and composition.

Objectives: The objectives of this project will be to:

1. Assess the feasibility of enumerating outmigrating, post spawning sheefish in the lower Big River in 2014 using a DIDSON sonar system, and if successful, continue the enumeration program in 2015 and 2016 to estimate abundance of outmigrating fish.
2. Attempt to locate additional spawning areas in the upper Kuskokwim River by radiotagging 50 sheefish at upriver feeding areas above and near McGrath.
3. Verify a suspected sheefish spawning area on the South Fork of the Kuskokwim River near the confluence with the Little Tonzona River by conducting a site visit and capturing sheefish to assess their spawning condition.
 - a. Describe habitat characteristics of the South Fork spawning area.
4. Identify and document upwelling groundwater or hyporheic exchange water with respect to the five documented sheefish spawning habitats in the upper Kuskokwim River drainage.
 - a. Compare yearly optical and SAR satellite data from 2007-2011 for five documented sheefish spawning areas to investigate localized habitat changes.
 - b. Deploy temperature, conductivity, and dissolved oxygen data loggers in the upwelling areas identified from the SAR data.

Methods: A DIDSON will be deployed at the mouth of Big River to examine the feasibility of enumerating sheefish that spawn in this drainage in 2014. If successful, the DIDSON will be deployed again during 2015 and 2016. Efforts will focus on the relatively compressed fall outmigration in early to mid-October. The sonar set up will commence on 25 September and will run until 15 October unless icing forces earlier stopping dates. Abundance and migration timing data will be collected 24 hours a day, 7 days a week, in 60-minute sample periods. A proportion of the sheefish that will be radiotagged at upriver tributaries will probably enter the Big River to spawn and thus provide up-to-date information on outmigration timing that will be used to assess the enumerated proportion if counts cease due to ice.

Remote sensing data will be used to locate and document ice-free areas (groundwater influence) at sheefish spawning locations for the winters of 2007-2011. The project biologist has applied for and received permission from the National Aeronautic and Space Administration via the Alaska Satellite Facility to access 2011 and earlier SAR data from ERS1, ERS-2, and RADARSAT-1 and has access to Landsat optical satellite images. Variations in the size and reach of upwelling areas over the 5-year period will be noted. Temperature, dissolved oxygen, and conductivity data loggers will be deployed into key upwelling areas.

Fifty sheefish will be captured using gillnets and hook and line gear and implanted with radio transmitters between the mouths of the Katlitna and Big rivers during June and July 2014. These fish will be tracked through the fall of 2016 with a combination of stationary tracking stations and aerial tracking flights.

A site visit to the sheefish spawning area on the South Fork of the Kuskokwim River will be made in late September 2015. A minimum of 10 sheefish will be collected. Extrusion of gametes will confirm spawning readiness and some will be sacrificed and gonadosomatic indices calculated to quantify maturity, both saggital otoliths will be removed, and age, sex, and length will be recorded. Habitat characteristics including water temperature, channel characteristics, spawning substrate, flow, pH, and turbidity will be recorded for later comparisons with the other Kuskokwim River sheefish spawning areas.

Partnerships and Capacity Development: The project biologist will work closely with the Kuskokwim Native Association (KNA), McGrath, Telida, Nikolai, and Takotna, Ltd., and the McGrath Native Village Council to garner college interns and/or local hires and will encourage local participation. She will continue to present at the Kuskokwim Area interagency meetings where representatives from various native associations, federal and state agencies, and other pertinent parties will be in attendance. She will work with residents of McGrath to decipher the best times to capture and tag sheefish at upriver feeding areas. The project biologist will also give project presentations to residents of Nikolai and McGrath and put together an update pamphlet describing project results. She will also look into other avenues for capacity development with upriver residents such as giving school presentations and radio updates. The project biologist is a co-investigator with “Yukon and Kuskokwim Rivers Inconnu Genetic Baseline” (OSM Project 12-700) and works cooperatively with OSM Project “Location, Migration Timing, and Description of Kuskokwim River Bering Cisco Spawning Origins” (OSM Project 12-313) and shares stationary tracking station maintenance duties with KNA and incorporates frequencies into aerial tracking flights.

EXECUTIVE SUMMARY

Project Number: Previously FIS 10-306

Title: Kwethluk River Salmon Run Timing and Abundance

Geographic Area: Kuskokwim (Map 6).

Data Type: Stock Status and Trends.

Principal Investigator: Ken Harper, U.S. Fish and Wildlife Service, Kenai Fish and Wildlife Field Office, 43655 Kalifornsky Beach Road, Soldotna, AK 99669; (907) 262-9863; ken_harper@fws.gov; Fax (907) 262-7145.

Co-Investigator(s): Steve J. Miller, U.S. Fish and Wildlife Service, Kenai Fish and Wildlife Field Office, c/o Yukon Delta NWR, Box 346, Bethel, AK 99559; (907) 543-1009; steve_miller@fws.gov; Fax (907) 543-4413.

Margaret Fitka, Tribal Administrator, Organized Village of Kwethluk (OVK), Box 129, Kwethluk, AK 99621; (907) 757-6715; KwethlukIRA@gmail.com. Fax (907) 757-6728; DUNS #137773888.

Project Cost:

2014	2015	2016	2017	TOTAL
\$198,431	\$202,407	\$217,552	\$234,687	\$853,077

Issue Addressed: This project focuses on strategic priority information needs identified in the 2012 Fisheries Resource Monitoring Plan. Management of Kuskokwim Area salmon fisheries is complex because of annual variability in run size, timing, and harvest of mixed stocks, overlapping runs of multiple species, allocation issues, and the immense size of the Kuskokwim River drainage. Weirs that monitor salmon returning to Kuskokwim River tributaries provide: 1) accurate escapement numbers, 2) fish age and sex information, 3) run timing, 4) a platform for other research projects, as well as 5) provide insight for sustainable salmon management. These data are heavily relied upon by state and federal managers for management of the Kuskokwim River commercial fisheries and one of the largest subsistence fisheries in Alaska. Without adequate and accurate escapement monitoring of salmon returns to the Kwethluk River, there is a risk to the conservation and maintenance of Chinook *Oncorhynchus tshawytscha*, chum *O. keta*, sockeye *O. nerka*, pink *O. gorbuscha*, and coho salmon *O. kisutch* populations. Monitoring of salmon returns to the Kwethluk River is essential to ensuring that Federal conservation mandates are fulfilled within the Yukon Delta National Wildlife Refuge (Alaska National Interest Lands Conservation Act ((Section 303 (7) (8) a, b, c)). Escapement monitoring also helps reduce the risk of failure to provide a priority to subsistence uses, and risk that subsistence harvest needs will not be met. This project has been in operation during 1992, 2000–2013 and if funded continue to operate through 2017.

Objectives:

1. Enumerate the daily passage and characterize the run timing of Chinook, chum, coho, sockeye, and pink salmon and resident fish species through the weir.
2. Estimate the weekly sex and age composition of Chinook, chum, and coho salmon such that the simultaneous 95% confidence intervals have a maximum width of 0.20.

3. Estimate the mean length of Chinook, chum and coho salmon by sex and age.
4. Identify and count other fish species passing through the weir and enumerate salmon carcasses passing back over the weir.

Methods: The monitoring project has been operated during 1992, and 2000–2012 and funded for 2013 (OSM-FRMP project 10-306). The KFWFO and OVK operates a resistance board weir affixed with an underwater video monitoring system spanning a 60 m section of river approximately 88 river kilometers (rkm) upstream from the confluence with the Kuskokwim River. Enumeration of salmon normally occurs between June 20 and September 10.

Fish will be passed through the weir and video camera chute twenty-four hours per day, seven days a week. All fish passing upstream will be counted and identified to species. The video system and weir are operated in unison. Video counts will be collected 24 hours per day, seven days each week. If the video system goes down for a period of time visual counts will start at approximately 0600 hours every day and continue until fading-daylight reduces visibility (~23:00 hours) and/or the video is back operating. Video and visual counts will be compared. Count data from field notebooks will be transcribed to hourly weir escapement forms and entered in to the electronic database. All video images will be recorded on an external hard drive using a computer-based digital video recorder (DVR) 24 hours each day. Daily escapement counts will be relayed by radiophone or by internet to Service staff and the Alaska Department of Fish and Game (ADF&G) contributing to daily in-season commercial fishery management decisions.

Data on fish age, sex, and length (ASL) will be collected using a temporally stratified sampling design, with statistical weeks defining strata. A sample of fish will be drawn weekly for ASL information. Sample size goals for each stratum will be adopted to meet Objective 2. Sampling consists of measuring length, determining sex, collecting scales, examining fish for gill net marks, and then releasing the fish upstream of the weir. Salmon will be measured from mid-eye to fork-of-caudal-fin, and to the nearest 5 mm. Sex will be determined by observing external characteristics. Sample data for salmon will be recorded on all-weather ASL field forms and transferred into electronic format for Service and State databases. One scale will be collected from each chum salmon and four scales will be collected from each Chinook and coho salmon. Scales will be removed from the preferred area for age determination. Salmon scales will be clean and properly affixed to gummed scale cards and pressed on acetate to make an impression. Scales will be aged by the Service's Kenai Fish and Wildlife Field Office (KFWFO) in Soldotna, Alaska. Scale analysis and reporting will utilize methods described by Mosher (1969). Age determinations for Chinook salmon include the number of years spent in freshwater as a juvenile and the number of years spent in saltwater as an adult. The KFWFO will archive scale cards and acetates, and tabulated ASL data will be provided to ADF&G and maintained in ADF&G's Arctic Yukon Kuskokwim salmon escapement database.

Characteristics of fish passing through the weir were estimated using standard stratified random sample estimators. Days with partial or zero counts will be considered incomplete and estimates will be calculated for those dates. Estimates will be based on the average daily proportion of passage from previous years. An average of the daily proportions for previous years will be calculated since daily escapement can vary between years. The sum of the averaged daily proportions, calculated for days with partial or zero counts, will be the estimated total proportion of the missed escapement. The total escapement will be the sum of the observed counts for the current year divided by one minus the proportion missed during the current year. Prior years with estimates will not be used to calculate the current year estimates.

Partnerships and Capacity Building: OVK is a co-investigator with the Kwethluk River weir project (2000–2013). Tribal members from Kwethluk comprise the majority of staff operating the Kwethluk

River weir. OVK members are trained in biological techniques, computer skills, and safety (e.g. bear and firearms, watercraft, aircraft). Administrative support for the weir project is also provided by OVK. Village council members are encouraged to visit project sites. OVK and TNC technicians have been exchanged intermittently between weir projects during the season and have been incorporated into other Kuskokwim River projects to expand the understanding of fisheries projects in the drainage. KFWFO continues to mentor and train residents hired by the villages to work at the weirs and other project operations.

This project has been supported by the Kuskokwim Fisheries Resource Coalition (KFRC) and the Kuskokwim River Salmon Management Working Group (Working Group). The KFRC is an organization consisting of representatives from the Service, Orutsararmuit Native Council (ONC), Kuskokwim Native Association (KNA), the Association of Village Council Presidents (AVCP), Takotna Tribal Council, McGrath Native Village Council, and ADF&G. The Kuskokwim River Salmon Management Working Group Members of this group is comprised of Village elders, subsistence users, representatives from sport and commercial interests and ADF&G. Working group is funded by OSM.

EXECUTIVE SUMMARY

Projects Number: 14-351

Title: Developing a baseline measure and prescribing monitoring protocol to estimate previously unreported Chinook Salmon harvested by non-local harvesters in the Kuskokwim Delta

Geographic Region: Kuskokwim

Data Type: Harvest Monitoring/Traditional Ecological Knowledge

Principal Investigator: Alan E. Watson, Aldo Leopold Wilderness Research Institute, US Department of Agriculture, Forest Service Rocky Mountain Research Station, Missoula, Montana

Co-Investigator: Brooke McBride, University of Montana, Missoula; Casie Stockdale, Association of Village Council Presidents, Bethel, Alaska; Dan Gillikin, Kuskokwim Native Association, Aniak, Alaska

Project Cost:

2014	2015	2016	2017
\$106,763	\$0	\$0	\$0

Issue: Subsistence harvest of Chinook salmon from the Bethel area by non-residents of the Kuskokwim River drainage is the priority issue, but pilot testing will include all species of salmon.

Objectives: The primary objectives are the following:

1. to develop and test a sound method of estimating the subsistence harvest of salmon (including all species, but priority is Chinook) from the Bethel and Aniak areas of the Kuskokwim River drainage by non-local people to contribute to a complete understanding of the overall harvesting and supply system,
2. to prescribe application of the method to monitor change in subsistence and sport harvest of salmon from the Bethel and Aniak areas of the Kuskokwim River drainage by non-local people, including providing accurate estimates of precision.

Methods: On sample days, multiple data collection specialists will be prepared and knowledgeable of anticipated regional flights leaving Bethel and Aniak in order to pilot test a survey to find out if passengers were engaged in fishing activities. Contacts will take place at the airports and if visitors fished, they will be asked several questions, including the following: place of residence, were they sport or subsistence fishing, type of equipment used, did they consume any fish that they harvested in the area, whether they fished as a group, with a guide or with relatives or friends from the area, are they taking fish (and if so, type of fish) with them, are they shipping fish through other routes, and if so, in what form and quantity, and whether the harvest of subsistence resources is likely or has been reported by this traveler or any other person through any other channels (to avoid double counting). Another area of interest is to determine the number of times this person has engaged in fish harvest in the Kuskokwim Delta this year, the total number of trips planned for this year, and a probing question on how their use level is different from previous years and if it is different, why it is different.

The pilot test period will be determined and prescribed from observation, interviews and other considerations, but will likely occur from approximately June 1 to September 1 of 2014, with some

limited intense data collection in order to demonstrate usefulness of data and methods of illustration of findings. Data will be recorded through a short survey form that will be completed by the visitor but monitored by the data collection specialists. Data will be coded into a spreadsheet form and sent electronically for appending to existing data and continuous monitoring of quantity and quality of data received. All data will remain the property of Association of Village Council Presidents and Kuskokwim Native Association, but shared among cooperators for analysis and reporting.

Partnerships/Capacity Building: This project will be conducted with input from the Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, Yukon Delta National Wildlife Refuge staff, U.S. Fish and Wildlife Service Alaska Regional social scientist; and the Kuskokwim River Salmon Management Working Group, regional advisory councils, regional Tribal organizations including the Association of Village Council Presidents and Kuskokwim Native Association and the Tribal councils and communities of Bethel and Aniak. Staff in the Natural Resources Department of the Association of Village Council Presidents in Bethel, and Kuskokwim Native Association Fisheries Program staff in Aniak are local cooperators within the survey communities.

Capacity building in local communities and tribal organizations is one of the primary objectives of this study. Project development, survey design methods, implementation, and presentation of results will be coordinated with the above recognized stakeholders as well as other stakeholder identified groups. Partnerships will be built through each Tribal council office and advisory group, and research plans will be developed in coordination with each local community. We intend to train and employ local hires to conduct airport surveys and code data. It will be important to identify bilingual local hires. Before beginning the project, we will formally consult with the Orutsarmiut Tribal Council and will inform the public at a Bethel City Council meeting, which is aired over the radio. Similarly, before beginning the project we will formally consult with the Aniak Traditional Council and City Council. Full reports back to the community will also be part of the reporting process.

EXECUTIVE SUMMARY

Project Number: 14-352

Title: Kuskokwim Area Salmon Post Season Subsistence Harvest Surveys (continuation of FRMP #10-352)

Geographic Area: Kuskokwim Region

Data Type: Harvest Monitoring, Stock Status/Trends

Principle Investigator: Christopher A. Shelden, Alaska Department of Fish and Game, Commercial Fisheries Division (ADF&G CF).

Co-Investigators: Greg Roczicka, Natural Resources Department, Orutsarmiut Native Council (ONC). Hamachan Hamazaki, Alaska Department of Fish and Game (ADF&G). Daniel Gillikin, Kuskokwim Native Association (KNA).

Project Cost:

2014	2015	2016	2017	TOTAL
\$166,011	\$174,761	\$182,830	\$191,294	\$714,896

Issue Addressed: This project provides managers with critical information for effective stewardship of subsistence salmon resources in the Kuskokwim Area and associated federal conservation units. Data provided by this project are the basis for the development of Amounts reasonably Necessary for Subsistence (ANS) for salmon, and for assessing whether these needs have been met. In early 2013, the Alaska Board of Fisheries reviewed Kuskokwim Area salmon ANS, and results from this project and an associated salmon subsistence harvest reconstruction (Hamazaki 2011) were the basis for that discussion and the resulting updates to ANS regulation (Ikuta 2012). This project directly addresses and is explicitly identified as a priority project to achieve the goals established by the Kuskokwim Fisheries Resource Coalition in the 2006 *Gap Analysis for Kuskokwim Area Salmon Research Plan*, Goals 3.13, 3.17, 4.2, and 4.4.

Beyond serving as a measure for ANS, data collected during this survey contributes a vital input to fisheries managers for Kuskokwim Area salmon stocks. Quantifying subsistence harvest has been an essential data element of recent salmon reconstructions, run reconstructions, and stock assessment (Hamazaki 2011, Bue et al 2012, AYK SSI Project No. 45565 and 45920; Gap Analysis Goal 3.12), this project allows for the development of productivity models of salmon species that are then used in every aspect of salmon resource management, including preseason forecasting, inseason management, post season assessment, and the definition of escapement goals. Recent assessments by Schaberg et al. (2012) and Bue et al. (2012), which data from this project laid the foundation for investigating new ways in which salmon forecasts and inseason projections are accomplished, and in which forecasting tools and escapement goals have been established (Elison et al. 2012). Therefore, this project addresses the Gap Analysis priority goals 3.1, 3.2, 3.5, 3.6, 3.10, and 3.11.

Objectives:

1. Conduct Subsistence Salmon Harvest surveys for the purpose of estimating the number of Chinook, chum, sockeye, coho, and pink salmon harvested for subsistence uses by residents of Bethel.

2. Conduct Subsistence Salmon Harvest surveys for the purpose of estimating the number of Chinook, chum, sockeye, coho, and pink salmon harvested for subsistence uses by residents of Aniak.
3. Conduct Subsistence Salmon Harvest surveys for the purpose of estimating the number of Chinook, chum, sockeye, coho, and pink salmon harvested for subsistence uses by residents of up to 26 Kuskokwim Area communities including communities on south Kuskokwim Bay.
4. Estimate subsistence salmon harvest by community.
5. Estimate total subsistence salmon harvests in the Kuskokwim Area.

Methods:

Project Area: The project area will be defined in three distinct segments: 1) the community of Bethel, 2) the community of Aniak, and 3) the remaining communities of the Kuskokwim Area, including the three villages of south Kuskokwim Bay (Quinhagak, Goodnews, and Platinum), one village on the north Kuskokwim Bay (Kongiganak), and all other communities within the Kuskokwim River drainage (Figure 1).

Project Designs: *Stratified Random Survey Methodology:* The Division of Commercial Fisheries will maintain current harvest estimation methodology for 26 communities. The survey design in each community will be either census (100% survey) or stratified sampling survey, depending on community size. In this stratified random survey method, households will be stratified by five user-types: “High Harvester,” “Medium Harvester,” “Low Harvester,” “usually do not fish,” and “unknown.” From each stratum, survey households will be selected randomly in the following percentages: Heavy Harvester—100%; Medium Harvester—100%; Light Harvester—30%; usually do not fish—30%; unknown—100%. When the number of households in each stratum is less than 5 households, all households in the stratum will be surveyed. Likewise, when the total number of households in a community is less than or equal to 40, all households in the community will be surveyed and the survey method will become a census (100% surveyed). Prior to survey season, each household will be reclassified based on past 3 years of harvests, and survey sampling households will be randomly selected. Household survey in Bethel is based on simple random survey of 50%, and that in Aniak is 100% census. Harvest calendars will be mailed to users and will assist by serving as a record of catch and providing additional information on harvest timing.

Data Analysis: *Expanded Community Harvest:* Subsistence salmon harvest reported by sampled households will be expanded to estimate community harvest for each species using a stratified random sampling expansion technique (Hamazaki 2011). The stratified expansion procedure will be performed for a community only if a sufficient number of households were sampled. The criteria for whether or not to do an expansion for large communities (greater than 30 households) requires a sample size of at least 10 respondent households. In instances when the minimum sample requirements are not met, statistical expansion will not be performed. Instead, community-based harvest will be estimated using Bayesian methods (Hamazaki 2011).

Partnership and Capacity Building: Two important partnerships are supported by this project. ADF&G and ONC will conduct the Bethel community survey; and ADF&G and KNA will conduct the Aniak community survey. Both relationships represent close collaboration on the Partnership Level. ADF&G will provide thorough training and frequent follow-up to track progress and effectiveness, providing guidance throughout the process. ONC and KNA will each oversee surveyor work directly, frequently participating in surveys to observe surveyor effectiveness and provide feedback on approach. Each pair of partners will collaborate frequently on the Partnership Level on project planning, inseason project

support, staff selection, staff performance and scheduling, data interpretation, and in discussion of fishery management implications.

These mutually dependent partnerships have created a level of dialogue, feedback, and synergy that benefits each organization, and the public. Formal and informal discussions that have arisen through the interaction between the three agencies and between agencies and associated communities; and these discussions have created a level of public awareness about salmon management and subsistence harvest that did not previously exist.

Results of this project will be made available to researchers and the public. ONC, KNA and ADF&G will communicate this information to the public through venues such as the annual community meetings, Federal RAC meetings, Kuskokwim River Salmon Management Working Group meetings, and newspaper and radio news segments, among others.

This project will continue to strengthen the capacity of the Orutsarmiut Native Council and the Kuskokwim Native Association to carry out subsistence fisheries harvest assessment projects in the region. Subsistence fishing households throughout the Kuskokwim River drainage will have an opportunity to share personal observations about the subsistence salmon fishery. Households will have an opportunity to identify qualitative aspects the subsistence salmon fishing season.

EXECUTIVE SUMMARY

Project Number: 14-353

Title: Kuskokwim River Salmon Inseason Subsistence survey

Geographic Area: Kuskokwim Region

Data Type: Harvest Monitoring (HM), Traditional Ecological Knowledge (TEK)

Principle Investigator: Christopher A. Shelden, Alaska Department of Fish and Game, Commercial Fisheries Division (ADF&G CF).

Co-Investigators: Greg Roczicka, Natural Resources Department, Orutsarmiut Native Council.

Project Cost:

2014	2015	2016	2017	TOTAL
\$33,929	\$35,387	\$36,918	\$38,525	\$144,759

Issue Addressed: Inseason interviews of subsistence fishers have been conducted in the Bethel area since 2001. Information from the interviews, in combination with other fisheries information, is used to assess subsistence salmon harvest timing, relative fishing success, and whether subsistence harvesters have adequate opportunity to meet their needs. Together, this information assists fishery managers in making decisions to achieve salmon escapement goals, to provide subsistence fishers opportunity for subsistence harvest, and to provide opportunity for other resources users if adequate surpluses exist. This program provides timely insight into these factors as they are occurring. Other assessments of subsistence activity are conducted in the area post season and provide the means to estimate total subsistence salmon harvest; however, the inseason survey provides managers with insights at the crucial time in which subsistence is occurring. This project is identified in the 2006 *Gap Analysis for Kuskokwim Area Salmon Research Plan* produced by the Kuskokwim Fisheries Resource Coalition as an important input for its value in helping managers assess whether management actions 1) are/will be effective for providing opportunity for fishers to meet their needs as measured by Amounts Reasonably necessary for Subsistence (ANS; Gap Analysis Goal 3.17); and 2) are effective for achieving escapement goals (Gap Analysis Goal 3.13).

Comparisons of inseason interview responses can be made among weeks, within a year, and between years to help identify differences in salmon harvest timing and catchability, and gain insight into the fishery (gear usage, timing of subsistence activity, and effectiveness of harvesters). Summaries of interview responses will be presented to the Kuskokwim River Salmon Management Working Group, (Working Group) once per week during the study period. Fishery managers and the Working Group will use these summaries in the decision-making process for the Kuskokwim River subsistence salmon fishery.

Objectives: During May, June, and July use summaries of interviews from the inseason survey to:

1. Describe salmon harvest timing as observed through subsistence fishing activity in the Bethel area;
2. Describe subsistence users' assessment of whether they are meeting their subsistence salmon needs;

3. Describe subsistence users' assessment of whether adequate opportunity has been provided for meeting subsistence salmon fishing needs;
4. Describe subsistence fishing activity and gear usage through weekly interviews with Bethel Area subsistence salmon fishers in May, June, and July.
5. Provide local input into the management process for the salmon subsistence fishery through the presentation of weekly summaries of interviews with Bethel Area subsistence salmon fishers at Working Group meetings inseason.

Methods:

Project Area: The project will be conducted within the Bethel area, which includes areas of Gweek River, Church Slough, Steamboat Slough, Straight Slough, Old Bethel Airport, Oscarville Slough, Napaskiak Slough, the main Kuskokwim River and Bethel.

Project Design: The Kuskokwim River salmon inseason subsistence survey project relies on voluntary participation of local subsistence fishers. Participants are allowed to remain anonymous and most have participated since 2001 when the project began. Most are life-long residents of the Kuskokwim Area and represent the most experienced and knowledgeable fishers in the Bethel area. Nearly all participants are interviewed at seasonal fishing locations (fish camps) that have been maintained across generations. Most participants are of Alaska Native descent with a long tradition of practicing subsistence as a way of life. Fish camp locations were generally established by the ancestors of today's participants based on access to a consistent supply of salmon. Generally, the subsistence fisher responsible for the majority of the subsistence salmon harvest will be interviewed at each fish camp. This fisher generally represents a larger group of people participating in the harvest, processing and preserving of subsistence caught salmon. Time in the fishery by those interviewed ranges from 10 to 50 years each. Fishers interviewed represent a cumulative contribution of up to 1,000 years of fishing experience and observation (40 interviews with 25 years average experience) in any given weekly period. The technicians employed by ONC to conduct the surveys have multiple years of experience both fishing and conducting surveys in the Kuskokwim River.

Data Collection and Reduction: Each year, the ONC project investigator will hire and train one fisheries technician in consultation with ADF&G project investigators to begin field season preparations in late May, and conduct subsistence survey interviews the first week of June. This technician will work in partnership with the ONC technician hired by ONC for FRMP 12-302. The list of interviewees from the previous year, and developed since 2001, will form the initial list for 2014. Fifty-one subsistence fishing families were identified at fish camps within the project area. The goal will be to interview these 51 families supplemented with opportunistic encounters with fishers, e.g. at the Bethel boat ramp, during which additional families wishing to participate will be added. Based on the success in past years the same member of a fish camp is interviewed each week. The Technician¹ will travel by boat to outlying fish camps and contact Bethel² fishers by phone at home. The technician will conduct interviews beginning Thursday of every subsistence-fishing-week through July 15th with subsistence fishers in Bethel and vicinity fish camps. The interviewer will ask questions and complete a two page survey instrument

¹This project technician will not travel in a boat alone but will be accompanied by the technician from OSM project FRMP 12-302 and will coordinate and share duties.

²The Bethel vicinity is defined as those waters of the main stem Kuskokwim between Napaskiak and the lower end of Kuskokuak Slough, including Church Slough

(Appendix A). Interview responses will be summarized across each weekly fishing period. Summaries will be provided to ADF&G for distribution to FWS, RAC members, Working Group members, and the public at Working Group meetings (Appendix B).

Data Analysis: The summaries of answers to survey questions will be compared within years (between weeks); and between years (same weeks) to provide perspectives on salmon run timing, subsistence harvest success, the provision of subsistence opportunity, gear type usage and method of fishing (drift, set, hook/line). The value of this qualitative study is not strictly in the compilation of specific metrics, but in the overall perspective provided to managers regarding the factors listed above. Managers rely heavily on user input during the season to help them interpret inseason data related to fish abundance and behavior, to assess whether management objectives are being achieved, and for suggestions of alternate means by which objectives could be achieved.

EXECUTIVE SUMMARY

Project Number: 14-354

Title: Support for Cooperative Management of the Kuskokwim River Subsistence Salmon Fishery

Geographic Area: Kuskokwim Region

Data Type: Stock Status Trends (SST), Harvest Monitoring (HM), Traditional Ecological Knowledge (Tek)

Principle Investigator: Christopher A. Shelden, Alaska Department of Fish and Game, Commercial Fisheries Division (ADF&G CF).

Project Cost:

2014	2015	2016	2017	TOTAL
\$62,991	\$64,670	\$66,435	\$68,285	\$262,381

Issue Addressed: This project supports the proceedings of the Kuskokwim River Salmon Management Working Group (Working Group) and directly affects subsistence salmon fisheries that occur within the waters of the Yukon Delta National Wildlife Refuge conservation unit. The Working Group is a forum by which Alaska Department of Fish and Game (ADF&G), U.S. Fish and Wildlife Service (USFWS), and area salmon resource users representing subsistence, commercial, sport fishing interests, and federal advisory councils meet to discuss, collaborate and co-manage salmon resources in the Kuskokwim River drainage. The Working Group serves as a pre-season, in-season, and post-season public forum for Federal and State fisheries managers to meet with local users of the salmon resource and review run assessment information (SST) and user input (HM, TEK), and to reach a consensus on how to proceed with management of Kuskokwim River salmon fisheries, especially as it affects subsistence fishing. Federal managers are mandated with ensuring a subsistence priority for rural residents on federal public lands and applicable waters and state managers are bound by regulation to manage for subsistence needs above other uses. Working Group members are elected from communities and fishing interests throughout the region to represent a broad cross-section of users in discussions related to salmon fishing and conservation. Support for the Working Group process has been identified in the 2006 *Gap Analysis for Kuskokwim Area Salmon Research Plan* produced by the Kuskokwim Fisheries Resource Coalition, under Goals 3.13 and 3.17 pertaining to its contribution to the ability of managers to take inseason action to meet salmon escapement goals and to facilitate the achievement of subsistence goals as measured by Amounts Reasonably Necessary for Subsistence (ANS).

Objectives:

1. Provide inseason run assessment information to all parties participating in cooperative management of the Kuskokwim River subsistence salmon fishery.
2. Facilitate meetings through dedicated staff support in meeting preparation, conduct, and follow-up.
3. Report the discussion and decisions made during the cooperative management process.

Methods:

The Working Group process is governed by the By-Laws of the Kuskokwim River Salmon Management Working Group (see Appendix A in Whitmore and Martz 2005). The By-Laws define the Working Group process, purpose, rules of conduct, representation, and officers. The Working Group typically first meets in March or April each calendar year; has intensive and frequent meetings during June, July, and August; and has a wrap-up session in September or October. Meetings are generally conducted by teleconference with efforts made to conduct one meeting per year where all members are able to attend in person.

Working Group member representatives, through funding provided by USFWS Office of Subsistence Management (OSM) in support of project FIS 06-307 (Ward and Horn 2003 and Whitmore and Martz 2005), and FRMP 10-352 (author's note) have had the opportunity to testify at Alaska BOF and Federal Subsistence Board (FSB) meetings, and participate in Kuskokwim Area Interagency and other associated meetings as Working Group representatives.

Working Group meetings (inseason) are conducted according to 'Roberts Rules of Order' following a standard agenda that provides for a full and complete discussion of area and related salmon fisheries (Appendix A). Working Group motions are passed by consensus and ADF&G has no voting status on management related motions. The Working Group makes recommendations to ADF&G and USFWS concerning Kuskokwim River salmon fishery management decisions after subsistence and commercial catch, test fishery, weir, and sonar reports and other information is provided to the group. Final fishery management decisions are the responsibility of the ADF&G through emergency order authority and USFWS through Federal Special Actions. In addition, the Working Group passes resolutions in order to represent their consensus opinion on a wider stage, and appoints representatives to attend BOF, FSB, Fish and Game Advisory Committee meetings, RAC meetings, and other public meetings dealing with relevant salmon issues.

Project Area: Meetings of the Kuskokwim River Salmon Management Working Group will primarily be held in the ADF&G office in Bethel. Meetings will be teleconferenced. Working Group membership spans the entire Kuskokwim drainage and therefore the project encompasses that entire area. Extensive use of internet, fax, and telephone will be made in an effort to keep Working Group members informed and engaged, and to provide access for the public and various state, federal, and native, and nongovernment organizations.

Project Design: The project will take the form of multiple meetings held throughout the fishing season at the call of the Working Group chair. Typically, meetings will occur on a weekly basis during the fishing season to discuss run indices and potential management actions. At least once per year, a large meeting of the Working Group will be scheduled for the purpose of either planning for a coming fishing season, or recapping the events of a season just passed. Larger meetings may be held in Anchorage or in Bethel depending on the needs of the Working Group and resources available.

Data Collection and reduction: Two types of products will be prepared routinely for each Working Group meeting: a pre-meeting informational packet and a post meeting summary. Informational packets will be composed of run index information developed from test fishery and escapement projects and reports of fishing activity from partner organizations. Additional documentation, such as presentation materials and agency memos will be included at the request of Working Group members. Summaries will contain detailed synopses of meeting proceedings, including context to run index information, commentary from the public and members, details about pending or recommended management actions, and discussion notes regarding motions made. Meeting materials will be archived and printed in a formal ADF&G report format.

Partnerships and Capacity Building:

Local organizations that are involved with the Working Group process include area village governments, ONC, Association of Village Council Presidents, Kwethluk IRA Council, KNA, and the Native Village of McGrath.

The Working Group process has received considerable attention as a model for Cooperative resource Management. Local subsistence users, RAC members, and local fisheries representatives are given the opportunity to examine and discuss fisheries data as they are being collected and develop recommendations, which managers consider carefully. Managers and stakeholders consider the Working Group process essential to the management and conservation of Kuskokwim salmon resources.

EXECUTIVE SUMMARY

Project Number: 14-355

Title: Natural Indicators of Chinook Salmon in the North Kuskokwim Bay and Bering Sea Coast: Run timing and abundance

Geographic Region: Kuskokwim

Data Type: Harvest Monitoring/Traditional Ecological Knowledge

Principal Investigator: Casie Stockdale, Department of Natural Resources, Association of Village Council Presidents

Co-Investigator: Hiroko Ikuta, Ph.D., Division of Subsistence, Alaska Department of Fish and Game

Project Cost:

2014	2015	2016	2017
\$189,310	\$165,974	\$143,686	\$0

Issue: This research proposes to collect traditional ecological knowledge and contemporary harvest figures to address local concerns about Chinook salmon in the Kuskokwim coastal region, including the impact on subsistence harvesting in light of decreasing Chinook salmon stock and other environmental factors. While recent research conducted by the Alaska Department of Fish and Game, entitled the Kuskokwim Salmon Ethnography, provides a rich ethnographic description for the salmon fishing in the Kuskokwim River drainage, it does not include any attention to the coastal communities. Earlier research suggests that salmon play an important role in the subsistence economies of the area, but there is little contemporary information, qualitative or quantitative, that describes the salmon fisheries of the region or the changes residents have experienced over the last several decades. Additionally, a recent study of local traditional knowledge of salmon in Yukon River communities demonstrated the importance that residents place on using a variety of indicators to determine the timing, abundance, and distribution of salmon runs for the Yukon River drainage. Given the problem of Chinook salmon populations in the nearby Kuskokwim drainage and the likelihood of having continued low Chinook population numbers and continued closures through subsistence fishing seasons, fishery managers would benefit from a more robust understanding of how residents know when Chinook will appear in abundance, how this influences fishing effort, and how these types of knowledge and practices have changed within the context of ongoing climate change.

Objectives:

1. Document local knowledge related to traditional and contemporary patterns of subsistence salmon harvest including:
 - Species utilized and local names used with introductory taxonomic analysis.
 - Fish ecology, including information about habitat, spawning and seasonal movements
 - Contemporary and traditional methods and timing of harvest.
 - Contemporary and traditional methods of preparation and preservation.

- Spatial mapping of harvest areas and other significant habitats by species and season.
 - Traditional management practices and efforts on fish populations.
 - Salmon-related place names.
 - Local observation of climate change and its impact on salmon fisheries.
 - Concerns about salmon management.
2. Promote capacity building in local communities, tribal organizations, and non-profit organizations.
- Consult with local Tribal councils in developing the research plan, designing interview questions, and collecting, reviewing, and analyzing data.
 - Collaborate with the Bering Sea Elders Group in holding a meeting of the elders to share their background, knowledge, and help answer interview questions regarding Chinook salmon fishing and to discuss management implications and applications of this research.
 - Train local tribal entities in the use and applications of research results and maps.
 - Produce a technical report of results and a short book, accessible to and readable by the general public, in Yup'ik and English showing photos and stories of Chinook salmon fishing gathered during project fieldwork. Tribal councils and study participants will review products before publication. Both publications will be available to all partnering organizations and tribal councils involved.

Methods: This study will take place in the communities of the north Kuskokwim Bay and Bering Sea coast: Kwigillingok, Kongiganak, Kipnuk, and Toksook Bay. The ethnographic research for this project will include group gatherings with elders, semi-structured interviews, and participant observation. 1) A group gatherings with elders will start the project will start with an initial group gathering with the Bering Sea Elders Group in September 2014. Group members, particularly from the Nelson Island and Kuskokwim Bay region, are familiar and comfortable sharing knowledge and information in group gatherings through work with Ann Fienup-Riordan and Calista Elders Council. This technique can encourage a dynamic exchange among respondents that elicits a richer social memory than individual interviews alone. 2) Semi-structured interview protocols provide a format for systematically documenting comparable information about the same or an overlapping set of topics while providing flexibility for each key respondent's level of expertise, experience, and focus. 3) Participant observation fundamentally involves spending time with people in a way that allows the research to build rapport and trust and gain the ability to record observations about their lives from an insider's perspective.

Partnerships/Capacity Building: This project will help the Alaska Department of Fish and Game, Division of Subsistence, build relations with the four north Kuskokwim Bay and Bering Sea Coast communities. By partnering with respected organizations the division will be able to begin research in these communities and build contacts for potential future requests for survey research. Building relationships to support potential future research in these villages will allow for more accurate data to be used in determining Amount Reasonably Necessary for Subsistence in the region.

This project will also help the Association of Village Council Presidents to continue research in these communities. Already having relations in Toksook Bay and Kipnuk, the Association needs to begin harvest research and build relations, especially in Kwigillingok and Kongiganak, a crucial area near the mouth of the Kuskokwim River for understanding Kuskokwim drainage stocks.

The Bering Sea Elders Group and local tribal governments will benefit from this project by convening a meeting to discuss and document knowledge on a culturally precious resource, Chinook salmon. The group will also meet multiple goals for their 2012-2016 strategic planning of improving communication between the group and tribal councils, documenting elder knowledge on climate change, and collaborating with government experts and resource managers in documenting and furthering ways to implement local traditional knowledge in natural resource management. The group will also be able to collaborate with researchers on documenting local traditional knowledge in a form that can be saved and passed down for future generations.

EXECUTIVE SUMMARY

Project Number: 14-356

Title: Local and Traditional Knowledge of Whitefish and Other Non-salmon Fishes in Lower River Villages and Tundra Villages of the Kuskokwim Drainage

Geographic Region: Kuskokwim Region

Information Type: Harvest Monitoring/Traditional Ecological Knowledge

Investigators: Casie Stockdale, Department of Natural Resources, Association of Village Council Presidents, Bethel, Alaska

Co-Investigators: Marie Meade, University of Alaska, Anchorage; Ann Fienup-Riordan, Anchorage

Project Cost:

2014	2015	2016	2017
\$127,872	\$124,446	\$115,505	\$29,504

Issue Addressed: The project addresses a priority information need in the 2014 Request for Proposals: “Local knowledge of whitefish species to supplement information from previous research” and “Harvest and associated contextual information for whitefish species in the lower Kuskokwim drainage communities.” Local and traditional knowledge of fish other than salmon, and the social and cultural important of non-salmon fish species, will be collected in a series of topic-specific gatherings. The study communities include the three tundra villages of Nunapitchuk, Atmauthluak, and Kasigluk and three lower Kuskokwim communities that are situated in proximity to the Johnson River, Napakiak, Napaskiak, and Oscarville. This project will build upon existing whitefish research, in particular, Ray et al. (2010). It will be coordinated with proposed, current, and recent whitefish research in other regions and other areas of the Kuskokwim drainage. This project will contribute to recent research aimed at filling identified data gaps according to the Whitefish Strategic Plan by Brown et al. (2011).

Objectives:

1. Document local knowledge of historic and contemporary uses of fish other than salmon in Nunapitchuk, Atmauthluak, Kasigluk, Napakiak, Napaskiak, and Oscarville.
2. Promote capacity building in local communities and tribal organizations through: partnering in research, involving youth and elders in cultural and traditional knowledge documentation, and employing a Yup’ik studies student as an interpreter/translator in training.

Methods: A series four topic-specific gatherings according to methods described by Fienup-Riordan and Rearden (2012) will be conducting including an initial gathering in Bethel, two sub-regional gatherings, and a final product review gathering in Bethel. Topic-specific gatherings will be conducted in Yup’ik and English, facilitated by Yup’ik interpreter/translator Marie Meade to allow for more in-depth description and understanding of local knowledge. Gatherings will include at least one elder and one current fisher from each community, making sure to include both men and women to incorporate specialized areas of knowledge. Youth will be encouraged to participate in the gatherings to facilitate transmission of this knowledge from elders to youth as well as to familiarize youth with subsistence research. The Association of Village Council Presidents and tribes will gain experience building partnerships in research

with assistance from Yup'ik interpreter/translator and instructor Marie Meade and anthropologist Ann Fienup-Riordan.

Partnerships and Capacity Building: This project will build on past research conducted in the region by the Calista Elders Council, the Association of Village Council Presidents, and other organizations. It is timely as it can be coordinated with recently initiated Calista Elders Council research documenting the Yup'ik view of human interactions with other animals and traditional rules and management. The project will be coordinated with other sub-regional whitefish studies being conducted by organizations, such as, the Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, and Kuskokwim Native Association. Casie Stockdale and Marie Meade will develop research plans in coordination with each community. Opportunities for youth to participate in topic-specific gatherings will be developed. Additionally, students in the University of Alaska Fairbanks, Kuskokwim Campus, Yup'ik studies program will be offered a role in the research. An intern position will be filled by a student of Yup'ik studies to gain experience interpreting, translating, and transcribing the Yup'ik language. Yup'ik place names will be documented and contributed to the Yup'ik Environmental Knowledge Project, which is a collaboration with the Exchange of Local Observations and Knowledge in the Arctic. This will build capacity in the existing Department of Natural Resources at the Association of Village Council Presidents to continue research documenting place names. Tribal councils will be asked to help in the development, data collection, and analysis stages of the study. Results of the project will be reviewed and approved by participating communities. A gathering in Bethel will be organized for the participants to review the final results. A bi-lingual ethnographic book will be written that describes local knowledge related to historic and contemporary uses of whitefish and other non-salmon fishes in Nunapitchuk, Atmauthluak, Kasigluk, Napakiak, Napaskiak, and Oscarville.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Yukon Delta National Wildlife Refuge
807 Chief Eddie Hoffman Road, PO Box 346
Bethel, AK 99559



September 11, 2013

Chairman and other members,
Yukon-Kuskokwim Delta Regional Advisory Council
Western-Interior Regional Advisory Council

Subject: OSM recommendation not to fund the Tuluksak River weir project (14-306)

To whom it may concern:

The Fisheries Resource Monitoring Program (Program) was established within the Office of Subsistence Management (OSM) to: “...*help provide information needed for management of subsistence fisheries on Federal public lands in Alaska*”. To this end, the Program funds projects throughout Alaska through a Notice of Funding Opportunity (similar to a Request for Proposals) that address Priority Information Needs that are developed in part by the Regional Advisory Councils (RAC). Review of projects submitted to address these Priority Information Needs includes review and recommendation by OSM staff, review and recommendation by an interagency Technical Review Committee (TRC), review and recommendations by the RACs, review and recommendation by an interagency staff committee of the Federal Subsistence Board, and finally, review and recommendations by the Federal Subsistence Board.

You are currently being asked to provide input on OSM’s recommendations for projects to fund through the 2014 Fisheries Resource Monitoring Program, and one of OSM’s recommendations is to NOT fund the Tuluksak River weir project (14-306) for 2014 and beyond.

The Refuge Manager at Yukon Delta National Wildlife Refuge serves as the Federal Inseason Manager for subsistence fisheries within and adjacent to Federal public lands in the Kuskokwim Region. My input as Acting Refuge Manager and Acting Federal Inseason Manager was not solicited in the review of proposed projects, nor was input solicited from my predecessor, Gene Peltola. If it had been, I would have provided the following information.

The Tuluksak River weir project directly addresses two (2) of the published 2014 Priority Information Needs for the Kuskokwim Region:

- Reliable estimates of Chinook, chum, sockeye, and coho salmon escapement (for example, projects using weir, sonar, mark-recapture methods); and
- Methods for including “quality of escapement” measures (for example, potential egg deposition, sex and size composition of spawners, spawning habitat utilization) in establishing Chinook salmon spawning goals and determining the reproductive potential and genetic diversity of spawning escapements.

preseason and inseason management actions. Although returns of Tuluksak River Chinook salmon are small compared to some other Kuskokwim tributary streams that are monitored with weirs, data from the Tuluksak River are essential because small streams are likely more responsive to environmental and habitat perturbations, and to changes in management that do not protect weak stocks. Without monitoring and adjusting time and area regulations to protect this and other small stocks, their sustainability is questionable. With current population declines, conservation concerns, and the failure to meet even the new reduced basin-wide escapement goals for Chinook salmon, I suggest this is a poor time to discontinue escapement monitoring in any system on the Kuskokwim, especially those that have long term data sets. If we fail to continue monitoring these small stocks to assess changes resulting from environmental, fishery, and other anthropogenic sources, we will likely fail in our mandates to conserve these great resources for future generations.

Finally, I ask the RAC to consider the enclosed letters of support for this project that were provided by local communities and groups here on the Kuskokwim. These local communities and subsistence users are the ultimate stakeholders in this process, and this is their voice. Please hear it. We ask for your support by recommending that the Federal Subsistence Board fund Project Number 14-306, Tuluksak River Salmon Run Timing and Abundance, in 2014 and beyond.

Sincerely,



Thomas C.J. Doolittle
Acting Kuskokwim Region Federal Inseason Manager
Acting Refuge Manager, Yukon Delta NWR

Enclosure(s)

THE PARTNERS FOR FISHERIES MONITORING PROGRAM

The Partners for Fisheries Monitoring Program is a competitive grant program funded by the U.S. Fish and Wildlife Service, Office of Subsistence Management (OSM). The program was created to build community involvement in subsistence fisheries research and management. Grants funded through the Partners Program provide up to four years of funding for the employment of social scientists, biologists, and educators within Tribal and rural organizations. The social scientists, biologists, and educators live in the community where the Partner organization is based, and are responsible for development and implementation of locally focused subsistence fisheries research, and educational programs.

Currently, the Partners Program funds four biologists and one resource specialist in five Native organizations. Each one serves as an investigator on a Fisheries Research Monitoring Program (FRMP) project. These projects are designed to provide information used to help manage Federal subsistence fisheries on Federal public lands. The FRMP projects also provide an opportunity for local youth to become involved with fisheries research through internships and summer camps. The internships provide an opportunity for locals to work as seasonal fisheries technicians learning how to run field projects focused on collecting information used for fisheries management. The science camps provide opportunities for students to work with village elders to learn traditional skills and to work with biologists on fisheries monitoring projects. Since inception the program has sponsored more than 250 high school and college interns. Many of these interns have gone on to pursue education and employment in Alaska fisheries research and management in Federal, State, Native and non-profit organizations.

The Partners Program has been successful in helping bridge subsistence knowledge and local expertise with fisheries management. OSM relies on the Partners Program biologists and resource specialist to communicate local subsistence fisheries concerns. These concerns are used in development of priority information needs, providing a guide for the Fisheries Resource Monitoring Program. The Partners Program biologists and resource specialist live in rural communities where they witness the interaction between the subsistence user and their resources. They serve as a local contact where subsistence users can provide current and traditional information about local fish stocks, suggest future research needs, and discuss Federal subsistence fishing regulations. The partnerships generated through this program have strengthened the common goal of maintaining subsistence fisheries for future generations.

The Partners Program provides an important link between the Federal Subsistence Program and rural Alaskans wanting to become more involved in Federal Subsistence Fisheries research and management. The next opportunity for funding is scheduled to be announced in the fall of 2014.

For additional information about how a Tribal or rural organization can seek funding through the Partners for Fisheries Monitoring Program, contact Partners Program Coordinator, Dr. Palma Ingles, palma_ingles@fws.gov, U.S. Fish and Wildlife Service, 1011 E. Tudor Road, MS 121, Anchorage, AK 99503-6199, phone: 907-786-3870.

CURRENT PARTNERS

BRISTOL BAY NATIVE ASSOCIATION

Box 310
Dillingham, AK 99576
907-842-5257, fax 842-5932

Fishery Biologist: Danielle Stickman,
dstickman@bbna.com

FRMP Project:

- Whitefish trends in Lake Clark and Iliamna Lake

KUSKOKWIM NATIVE ASSOCIATION

Box 127
Aniak, AK 99557
907-675-4384; fax 675-4387

Fishery Biologist: Rebecca Frye, rebecca.frye@knafish.org

Fisheries Program Director: Dan Gillikin,
dgillikin@knafish.org

FRMP Projects:

- Abundance and Run Timing of Adult Salmon in George River
- Location, Migration Timing, and Description of Kuskokwim River Bering Cisco Spawning Origins

TANANA CHIEFS CONFERENCE

121 1st Avenue, Suite 600
Fairbanks, AK 99701
907-452-8251, ex. 3318; fax 459-3852

Fishery Biologist: Brian McKenna
brian.mckenna@tananachiefs.org

FRMP Project:

- Abundance and Run Timing of Adult Salmon in Henshaw Creek

NATIVE VILLAGE OF EYAK

Box 1388
Cordova, AK 99574
907- 424-7738; fax 907- 424-7739

Fishery Biologist: John Whisse, john@eyak-nsn.gov

FRMP Project:

- Chinook salmon population monitoring on the Copper River
- Feasibility of remote streambed RFID readers for long-term salmon Copper River

ORUTSARARMIUT NATIVE COUNCIL

Box 927
Bethel, AK 99559
907- 543-2608; fax 907- 543-2639

Fisheries Resource Specialist: Roberta Chavez
rchavez@nativecouncil.org

FRMP Project:

- Lower Kuskokwim Chinook Harvest Age Sex and Length Composition

BRIEFING ON THE REVIEW OF THE RURAL DETERMINATION PROCESS

Title VIII of the 1980 Alaska National Interest Lands Conservation Act (ANILCA) provides a subsistence priority for rural Alaska residents for harvesting fish and wildlife resources on Federal public lands. Only residents of communities or areas determined to be rural are eligible under Federal subsistence regulations for the subsistence priority. The Secretaries of the Interior and Agriculture are responsible for the process by which the rural determinations are made. The Federal Subsistence Board uses the Secretaries' process to make the rural determinations.

On December 17, 2010, the Secretaries of the Interior and Agriculture directed the Federal Subsistence Board to conduct a review of the rural determination process and develop recommendations to the Secretaries on how to improve the process (Attachment 1).

The Federal Subsistence Board initiated a review of the rural determination process on December 31, 2012 with the publication of a Federal Register Notice (Attachments 2 and 3) requesting comments on the following components of the process: population thresholds, rural characteristics, aggregation of communities, timelines and information sources. All ideas on how to improve the rural determination process that are consistent with ANILCA Title VIII and 9th Circuit Court of Appeals case law associated with the definition of rural will be considered. The deadline to submit comments is November 1, 2013.

In addition to soliciting written public comments, the Federal Subsistence Board is holding hearings in key locations throughout the State to provide opportunities for the public to learn more about the rural determination process and provide testimony. The Federal Subsistence Board has provided Federally recognized Tribes and Alaska Native Claims Settlement Act (ANCSA) corporations with the opportunity to consult prior to the start of the Federal Subsistence Regional Advisory Council meeting window. During the fall 2013 meetings, the ten Federal Subsistence Regional Advisory Councils are to review the rural determination process and formulate recommendations for the Board. See the Current Schedule of Forums for Public Comments for a list of all meetings and hearings to be held (Attachment 4).

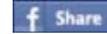
The Federal Subsistence Board will meet April 15–17, 2014 in Anchorage to review all the comments it received during the comment period. The Board will then make recommendations to the Secretaries of the Interior and Agriculture on possible changes to improve the process. These recommendations will be based in large part on the Federal Subsistence Regional Advisory Councils' recommendations, results of Tribal and ANCSA corporation consultations, and public comments. See the Steps in the Rural Determination Process for the review schedule (Attachment 5)

If the Secretaries decide to make changes to the rural determination process, a proposed rule and another comment period will be published in the Federal Register as required by the Administrative Procedure Act.

Following the completion of the review of the rural determination process, the Federal Subsistence Board will conduct a public review of the current rural determinations.

DOI News

Secretary Letter on Federal Subsistence Board Implementation



01/07/2011

December 17, 2010

Mr. Tim Towarak
Chair, Federal Subsistence Board
P. O. Box 89
Unalakleet, Alaska 99684

Dear Mr. Towarak:

First, I want to thank you for your service on the Federal Subsistence Board (FSB). I recognize that your work represents a significant commitment of time and energy to a task that is complex and often controversial.

Under the terms of the Title VIII of ANILCA, we have a duty to provide an effective program that serves rural residents of Alaska. In October 2009, at the Alaska Federation of Natives convention, I announced a review of the Federal subsistence program to ensure that the program is best serving rural Alaskans and that the letter and spirit of Title VIII are being met. That review, conducted through my Alaska Affairs office, included meetings with stakeholder groups and individuals throughout Alaska as well as Federal, State, and local officials. Following an analysis of the wide variety of comments, concerns, and suggestions expressed, a number of recommendations for programmatic changes were presented for consideration. On August 31, 2010, Secretary of Agriculture Tom Vilsack and I announced our decision to pursue a number of those recommendations to provide a more responsive, more effective subsistence program. A copy of the press release is enclosed for your information.

A number of these proposed actions are best accomplished by the FSB. With concurrence of the Secretary of Agriculture, I respectfully request that the FSB initiate the following actions at the earliest practical time:

1. Develop a proposed regulation to increase the membership on the FSB to include two additional public members representing subsistence users;
2. As a matter of policy, expand deference to appropriate Regional Advisory Council (RAC) recommendations in addition to "takings" decisions of the Board provided for under Section 805(c) of ANILCA, subject to the three exceptions found in that Section;
3. Review, with RAC input, the December 2008 Memorandum of Understanding (MOU) with the State to determine either the need for the MOU or the need for potential changes to clarify federal authorities in regard to the subsistence program;
4. Review, with RAC input, and present recommendations for changes to Federal subsistence procedural and structural regulations (Parts A&B of the CFRs) adopted from

- the State in order to ensure Federal authorities are fully reflected and in accord with subsistence priorities provided for in Title VIII;
5. Review, with RAC input, the customary and traditional use determination process and present recommendations for regulatory changes;
 6. Review, with RAC input, rural/nonrural determination process and present recommendations for regulatory changes;
 7. Review the Board's written policy on executive sessions and minimize the use of executive sessions to those cases specifically prescribed;
 8. At the request of the Director of the Fish and Wildlife Service and under Departmental procedures, review and submit recommendations for Departmental consideration of the annual budget for the Federal subsistence program;
 9. Ensure the Secretaries are informed when non-Department rule-making entities develop regulations that may adversely affect subsistence users;
 10. To the extent practicable, utilize contracting and use of ANILCA Section 809 cooperative agreements with local tribes and other entities in the Board's review and approval of proposals for fulfilling subsistence program elements; and
 11. Prepare and submit a status report on these actions to me, with a copy to the Secretary of Agriculture, within a year of this letter.

Again, thank you for your service. I look forward to further recommendations the FSB may have to strengthen our subsistence management program.

An identical letter is being sent to Ms. Beth Pendelton, Alaska Regional Forester.

Sincerely,

/s/ Ken Salazar

Ken Salazar

Enclosure

<< Previous

Secretary's Memorandum to Fish
and Wildlife Service Director
Implementing Subsistence Review

Next >>

Proposed rule to revise the
regulations concerning the
composition of the Federal
Subsistence Board



location and hours of the reading room). You may also request paper copies of the data standards by calling or writing to the person listed under **FOR FURTHER INFORMATION CONTACT**.

Done in Washington, DC, this 20th day of December, 2012.

Kevin Shea,

Acting Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 2012-31401 Filed 12-28-12; 8:45 am]

BILLING CODE 3410-34-P

DEPARTMENT OF AGRICULTURE

Forest Service

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[FWS-R7-SM-2012-N248;FXFR133
50700640-134-FF07J00000]

Subsistence Management Program for Public Lands in Alaska; Rural Determination Process

AGENCIES: Forest Service, Agriculture; Fish and Wildlife Service, Interior.

ACTION: Notice; request for comments.

SUMMARY: Federal subsistence regulations require that the rural or nonrural status of communities or areas be reviewed every 10 years. In 2009, the Secretary of the Interior initiated a review of the Federal Subsistence Management Program. An ensuing directive was for the Federal Subsistence Board (Board) to review its process for determining the rural and nonrural status of communities. As a result, the Board has initiated a review of the rural determination process and is requesting comments from the public. These comments will be used by the Board, coordinating with the Secretaries of the Interior and Agriculture, to assist in making decisions regarding the scope and nature of possible changes to improve the rural determination process.

DATES: *Comments:* Comments on this notice must be received or postmarked by November 1, 2013.

Public meetings: The Federal Subsistence Regional Advisory Councils will hold public meetings to receive comments and make recommendations to the Federal Subsistence Board on this notice on several dates between August 19 and October 30, 2013. See Public Meetings under **SUPPLEMENTARY INFORMATION** for specific information on dates and locations of the public meetings.

ADDRESSES: *Comments:* Comments on this notice must be received or postmarked by November 1, 2013. You may submit comments by one of the following methods:

- *Electronically:* Comments addressing this notice may be sent to subsistence@fws.gov.
- *By hard copy:* U.S. mail or hand-delivery to: USFWS, Office of Subsistence Management, 1011 East Tudor Road, MS 121, Attn: Theo Matuskowitz, Anchorage, AK 99503-6199, or hand delivery to the Designated Federal Official attending any of the Federal Subsistence Regional Advisory Council public meetings.

Comments received will be available for public review during public meetings held by the Board on this issue. This generally means that any personal information you provide us will be available during public review.

Public meetings: See **SUPPLEMENTARY INFORMATION** for specific information on dates and locations of the public meetings. If the Board decides additional meetings are required, public announcements will be made that provide meeting dates and locations.

FOR FURTHER INFORMATION CONTACT: Chair, Federal Subsistence Board, c/o U.S. Fish and Wildlife Service, Attention: Peter J. Probasco, Office of Subsistence Management; (907) 786-3888; or subsistence@fws.gov. For questions specific to National Forest System lands, contact Steve Kessler, Regional Subsistence Program Leader, USDA, Forest Service, Alaska Region; (907) 743-9461; or skessler@fs.fed.us.

SUPPLEMENTARY INFORMATION:

Background

Under Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA) (16 U.S.C. 3111-3126), the Secretary of the Interior and the Secretary of Agriculture (Secretaries) jointly implement the Federal Subsistence Management Program. This Program provides a priority for taking of fish and wildlife resources for subsistence uses on Federal public lands and waters in Alaska. The Secretaries published temporary regulations to implement this Program in the **Federal Register** on June 29, 1990 (55 FR 27114), and final regulations in the **Federal Register** on May 29, 1992 (57 FR 22940). The Secretaries have amended these regulations a number of times. Because this Program is a joint effort between Interior and Agriculture, these regulations are located in two titles of the Code of Federal Regulations (CFR): Title 36, "Parks, Forests, and

Public Property," and Title 50, "Wildlife and Fisheries," at 36 CFR 242.1-28 and 50 CFR 100.1-28, respectively. The regulations contain the following subparts: Subpart A, General Provisions; Subpart B, Program Structure; Subpart C, Board Determinations; and Subpart D, Subsistence Taking of Fish and Wildlife.

Federal Subsistence Board

Consistent with subpart B of these regulations, the Secretaries established a Federal Subsistence Board to administer the Federal Subsistence Management Program. The Board comprises:

- A Chair, appointed by the Secretary of the Interior with concurrence of the Secretary of Agriculture;
- The Alaska Regional Director, U.S. Fish and Wildlife Service;
- The Alaska Regional Director, U.S. National Park Service;
- The Alaska State Director, U.S. Bureau of Land Management;
- The Alaska Regional Director, U.S. Bureau of Indian Affairs;
- The Alaska Regional Forester, U.S. Forest Service; and
- Two public members appointed by the Secretary of the Interior with concurrence of the Secretary of Agriculture.

Through the Board, these agencies and public members participate in the development of regulations for subparts C and D, which, among other things, set forth program eligibility and specific harvest seasons and limits.

In administering the program, the Secretaries divided Alaska into 10 subsistence resource regions, each of which is represented by a Federal Subsistence Regional Advisory Council. The Councils provide a forum for rural residents with personal knowledge of local conditions and resource requirements to have a meaningful role in the subsistence management of fish and wildlife on Federal public lands in Alaska. The Council members represent varied geographical, cultural, and user interests within each region.

Public Meetings

The Federal Subsistence Regional Advisory Councils have a substantial role in reviewing subsistence issues and making recommendations to the Board. The Federal Subsistence Board, through the Councils, will hold public meetings to accept comments on this notice during the fall meeting cycle. You may present comments on this notice during those meetings at the following locations in Alaska, on the following dates:

Region 1—Southeast Regional Council	Petersburg	September 24, 2013.
Region 2—Southcentral Regional Council	Copper Center	October 2, 2013.
Region 3—Kodiak/Aleutians Regional Council	Cold Bay	September 24, 2013.
Region 4—Bristol Bay Regional Council	Dillingham	October 29, 2013.
Region 5—Yukon-Kuskokwim Delta Regional Council	St. Marys	September 25, 2013.
Region 6—Western Interior Regional Council	Fairbanks	October 8, 2013.
Region 7—Seward Peninsula Regional Council	Nome	October 8, 2013.
Region 8—Northwest Arctic Regional Council	Kiana	August 21, 2013.
Region 9—Eastern Interior Regional Council	Fairbanks	October 16, 2013.
Region 10—North Slope Regional Council	Barrow	August 19, 2013.

A notice will be published of specific dates, times, and meeting locations in local and statewide newspapers, and on the Web at <http://alaska.fws.gov/asm/index.cfm>, prior to these meetings. Locations and dates may change based on weather or local circumstances.

Tribal Consultation and Comment

As expressed in Executive Order 13175, “Consultation and Coordination with Indian Tribal Governments,” the Federal officials that have been delegated authority by the Secretaries are committed to honoring the unique government-to-government relationship that exists between the Federal Government and Federally Recognized Indian Tribes (Tribes) as listed in 75 FR 60810 (October 1, 2010). Consultation with Alaska Native corporations is based on Public Law 108–199, div. H, Sec. 161, Jan. 23, 2004, 118 Stat. 452, as amended by Public Law 108–447, div. H, title V, Sec. 518, Dec. 8, 2004, 118 Stat. 3267, which provides that: “The Director of the Office of Management and Budget and all Federal agencies shall hereafter consult with Alaska Native corporations on the same basis as Indian tribes under Executive Order No. 13175.”

The Alaska National Interest Lands Conservation Act, Title VIII (16 U.S.C. 3111–3126), does not provide specific rights to Tribes for the subsistence taking of wildlife, fish, and shellfish. However, because tribal members and Alaska Native corporations are affected by subsistence regulations, the Secretaries, through the Board, will provide Federally recognized Tribes and Alaska Native corporations an opportunity to consult. The Board provides a variety of opportunities for consultation: engaging in dialogue at the Council meetings; engaging in dialogue at the Board’s meetings; and providing input in person, or by mail, email, or phone at any time during the comment period.

The Board will engage in outreach efforts for this notice, including a notification letter, to ensure that Tribes and Alaska Native corporations are advised of the mechanisms by which they can participate. The Board will

commit to efficiently and adequately providing an opportunity to Tribes and Alaska Native corporations to prior to the adoption of any changes in policy or regulation concerning the rural determination process.

The Board will consider Tribes’ and Alaska Native corporations’ information, input, and recommendations, and endeavor to address their concerns.

Purpose of This Notice

In accordance with § .10(d)(4)(ii), one of the responsibilities given to the Federal Subsistence Board is to determine which communities or areas of the State are rural or nonrural. Only residents of areas identified as rural are eligible to participate in the Federal Subsistence Management Program on Federal public lands in Alaska.

The Board determines if a community or area is rural in accordance with established guidelines set forth in § .15(a). The Board reviews rural determinations on a 10-year cycle and may review determinations out-of-cycle in special circumstances. The Board conducts rulemaking to determine if the list at § .23(a), which defines the rural/nonrural status of communities and/or areas, needs revision. Residents would have five years to comply with a rural to nonrural change. A change from nonrural to rural would be effective 30 days after publication of the rule.

On May 7, 2007, the Board published a final rule, “Subsistence Management Regulations for Public Lands in Alaska, Subpart C; Nonrural Determinations” (72 FR 25688). This rule revised the list of nonrural areas identified by the Board. The Board changed Adak’s status to rural, added Prudhoe Bay to the list of nonrural areas, and adjusted the boundaries of the following nonrural areas: the Kenai Area; the Wasilla/Palmer Area, including Point McKenzie; the Homer Area, including Fritz Creek East (except Voznesenka) and the North Fork Road area; and the Ketchikan Area, including Saxman and portions of Gravina Island. The effective date was June 6, 2007, with a 5-year compliance date of May 7, 2012.

On October 23, 2009, Secretary of the Interior Salazar announced the initiation of a Departmental review of the Federal Subsistence Management Program in Alaska; Secretary of Agriculture Vilsack later concurred with this course of action. The review focused on how the Program is meeting the purposes and subsistence provisions of Title VIII of ANILCA, and how the Program is serving rural subsistence users as envisioned when it began in the early 1990s.

On August 31, 2010, the Secretaries announced the findings of the review, which included several proposed administrative and regulatory reviews and/or revisions to strengthen the Program and make it more responsive to those who rely on it for their subsistence uses. One proposal called for a review, with Council input, of the rural and nonrural determination process and, if needed, recommendations for regulatory changes.

On January 20, 2012, the Board met to consider the Secretarial directive, consider the Council’s recommendations, and review all public, Tribal, and Native Corporation comments on the initial review of the rural determinations process. After discussion and careful review, the Board voted unanimously to initiate a review of the rural determination process and the 2010 decennial review. Consequently, based on that action, the Board found that it was in the public’s best interest to extend the compliance date of its 2007 final rule (72 FR 25688; May 7, 2007) on rural and nonrural determinations until after the review of the rural determination process and decennial review are complete or in 5 years, whichever comes first. The Board has already published a final rule (77 FR 12477; March 1, 2012) extending the compliance date.

Request for Input

To comply with the Secretarial directives and the Federal subsistence regulations, the Federal Subsistence Board is proceeding with a review of the rural determination process. As part of the Secretaries’ commitment to open

government and in accordance with Executive Order 13563, the Board requests input from the public on the rural determination process and regulations, and ways to improve them for the benefit of rural Alaskans.

The Board has identified the following components in the process for review: Population thresholds, rural characteristics, aggregation of communities, timelines, and information sources. We describe these components below and include questions for public consideration and comment.

Population thresholds. The Federal Subsistence Board currently uses several guidelines to determine whether a specific area of Alaska is rural. One guideline sets population thresholds. A community or area with a population below 2,500 will be considered rural. A community or area with a population between 2,500 and 7,000 will be considered rural or nonrural, based on community characteristics and criteria used to group communities together. Communities with populations more than 7,000 will be considered nonrural, unless such communities possess significant characteristics of a rural nature. In 2008, the Board recommended to the Secretaries that the upper population threshold be changed to 11,000. The Secretaries have taken no action on this recommendation.

(1) Are these population threshold guidelines useful for determining whether a specific area of Alaska is rural?

(2) If they are not, please provide population size(s) to distinguish between rural and nonrural areas, and the reasons for the population size you believe more accurately reflects rural and nonrural areas in Alaska.

Rural characteristics. The Board recognizes that population alone is not the only indicator of rural or nonrural status. Other characteristics the Board considers include, but are not limited to, the following: Use of fish and wildlife; development and diversity of the economy; community infrastructure; transportation; and educational institutions.

(3) Are these characteristics useful for determining whether a specific area of Alaska is rural?

(4) If they are not, please provide a list of characteristics that better define or enhance rural and nonrural status.

Aggregation of communities. The Board recognizes that communities and areas of Alaska are connected in diverse ways. Communities that are economically, socially, and communally integrated are considered in the aggregate in determining rural and

nonrural status. The aggregation criteria are as follows: Do 30 percent or more of the working people commute from one community to another; do they share a common high school attendance area; and are the communities in proximity and road-accessible to one another?

(5) Are these aggregation criteria useful in determining rural and nonrural status?

(6) If they are not, please provide a list of criteria that better specify how communities may be integrated economically, socially, and communally for the purposes of determining rural and nonrural status.

Timelines. The Board reviews rural determinations on a 10-year cycle, and out of cycle in special circumstances.

(7) Should the Board review rural determinations on a 10-year cycle? If so, why; if not, why not?

Information sources. Current regulations state that population data from the most recent census conducted by the U.S. Census Bureau, as updated by the Alaska Department of Labor, shall be utilized in the rural determination process. The information collected and the reports generated during the decennial census vary between each census; as such, data used during the Board's rural determination may vary.

(8) These information sources as stated in regulations will continue to be the foundation of data used for rural determinations. Do you have any additional sources you think would be beneficial to use?

(9) In addition to the preceding questions, do you have any additional comments on how to make the rural determination process more effective?

This notice announces to the public, including rural Alaska residents, Federally recognized Tribes of Alaska, and Alaska Native corporations, the request for comments on the Federal Subsistence Program's rural determination process. These comments will be used by the Board to assist in making decisions regarding the scope and nature of possible changes to improve the rural determination process, which may include, where the Board has authority, proposed regulatory action(s) or in areas where the Secretaries maintain purview, recommended courses of action.

Dated: December 5, 2012.

Peter J. Probasco,
Assistant Regional Director, U.S. Fish and Wildlife Service, Acting Chair, Federal Subsistence Board.

Dated: December 6, 2012.

Steve Kessler,
Subsistence Program Leader, USDA-Forest Service.

[FR Doc. 2012-31359 Filed 12-28-12; 8:45 am]

BILLING CODE 3410-11-P ; 4310-55-P

DEPARTMENT OF AGRICULTURE

Forest Service

Transfer of Land to the Department of Interior

AGENCY: Forest Service, USDA.

ACTION: Notice of Land Transfer.

SUMMARY: Approximately 353.63 acres of National Forest System lands are transferred to the jurisdiction of the Secretary of Interior pursuant to the Hoopa-Yurok Settlement Act (Pub. L. 100-580; 102 Stat. 2924 (1988)). Transfer of Jurisdiction of Certain National Forest System Lands in California to the Department of the Interior for the benefit of the Yurok Tribe.

DATES: This notice becomes effective December 31, 2012.

FOR FURTHER INFORMATION CONTACT: Louisa Herrera, National Title Program Manager, (202) 205-1255, Lands and Realty Management.

SUPPLEMENTARY INFORMATION: The Hoopa-Yurok Settlement Act (Pub. L. 100-580; 102 Stat. 2924 (1988)), hereafter "Act", provides at section 2(c) that, subject to valid existing rights, certain enumerated National Forest System lands shall be "held in trust by the United States for the benefit of the Yurok Tribe and shall be part of the Yurok Reservation" (102 Stat. 2926). A condition precedent to such lands being held in trust is adoption of a resolution of the Interim Council of the Yurok Tribe as provided in section 2(c)(4) of the Act (102 Stat. 2926).

On March 21, 2007, the Yurok Tribal Council enacted Resolution No. 07-037, waiving certain claims and consenting to uses of tribal funds pursuant to the Act. The Department of the Interior has determined that the resolution meets the requirements of section 2(c)(4) of the Act, and that determination has been accepted by the Department of Agriculture.

Therefore, the conditions of transfer having been met, subject to valid existing rights, administrative jurisdiction over the following Federally



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



Forest Service

Federal Subsistence Board News Release

For Immediate Release:

January 14, 2013

Contact:

Andrea Medeiros
(907) 786-3674 or (800) 478-1456
andrea_medeiros@fws.gov

Federal Subsistence Board Seeks Comments on Rural Determinations Process

The Federal Subsistence Board (Board) is seeking comments on the process used to determine which Alaska communities are rural for purposes of the Federal Subsistence Program. A notice requesting comment by November 1, 2013 was published in the Federal Register (FWS-R7-SM-2012-N248) on December 31, 2012.

The Alaska National Interest Lands Conservation Act (ANILCA) mandates that rural Alaskans be given a priority for subsistence uses of fish and wildlife on Federal public lands. The Board conducts a periodic review of rural determinations. Only communities or areas that are found to be rural are eligible for the subsistence priority under ANILCA.

Following a Secretarial review of the Federal Subsistence Management Program, the Secretaries of the Departments of the Interior and Agriculture tasked the Board to review the rural determination process and recommend changes. The Board has identified the following components of the rural determinations process to be a part of this review: population thresholds, rural characteristics, aggregation of communities, timelines, and information sources. Descriptions of these components and associated questions for public consideration and comment are provided below. Comments will be used by the Board to assist in making decisions regarding the scope and nature of possible changes to improve the rural determination process.

Population thresholds. A community or area with a population below 2,500 will be considered rural. A community or area with a population between 2,500 and 7,000 will be considered rural or nonrural, based on community characteristics and criteria used to group communities together. Communities with populations more than 7,000 will be considered nonrural, unless such communities possess significant characteristics of a rural nature.

1. Are these population threshold guidelines useful for determining whether a specific area of Alaska is rural?
2. If they are not, please provide population size(s) to distinguish between rural and nonrural areas, and the reasons for the population size you believe more accurately reflects rural and nonrural areas in Alaska.

Rural characteristics. The Board recognizes that population alone is not the only indicator of rural or nonrural status. Other characteristics the Board considers include, but are not limited to, the following: Use of fish and wildlife; development and diversity of the economy; community infrastructure; transportation; and educational institutions.

3. Are these characteristics useful for determining whether a specific area of Alaska is rural?
4. If they are not, please provide a list of characteristics that better define or enhance rural and nonrural status.

Aggregation of communities. The Board recognizes that communities and areas of Alaska are connected in diverse ways. Communities that are economically, socially, and communally integrated are considered in the aggregate in determining rural and nonrural status. The aggregation criteria are: 1) Do 30 percent or more of the working people commute from one community to another? 2) Do they share a common high school attendance area? and 3) Are the communities in proximity and road-accessible to one another?

5. Are these aggregation criteria useful in determining rural and nonrural status?
6. If they are not, please provide a list of criteria that better specify how communities may be integrated economically, socially, and communally for the purposes of determining rural and nonrural status.

Timelines. The Board reviews rural determinations on a 10-year cycle, and out of cycle in special circumstances.

7. Should the Board review rural determinations on a 10-year cycle? If so, why? If not, why not?

Information sources. Current regulations state that population data from the most recent census conducted by the U.S. Census Bureau, as updated by the Alaska Department of Labor, shall be utilized in the rural determination process. The information collected and the reports generated during the decennial census vary between each census; as such, data used during the Board's rural determination may vary. These information sources as stated in regulations will continue to be the foundation of data used for rural determinations.

8. Do you have any additional sources you think would be beneficial to use?
9. In addition to the preceding questions, do you have any additional comments on how to make the rural determination process more effective?

Submit written comments by one of the following methods:

Mail: Federal Subsistence Board
Office of Subsistence Management – Attn: Theo Matuskowitz
1011 East Tudor Road, MS-121
Anchorage, AK 99503

E-mail: subsistence@fws.gov

Hand delivery to Designated Federal Official at any Federal Subsistence Regional Advisory Council meeting. See the Meetings and Deadlines page of the Federal

Subsistence Management Program's website, <http://alaska.fws.gov/asm/deadline.cfm>, for dates and locations of Council meetings.

You also may call the Office of Subsistence Management at 800-478-1456 or email subsistence@fws.gov with your questions.

Information on the Federal Subsistence Management Program can be found at <http://alaska.fws.gov/asm/index.cfm>.

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Scheduled Forums for Public Comments

**telephonic access will be provided to these events*

Forum	Meeting Date	Location
*Regional Advisory Council Meetings		
North Slope	Aug. 20-21, 2013	Barrow
Northwest Arctic	Aug. 21-22, 2013	Kotzebue
Southeast	Sept. 24-26, 2013	Ketchikan
Kodiak/Aleutians	Sept. 24-25, 2013	Kodiak
Yukon-Kuskokwim Delta	Oct. 2-3, 2013	Bethel
Southcentral	Oct. 2-3, 2013	Copper Center
Western Interior	Oct. 8-9, 2013	Fairbanks
Seward Peninsula	Oct. 8-9, 2013	Nome
Eastern Interior	Oct. 16-17, 2013	Fairbanks
Bristol Bay	Oct. 29-30, 2013	Dillingham
*Hearings (evening)		
North Slope	Aug. 20, 2013	Barrow
Northwest Arctic	Aug. 21, 2013	Kotzebue
Southeast	Sept. 24, 2013	Ketchikan
Kodiak/Aleutians	Sept. 24, 2013	Kodiak
Yukon-Kuskokwim Delta	Oct. 2, 2013	Bethel
Southcentral	Oct. 2, 2013	Copper Center
Western Interior	Oct. 8, 2013	Fairbanks
Seward Peninsula	Oct. 8, 2013	Nome
Eastern Interior	Oct. 16, 2013	Fairbanks
Bristol Bay	Oct. 29, 2013	Dillingham
*Tribal Consultations		
First	Aug. 14, 2013	USFWS Regional Headquarters, Anchorage
Second	Sept. 11, 2013	USFWS Regional Headquarters, Anchorage

Forum	Meeting Date	Location
*ANCSA Corporation Consultations		
First	Aug. 14, 2013	USFWS Regional Headquarters, Anchorage
Second	Sept. 11, 2013	USFWS Regional Headquarters, Anchorage
AFN Youth and Elders	Oct. 2013	Fairbanks
AFN Convention Booth	Oct. 2013	Fairbanks

Steps in the Review of the Rural Determination Process

Step		Start Date	End Date
1	Publish notice requesting comments	Dec. 31, 2012	Nov. 1, 2013
2	Subsistence Regional Advisory Councils formulate recommendations. Tribal and ANCSA corporations are consulted and public hearings are held.	Aug. 20, 2013	Oct. 17, 2013
3	Analysis of comments	Nov. 1, 2013	Mar. 2014
4	Federal Subsistence Board review of comments and staff analysis. Draft recommendations to the Secretaries on possible changes to improve the process.	Apr. 2014	Apr. 2014
5	Proposed rule drafted (based on Secretarial direction)	Apr. 2014	Jun. 2014
6	Publish proposed rule and accept comments	Jul. 2014	Oct. 2014
7	Analysis of comments	Sept. 2014	Nov. 2014
8	Federal Subsistence Board review of comments and staff analysis. Draft recommendations to the Secretaries.	Jan. 2015	Jan. 2015
9	Draft and publish final rule (based on Secretarial direction)	Feb. 2015	Apr. 2015

Following the completion of the review of the rural determination process, the Federal Subsistence Board will conduct a public review of the current rural determinations. The Federal Subsistence Board will follow steps that are similar to those used in the review of the rural determination process (See table above). The Federal Subsistence Board's goal is to have a final rule of rural determinations by February 2017.

Rural Determination Process Review Q&As

OVERVIEW

1. Why is the rural determination process review important to Alaskans?

Only residents of communities or areas determined to be rural by the Federal Subsistence Board are eligible to harvest fish and wildlife resources on Federal public lands under Federal subsistence regulations.

2. Why is the Federal Subsistence Board reviewing the rural determination Process?

On October 23, 2009, Secretary of the Interior Ken Salazar announced the initiation of a Departmental review of the Federal Subsistence Management Program in Alaska, and on August 31, 2010, Secretary Salazar, along with Secretary of Agriculture Tom Vilsack, made several recommendations to the Federal Subsistence Board to improve the program. One recommendation called for a review of the rural determination process and, if needed, regulatory change. The Federal Subsistence Board voted unanimously to initiate a review of the rural determination process (process review). In the meantime, the Board found that it was in the public interest to suspend the results of its May 7, 2007 rural determinations until after this current review of the rural determination process is complete and new rural determinations are made, or for 5 years, whichever comes first.

3. Who is participating in the process review and what roles are each playing?

The public is encouraged to participate in the rural determination process review by learning about the current process, commenting on it, and suggesting new ideas for a better, future process. The public is invited to testify in person at public hearings or provide written comments. The Regional Advisory Councils, Tribes, and Alaska Native Claims Settlement Act corporations may also provide comments or make recommendations to the Federal Subsistence Board. The Federal Subsistence Board will evaluate all the comments and present recommendations to the Secretaries of the Interior and Agriculture, who will decide the outcome of the process review.

4. What is the overall timeline?

The rural determination process review will occur between December 31, 2012 and the spring of 2015. The Federal Subsistence Board's goal is to conduct the new rural determinations review by February, 2017.

EXISTING RURAL DETERMINATION PROCESS

5. What is the existing process for determining rural communities (or non-rural areas)?

The Federal Subsistence Board uses the rural determination process described in the Final Rule published in the Federal Register on May 7, 2007. The Federal Subsistence Board considered all of the following in making rural determinations:

- **Population thresholds.** A community or area with a population below 2,500 will be

considered rural. A community or area with a population between 2,500 and 7,000 will be considered rural or nonrural, based on community characteristics and criteria used to group communities together. Communities with populations more than 7,000 will be considered nonrural, unless such communities possess significant characteristics of a rural nature.

- **Rural characteristics.** The Board recognizes that population alone is not the only indicator of rural or nonrural status. Other characteristics the Board considers include, but are not limited to, the following: use of fish and wildlife; development and diversity of the economy; community infrastructure; transportation; and educational institutions.
- **Aggregation of communities.** The Board recognizes that communities and areas of Alaska are connected in diverse ways. Communities that are economically, socially, and communally integrated are considered in the aggregate in determining rural and nonrural status. The aggregation criteria are: 1) Do 30 percent or more of the working people commute from one community to another? 2) Do they share a common high school attendance area? and 3) Are the communities in proximity and road-accessible to one another?
- **Timelines.** The Board reviews rural determinations on a 10-year cycle, and out of cycle in special circumstances.
- **Information sources.** Current regulations state that population data from the most recent census conducted by the U.S. Census Bureau, as updated by the Alaska Department of Labor, shall be utilized in the rural determination process. The information collected and the reports generated during the decennial census vary between each census; as such, data used during the Board's rural determination may vary. These information sources as stated in regulations will continue to be the foundation of data used for rural determinations.

6. When were the most recent rural determinations made and what were they?

The Final Rule on the current rural determinations was published in the Federal Register on May 7, 2007. The Federal Subsistence Board determined all communities and areas to be rural except:

- (1) Anchorage, Municipality of;
- (2) Fairbanks North Star Borough;
- (3) Homer area—including Homer, Anchor Point, North Fork Road area, Kachemak City, and the Fritz Creek East area (not including Voznesenka);
- (4) Juneau area—including Juneau, West Juneau, and Douglas;
- (5) Kenai area—including Kenai, Soldotna, Sterling, Nikiski, Salamatof, Kalifonsky, Kasilof, and Clam Gulch;
- (6) Ketchikan area—including all parts of the road system connected to the City of Ketchikan including Saxman, Pennock Island and parts of Gravina Island;
- (7) Prudhoe Bay;
- (8) Seward area—including Seward and Moose Pass;
- (9) Valdez; and
- (10) Wasilla/Palmer area—including Wasilla, Palmer, Sutton, Big Lake, Houston, Point MacKenzie, and Bodenburg Butte.

**Note that all changes made by the Board in 2007, except for changing Adak's determi-

nation from non-rural to rural, have been put on hold by the Board pending the outcome of the process review and new rural determinations. (See Question #1 for more detail).

“PROCESS” REVIEW (CURRENTLY UNDERWAY)

7. Are there any legal considerations I should be aware of when making my comments?

Yes. All ideas on how to improve the rural determination process that are consistent with ANILCA Title VIII and 9th Circuit Court of Appeals case law associated with the definition of rural will be considered. In *Kenaitze v. State of Alaska*, 860 F.2d 312 (1988), the 9th Court provided useful guidance regarding the meaning of the term “rural” as it is used in Title VIII of ANILCA:

Regarding the definition of “rural,” the Court said, “The term rural is not difficult to understand; it is not a term of art. It is a standard word in the English language commonly understood to refer to areas of the country that are sparsely populated, where the economy centers on agriculture and ranching.”

Based on this definition, the Court struck down the State of Alaska’s approach to defining rural areas. The State’s definition of “rural” included only those areas dominated by subsistence fishing and hunting, while excluding areas dominated primarily by a cash economy even if a substantial portion of that area’s residents engaged in subsistence activities. In making this decision, the Court said that «Congress did not limit the benefits of [Title VIII] to areas dominated by a subsistence economy. Instead, it wrote broadly, giving the statutory priority to all subsistence users residing in rural areas.»

8. What is the timeline for the process review?

- The rural determination process review began on December 31, 2012, with the publication of a Federal Register Notice requesting comments.
- Between August 20 and October 17, 2013 the Subsistence Regional Advisory Councils will meet and formulate comments for the Federal Subsistence Board. Public hearings, conducted by the Federal Subsistence Board, will be held in conjunction with each of these meetings to gather public comments.
- The deadline to submit all comments is November 1, 2013.
- By April, 2014 the Federal Subsistence Board will draft recommendations for the Secretaries of the Interior and Agriculture on possible changes to the process.
- The Secretaries will then publish a proposed rule in the Federal Register, opening a comment period, and by the spring of 2015 will publish a final rule.

9. Where can I find the Federal Register Notice that asks for input into the process?

It is available online at <http://alaska.fws.gov/asm/rural.cfm> In addition, the public can call 1 (800) 478-1456 to request a hard copy.

10. When and where can I provide official input into the process review?

By November 1, 2013 comments must be received in any of the following ways:

- *Electronically*: sent to subsistence@fws.gov.
- *By hard copy*: U.S. mail or hand-delivery to: USFWS, Office of Subsistence Management, 1011 East Tudor Road, MS 121, Attn: Theo Matuskowitz, Anchorage, AK 99503– 6199,
- *Hand delivery* to the Designated Federal Official attending any of the Regional Advisory Council public meetings or Federal Subsistence Board public hearings, or
- *By testifying* at public hearings held in conjunction with the Fall 2013 Regional Advisory Council meetings and in a few additional communities. The hearing schedule can be found at <http://alaska.fws.gov/asm/deadline.cfm>

11. How can I make my comments most useful to the Board?

Comments, and rationale for those comments, should address the following components of the current rural determination process: population thresholds, rural characteristics, aggregation of communities, timelines and information sources. All ideas on how to improve the rural determination process consistent with ANILCA Title VIII and the 9th Circuit Court of Appeals case law associated with the definition of rural will be considered.

12. Will the fall of 2013 be the only time I can comment on the process review?

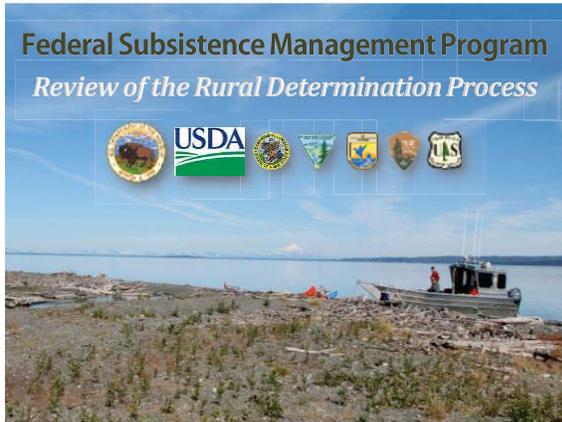
No. If the Secretaries decide to make changes to the rural determination process, a proposed rule will be published in the Federal Register followed by another open comment period.

13. What will the Board do with my comments?

After the November 1, 2013 comment deadline, the Federal Subsistence Board will review and analyze all the comments it received during the comment period. The Board will make recommendations to the Secretaries of the Interior and Agriculture on possible changes to improve the rural determination process.

14. Who can I contact if I have questions?

Individuals can call David Jenkins, Office of Subsistence Management, at 907-786-3688 or email david_jenkins@fws.gov







Framework

Title VIII - ANILCA

- Rural Subsistence Priority
- Residents of Rural Communities /Areas



Framework

9th Circuit Court of Appeals Decision

- Sparsely Populated Areas
 - Primary Indicator of Rural
- Hunting/Fishing Resource Use
 - Only One Indicator of Rural



Current Process

Overview of Criteria

1. Aggregation of Communities
2. Population Threshold
3. Rural Characteristics
4. Timelines
5. Information Sources



Current Process 

1. Aggregation of Communities

- **Economic, Social, Communal Integration**
 - Do 30% or more working people commute from one community to another?
 - Do they share a common high school attendance area?
 - Are the communities in proximity and road accessible to one another?

Questions 

Are these aggregation criteria useful for determining rural and nonrural status?

- If not, please provide ideas on how to better indicate how communities are integrated for the purposes of determining rural and nonrural status.

Current Process 

2. Population Threshold

- Below 2,500
 - Presumed Rural
- Between 2,500 and 7,000
 - No Presumption-Rural Characteristics Applied
- Above 7,000
 - Presumed Non-rural

Questions



Are these population threshold guidelines useful for determining whether a specific area of Alaska is rural?

- If they are not, please provide population size(s) to distinguish between rural and nonrural areas, and the reasons for the population size you believe more accurately reflects rural and nonrural areas in Alaska.

Current Process



3. Rural Characteristics

- Use of Fish and Wildlife
- Economic Development and Diversity
- Infrastructure
- Transportation
- Educational Institutions

Questions



Are these characteristics useful for determining whether a specific area of Alaska is rural?

- If they are not, please provide a list of characteristics that better define rural and nonrural status.

Current Process 

4. Timelines

- 10-year Cycle
- Out of Cycle in Special Circumstances

5. Information Sources

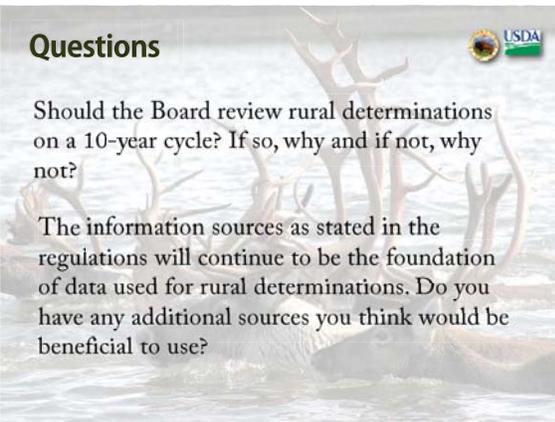
- Recent Census Population Data
- Census Information Varies Decade to Decade



Questions 

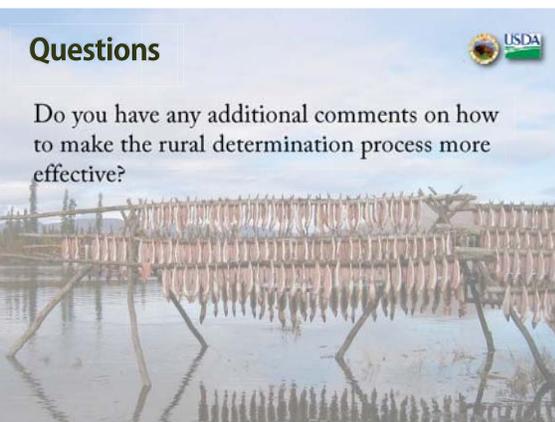
Should the Board review rural determinations on a 10-year cycle? If so, why and if not, why not?

The information sources as stated in the regulations will continue to be the foundation of data used for rural determinations. Do you have any additional sources you think would be beneficial to use?



Questions 

Do you have any additional comments on how to make the rural determination process more effective?





Resources

Available to You

Web Site-<http://alaska.fws.gov/asm/rural.cfm>

- Federal Register Notice (Vol. 77 Number 250)
- News Release

Email

- subsistence@fws.gov

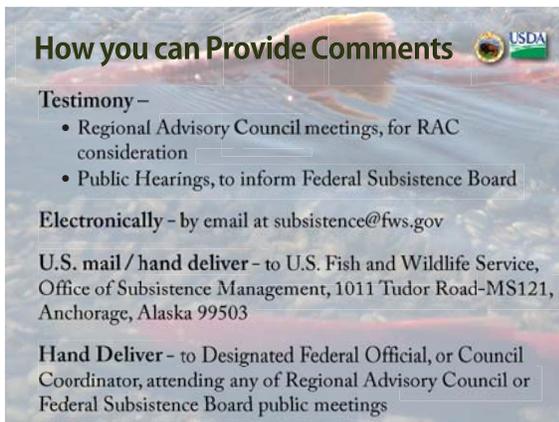
Phone

- 800-478-1456

All resources are located on our web site and on the handouts available here in the room.

Please pick up copies.





How you can Provide Comments

Testimony –

- Regional Advisory Council meetings, for RAC consideration
- Public Hearings, to inform Federal Subsistence Board

Electronically - by email at subsistence@fws.gov

U.S. mail / hand deliver - to U.S. Fish and Wildlife Service, Office of Subsistence Management, 1011 Tudor Road-MS121, Anchorage, Alaska 99503

Hand Deliver - to Designated Federal Official, or Council Coordinator, attending any of Regional Advisory Council or Federal Subsistence Board public meetings





Thank You

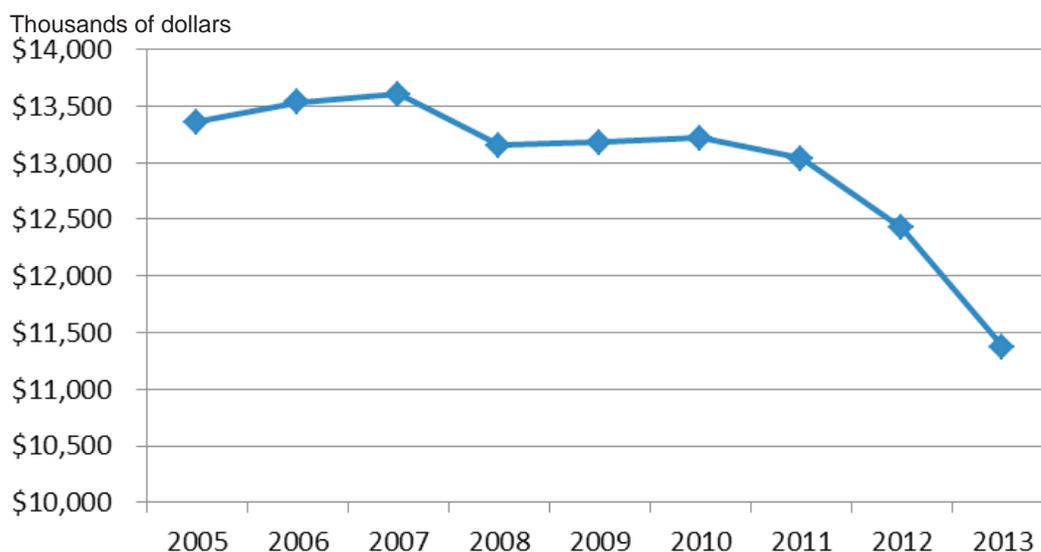


OFFICE OF SUBSISTENCE MANAGEMENT BRIEFINGS

Budget Update

The Office of Subsistence Management (OSM) has experienced a declining budget and level of staffing (see below). The overall OSM budget is subject to the same 6.7% cut that all Federal agencies are experiencing as a result of sequestration — the automatic spending cuts put in place by Congress and effective January this year. The budget picture for FY2014 is not entirely clear, but we anticipate further reductions. OSM will continue to provide the Regional Advisory Councils with budget briefings to help them develop a better understanding of proposed cuts and how they may affect the Federal Subsistence Management Program. Travel outside of the normal Council meetings will continue to be limited. Also, due to budget cuts and the Federal sequestration, the funding to support the State Liaison Position has been cut.

TOTAL OSM BUDGET BY FISCAL YEAR



Staffing Update

Arrivals

Gene Peltola, Jr. has been selected to serve as the Assistant Regional Director for OSM. Gene most recently served as the Refuge Manager for the Yukon Delta National Wildlife Refuge in Bethel for 5 years and was the In-Season Manager on the Kuskokwim River. Prior to that, he was the Northern Zone Officer for Refuge Law Enforcement. He has a total of 29 years of service in the U.S. Fish & Wildlife Service.

Jeff Brooks has been selected to work as a Social Scientist in the Anthropology Division. He previously worked for the National Wildlife Refuge System in Alaska in the Division of Conservation Planning and Policy as a social scientist. Jeff served as the lead planner for the recently published Comprehensive Conservation Plan for the Selawik National Wildlife Refuge.

Derek Hildreth has been selected as the new Permit Specialist, replacing Michelle Chivers in that position. He previously worked in the Anchorage Field Office for the U.S. Fish & Wildlife Service in Fisheries.

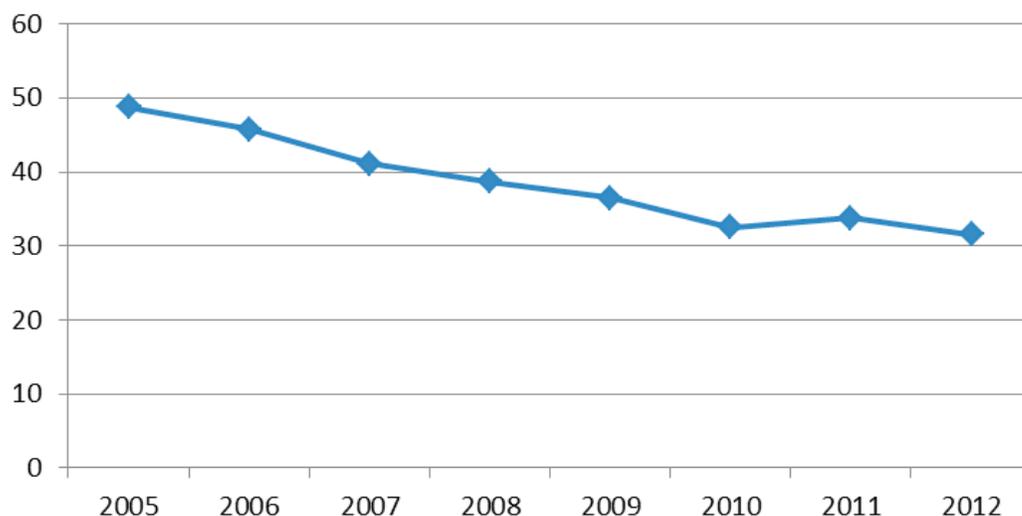
Departures

Helen Armstrong has retired from employment with the U.S. Fish & Wildlife Service. Under current budget restrictions, any new hires must be approved before any recruitment can begin. At this time, OSM has not been authorized to recruit for hiring a replacement Anthropology Division Chief. The position is currently vacant and OSM is exploring options for fulfilling these responsibilities.

Stephen Fried retired from employment with the U.S. Fish & Wildlife Service. OSM has been authorized to seek a replacement Fisheries Division Chief.

Andrea Medeiros, who has been at OSM for over twelve years and is currently the Subsistence Outreach Coordinator, will be leaving OSM to take a position with External Affairs for Region 7 U.S. Fish & Wildlife Service. Her position will become vacant and OSM is exploring options for fulfilling these responsibilities.

OSM STAFFING BY FISCAL YEAR



Tribal Consultation Update

The Tribal Consultation Implementation Guidelines are in their final draft form and the Federal Subsistence Board will review them at its work session in August. The Tribal Consultation workgroup consists of a varied group of Federal staff, Tribal members and members from Alaska Native Claims Settlement Act (ANCSA) Corporations. Once the implementation guidelines have been accepted by the Board, the workgroup will focus its attention on crafting the ANCSA Consultation Policy and Implementation Guidelines.

Regulatory Cycle Update

At the fall 2012 Regional Advisory Council meetings, the Board asked all 10 Councils for input on regulatory cycle schedules. Eight of ten Councils recommended that the Board meeting to make determinations on wildlife proposals occur in the spring rather than in January. In response, the Board scheduled their next meeting to make determinations on wildlife proposals for April 15-17, 2014. With future wildlife Board meetings occurring in the spring, the fall Council meeting window for wildlife proposal years will be extended into early November. The Board has not yet made a decision concerning dates for their meeting in 2015 to address the next round of fisheries proposals.



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Togiak National Wildlife Refuge
P.O. Box 270
Dillingham, Alaska 99576
Phone 907-842-1063
Fax 907-842-5402

INFORMATION BULLETIN - July 2013

Personnel Changes

In December 2012, Togiak Refuge Manager Paul Liedberg retired after 34 years of Federal Service and resides in Dillingham with his wife Maryanne. In late May Paul was replaced by Susanna Henry, who served as the Refuge Manager at Kofa National Wildlife Refuge near Yuma, Arizona.

The Roles of Alder and Salmon in Driving Aquatic Productivity Contact: Pat Walsh

In 2010, Togiak Refuge, the University of Illinois, the University of Washington, and ADF&G began a 4-year project to determine the relative role of salmon and alder in controlling productivity in lakes. Both salmon and alder contribute nutrients to lakes: salmon do so via decomposition of carcasses after spawning, and alder does so through nitrifying the soil, and by mobilizing soil nutrients which would otherwise be biologically inaccessible. This project will measure the contribution of nutrients from both sources by analyzing water samples from thirteen Refuge lakes over a four year period. The information that will come from this project will help salmon managers better understand the ecological consequences of harvest. Since 2010, we have installed water quality and quantity monitoring equipment at 13 lakes on Togiak Refuge. We collected and processed water samples in summer and fall 2010, 2011, 2012 and summer samples in 2013. Field work will be completed after we perform one more round of sampling in fall 2013. We have begun laboratory analysis for a battery of biological and chemical attributes. We monitored stream discharge in summer and fall at 26 streams entering the study lakes in order to estimate lake water budgets. We performed aerial sockeye salmon surveys at all study lakes and estimated run size in each. We updated an existing landcover map to refine our estimate of alder cover in the study area. A progress report is available.

Cooperative Salmon Escapement Monitoring Projects Contact: Mark Lisac

In 2013 Togiak Refuge provided support to the Native Village of Kwinhagak (NVK) and ADF&G to operate salmon escapement monitoring projects (weirs) on the Kanektok (KRW) and Middle Fork Goodnews Rivers (MFGRW).

On the Middle Fork Goodnews River, ADF&G has monitored Chinook, chum and sockeye salmon escapement since 1980. Escapement goals and management of the commercial fishery

are based on salmon escapement at the weir. Togiak Refuge has worked with ADF&G since 1992 to include the coho salmon and Dolly Varden runs in the project operation. ADF&G, Togiak Refuge and the Office of Subsistence Management (OSM) fund the project operation. Since 2006 this weir project has also used an underwater video system which allows the weir to be opened to salmon passage more hours a day. Use of motion sensors and digital recording video can improve fish counting accuracy, especially during periods of high water and poor visibility. The MFGRW was fish tight on 24 June and will continue operation through most of September 2013.

On the Kanektok River, ADF&G, NVK and Togiak Refuge have worked cooperatively to monitor salmon and Dolly Varden runs since 2001. This project is currently funded by OSM and Coastal Villages Region Fund. Escapement goal ranges have not been established for the Kanektok River because the weir has not been operational for enough years. This weir began operation 25 June and will continue only until mid August.

Preliminary escapement counts to 28 July for the MFGRW and KRW 2013 are:

	Chinook	Sockeye	Chum	Coho	Pink	Dolly V.
MFGRW	1,039	22,382	24,433	12	405	4,327
KRW	3,144	123,991	39,255	343	494	20,666

Arctic Char Population Inventory Contact: Mark Lisac

Togiak Refuge is developing a multi-year study to inventory Arctic char populations throughout the Refuge. This species is confirmed to occur in 27 lakes and are likely to be found in many more. We will attempt to collect size, shape and genetic information from each lake population encountered. If you have any first hand knowledge of small or unique Arctic char populations and would be willing to share that information please contact Mark Lisac at the Refuge office.

Rainbow Trout Population Identification Contact: Pat Walsh

Togiak Refuge, ADF&G Sport Fish, and the Conservation Genetics Laboratory are working together to inventory populations and determine the genetic relationships between populations of rainbow trout throughout Togiak Refuge. Archived genetic material collected from previous investigations were inventoried and assessed for suitability in the current study. A collection plan for unsampled populations was completed and new tissue collections began in the Goodnews, Kanektok, Igushik, Snake, and Wood River watersheds in summer 2009. Collections continued in Ice Creek and the Osviak River in 2012. All collections are now complete, and genetic analysis is underway. A progress report is available.

Mulchatna Caribou Contact: Andy Aderman

Togiak Refuge assisted ADF&G with telemetry monitoring flights, radiocollar deployment, satellite data acquisition, data entry and database management. Primary calving areas in 2013 were near Lime Village (Unit 19A) and the mid-Nushagak River area (Unit 17C) similar to the past several years. Caribou were also observed calving in the southern Kilbuck Mountains (Unit 18). A photocensus was attempted on July 12, 2013. A composition survey is planned for early October.

Nushagak Peninsula Caribou Contact: Andy Aderman

During the 2012-2013 hunting seasons, 109 caribou were reported harvested. This was the third highest harvest since hunting began on this herd in 1995. Radio collars were deployed on four short-yearling females in early April. During late May 2013, 17 of 21 (81.0%) radiocollared adults ≥ 3 -years olds produced a calf. All 4 of the radiocollared 2-year olds produced a calf. A photocensus conducted on July 8, 2013 found a minimum of 926 caribou. A similar effort in 2012 found a minimum of 902 caribou. Seventy caribou permits total were made available in Manokotak, Dillingham, and Aleknagik for the fall hunt. A composition survey is planned for early October. The Nushagak Peninsula Caribou Planning Committee will meet in November or January to review population status and make recommendations regarding hunting.

Wolf Predation on Nushagak Peninsula Caribou Contact: Pat Walsh

Using radio telemetry, Togiak Refuge and ADF&G investigated the seasonality and duration of wolf use of the Nushagak Peninsula, in order to assess whether predation is a likely factor in driving population dynamics of Nushagak Peninsula caribou. From 2007 through 2012, we used GPS radio telemetry to track the movement of wolves from two packs located within 30 km of the Nushagak Peninsula. Field work was concluded in spring 2012, at which time collars were removed from wolves. One of the two packs used the Nushagak Peninsula approximately 36% of the year, spending less than 10% of its time on the Peninsula during winter months, and up to 70% during late summer. Over the course of the study, wolf use of the Nushagak Peninsula increased steadily, although overall wolf numbers remained relatively constant. During this same time, the Nushagak Peninsula caribou population increased from an estimated 579 to over 900. We conclude that wolf predation has not been the primary population driver for this caribou herd during the years of this study, but instead that the wolf population has responded to increased caribou abundance by shifting the amount of time it spends on the Peninsula. A progress report is available.

Moose Contact: Andy Aderman

A population survey in March 2013 found 30 moose total in the Kanektok and Arolik River drainages in southern Unit 18. The previous high count for these two drainages combined was 17 moose in 2012. The Moose Management Plan for Unit 17A was finalized in March 2013 with signing by the Bristol Bay Regional Advisory Council Chair. In May 2013, 14 of 22 radiocollared adult cows produced a minimum of 23 calves, or 105 calves:100 adult cows. Adult twinning rate was 64%. Seven of 14 radiocollared 2-year old cows produced a minimum of 8 calves, or 57 calves:100 2-year old cows.

Walrus Contact: Michael Winfree

Togiak National Wildlife Refuge has monitored Pacific walrus haulouts located on Refuge coastlines since 1985. In 2012, cameras programmed to take a photo every hour were used to monitor haulouts located at Cape Peirce and Hagemeister Island, while aerial surveys were conducted to monitor Cape Newenham. In 2012, there were 19 and 33 haulout events documented at Cape Peirce and Hagemeister Island, respectively. No walrus were observed at Cape Newenham during aerial surveys in 2012.

Seabirds Contact: Michael Swaim

Togiak National Wildlife Refuge has monitored seabird populations at Cape Peirce since 1980, making this one of the longest continuously studied seabird colonies in the state of Alaska. During this period, pelagic cormorant populations remained relatively constant, while black-legged kittiwakes and common murre populations have declined.

Eelgrass Monitoring Contact: Michael Swaim

Togiak Refuge has partnered with the USGS Alaska Science Center to map and inventory 23 eelgrass beds along the refuge coastline since 2007. Work will primarily be focused on the reacquisition of aerial imagery in Goodnews Bay and Togiak Bay in 2012 and 2013.

Water Temperature Monitoring Contact: Michael Swaim

Togiak Refuge has collected continuous water temperature measurements at 18 sites since 1990. The refuge will continue monitoring water temperature indefinitely, since these data provide important baseline information for a variety of biological and climate-related studies.

Quantifying River Discharge Contact: Michael Winfree

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 continue indefinitely to monitor discharge in the Togiak and Kulukak Rivers. Each gage is instrumented with pressure sensors that measure water level every 15 minutes. Six discharge measurements occurred at each site from October 1, 2012 through July 31, 2013.

Salmon River Water Quality Contact: Michael Winfree

The Salmon River drainage, just south of Platinum, has been the site of a placer mine since the 1930's. Major production by the Goodnews Bay Mining Company stopped in 1976. The mine was sold to Hanson Industries in 1980, who in turn sold it to XS Platinum in 2007. In the summer of 2009, re-mining of the old tailings began. In September 2009, Togiak Refuge installed a continuous water-quality gage on the Salmon River. The gage monitors pH, turbidity, specific conductivity, dissolved oxygen, temperature, and depth. The gage runs continuously, taking a reading every 15 minutes. Baseline value estimates from April 1, 2010 through February 29, 2012 were: temperature = 2.4°C, specific conductivity = 78 μ S/cm at 25°C, pH=7.3, turbidity=4.6 NTU, dissolved oxygen= 12.9 mg/L. Baseline values will be further refined with the collection of more data.

Education and Outreach Contact: Terry Fuller

Togiak Refuge has an active education and outreach program including the Migratory Bird Calendar; National Wildlife Refuge Week; career fairs; production of Bristol Bay Field Notes (a new episode airs every Friday morning at 8:50 am on KDLG at 89.9 FM); and numerous teacher requested classroom presentations in 12 villages in the Southwest Region, Lower Kuskokwim, Dillingham City school districts and the Dillingham 7th Day Adventist School. Field trips with

area students for the 2012-2013 school year included bird walks, animal tracks and ID, archery, salmon life cycles, aquatic resources and bear safety. The refuge website is also a valuable education tool and is available at <http://togiak.fws.gov>. Togiak Refuge took the plunge into social media in 2013 and now has an active Facebook page which disseminates information on a daily basis. Also, the refuge partners with others to conduct three environmental education camps described below:

****Note on Science Camps for 2013:*** *As a part of funding cuts resulting from sequestration, Region 7 eliminated all funding for Science Camps for 2013. Togiak Refuge was able to still participate in the Southwest Alaska Science Academy through providing the use of equipment (boats and motors) and instructional time. Enough funding was put together to hold one of the other two camps. The Summer Outdoors Skills and River Ecology Float Camp will happen during August 2013 and is planned for the Middle Fork, Goodnews River. The Cape Peirce Marine Science and Yup'ik Culture Camp has been cancelled for 2013.*

Southwest Alaska Science Academy Contact: Terry Fuller

This past July (2012), Togiak Refuge helped with the 11th 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 the Alaska Department of Fish and Game.

Cape Peirce Marine Science and Yup'ik Culture Camp Contact: Terry Fuller

Togiak Refuge holds a junior high Science camp at Cape Peirce that is designed to educate area students about seabirds, marine mammals and how field studies are conducted. It also introduces them to a variety of outdoor resource related topics and activities.

Due to poor weather conditions (and two attempts to reach Cape Peirce) the camp was abruptly moved to an alternate location (Lake Nunavaugaluk) during 2012. Some of the activities that the students participated in included wilderness survival skills (water, fire, shelter, first aid), catch and release angling, archery, identification of aquatic organisms and canoeing. Other topics that were discussed included Leave No Trace camping practices, bear safety, stewardship and careers with the USFWS. Traditional councils and school districts from throughout western Bristol Bay are cooperators with this camp.

Summer Outdoor Skills and River Ecology Float Camp Contact: Terry Fuller

The 2012 Float Camp took place on the Pungokepek and Togiak Rivers. Students learned about river ecosystems and how to enjoy them safely and responsibly while taking part in a float trip. Students observed and learned about the many fish, wildlife and plant species found on refuge rivers and streams. Rafting skills, water safety, different angling methods (Catch and Release), Leave No Trace camping practices and bear safety were topics during the trip. Students also participated in other outdoor activities such as outdoor survival skills, identification of juvenile salmonid species and archery. Other topics of discussion included bear safety, Leave No Trace

camping practices and careers with the USFWS. On this particular camp students were also able to assist refuge staff with data collection for the water temperature monitoring. This camp helped students understand 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 from western Bristol Bay are cooperators in this camp.

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 river along with the location and timing of activities, conflicts between users, and sport fish catch/harvest per unit effort. Rangers also assist Refuge and ADF&G staff at the Kanektok River and Middle Fork Goodnews River weirs, and assist Refuge staff with biological studies. In addition, Rangers patrol campsites for litter, monitor compliance of sport fishing guides, and offer assistance as needed.

Two River Rangers are stationed in the village of Togiak during summer 2013 and patrol the Togiak River several times each week. One of them was hired as a student intern through the Bristol Bay Native Association and the other position was filled by Pete Abraham who works for the refuge as a Refuge Information Technician during the rest of the year. Two River Rangers are stationed in the village of Quinhagak during summer 2013 and patrol the Kanektok River several times each week. Both are long time residents of Quinhagak. One Park Ranger stationed out of Dillingham patrols several refuge rivers including the Goodnews River using inflatable kayaks. Use of kayaks allows rangers to access the entire length of the rivers, which are inaccessible to power boats during most water levels.

Bering Sea Western Interior Resource Management Plan

Getting YOUR Voice Heard in the BSWI Land Use Planning Process



BLM

When a place you know and care about becomes part of a land use planning process, how can your ideas be heard? At the Bureau of Land Management, your input is vital to the process. We want to hear from YOU.

What is the Bering Sea-Western Interior Resource Management Plan?

The BLM is developing a new land use plan for an area in western Alaska that encompasses approximately 62 million acres of land, including 10.6 million acres managed by the BLM. The planning area includes all lands south of the Central Yukon watershed to the southern boundary of the Kuskokwim River watershed, and all lands west of Denali National Park and Preserve to the Bering Sea, including Saint Lawrence, Saint Matthew and Nunivak islands (see enclosed map).

The Bering Sea-Western Interior (BSWI) Resource Management Plan will provide a framework for managing and allocating uses of BLM public land and resources.

Why Does the BLM Plan?

To ensure the best balance of uses and resource protections for America's public lands, the BLM undertakes extensive land use planning through a collaborative approach with local, state and tribal governments, the public, and stakeholder groups.

The result is a set of land use plans—called Resource Management Plans (RMP)—that provide the framework to guide decisions for every action and approved use on the National System of Public Lands in accordance with the Federal Land Policy and Management Act.

Decisions in the RMP establish goals and objectives for resource management, the measures needed to achieve these goals and objectives, and rules for using BLM-managed lands. They identify lands that are open or available for certain uses, including any applicable restrictions, and lands that are closed to certain uses. RMP decisions are made on a broad scale and guide subsequent site-specific day-to-day decisions.

Why is there a Need for the BSWI RMP?

The purpose of the BSWI RMP is to provide comprehensive, long-term direction for the 10.6 million acres of BLM-administered land in the planning area. The BSWI RMP will: (1) address any new issues that have developed since the existing Southwest Planning Area Management Framework Plan was

Alaska



approved in 1981; (2) address management issues not adequately addressed by the existing plan, and; (3) provide direction for site-specific activity planning in the future. Issues and management concerns the new RMP will address include, but are not limited to:

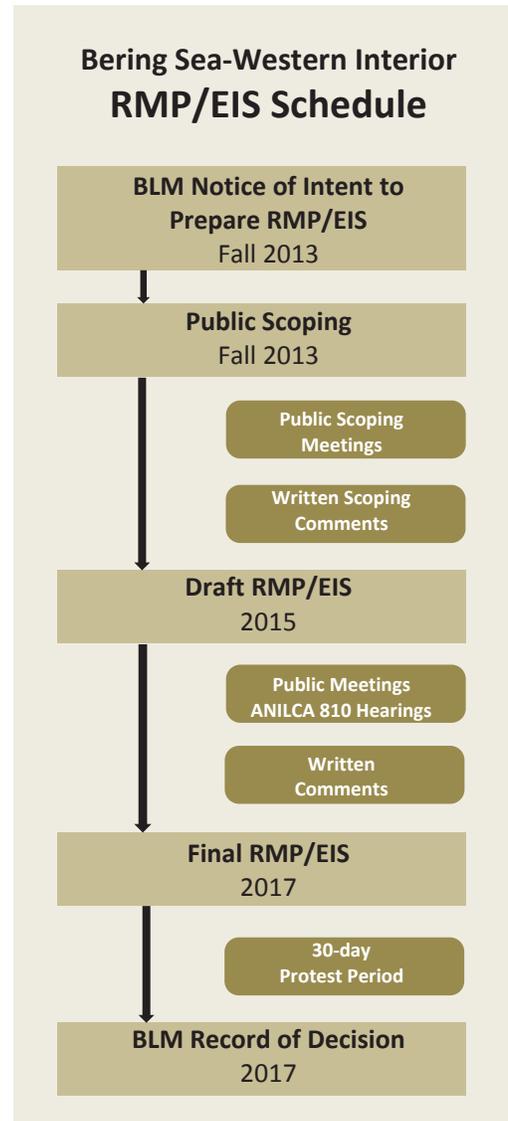
- Management of human uses and activities, such as recreation and mining;
- Protection of areas with critical or unique values, such as wild and scenic rivers; and
- Management of natural and cultural resources, such as wildlife, fish, cultural sites, and vegetation.

How You Can Participate in the BSWI Planning Process

Public involvement is an integral component of the BSWI planning process. Throughout this process, stakeholders and residents will have many opportunities to participate and share insights and comments, beginning with public scoping meetings in the fall of 2013.

The purpose of scoping is for the public to help us identify issues and concerns that should be considered in the RMP. Typically, the BLM holds scoping meetings in the area affected by the plan. BLM personnel are present at the meetings to explain the planning process and hear your concerns. You may also submit written scoping comments at the address below.

Many steps in the RMP process include specific opportunities for your involvement. However, the BLM welcomes your comments and suggestions at any time during the planning process.



How to Contact Us

If you'd like to be added to the BSWI mail list to receive future notifications and information, visit our website and use the **Contact Us** form, or send your contact info to BSWI_RMP_Comment@blm.gov. Please let us know the preferred way to reach you (regular mail or e-mail). You can also reach us by mail at BLM Anchorage Field Office, ATTN: BSWI RMP, 4700 BLM Road, Anchorage, AK 99507, or by phone at (907) 267-1246.

For more information about the BSWI RMP, please visit the project website at www.blm.gov/ak/planning.

**Your input will help inform management of these lands for the next 15-20 years.
We want to hear from YOU!**



Bering Sea Western Interior Resource Management Plan

**BLM is developing a new land use plan for 10.6 million acres.
We want to hear from YOU.**



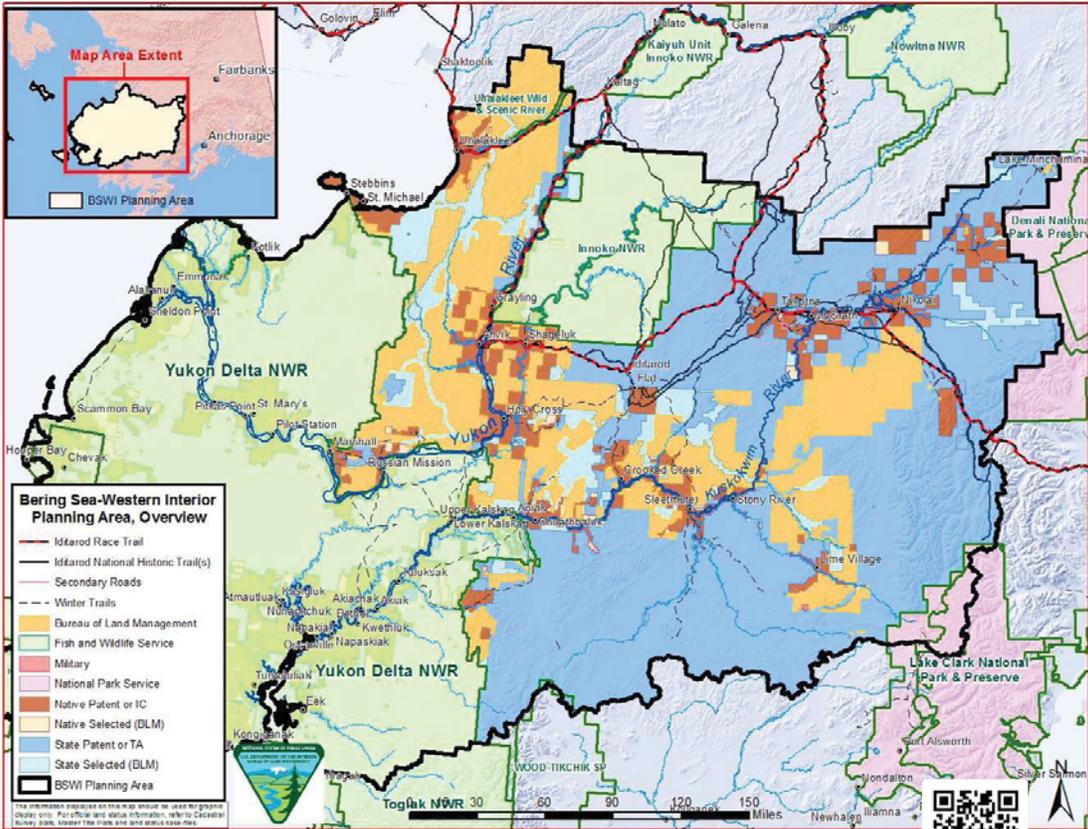
Getting Your Voice Heard:

- Visit the project website at www.blm.gov/ak/planning and join the mail list.
- Attend a scoping meeting this fall and share your ideas and concerns.
- E-mail the project team at BSWI_RMP_Comment@blm.gov.

Your input will inform management of these lands for the next 15-20 years.

PLEASE PARTICIPATE!

(BLM lands in the BSWI planning area depicted in gold).



Bureau of Land Management, Anchorage Field Office, 4700 BLM Road, Anchorage, AK 99507
(907) 267-1246 • (800) 478-1263



Winter 2014 Regional Advisory Council Meeting Calendar

February–March 2014 current as of 07/11/13

Meeting dates and locations are subject to change.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Feb. 9	Feb. 10 <i>Window Opens</i>	Feb. 11	Feb. 12 NS—Barrow	Feb. 13	Feb. 14	Feb. 15 BB—Naknek
Feb. 16	Feb. 17 HOLIDAY	Feb. 18 NWA—Kotzebue	Feb. 19	Feb. 20	Feb. 21	Feb. 22
Feb. 23	Feb. 24	Feb. 25 WI—TBD	Feb. 26 EI—Fairbanks	Feb. 27	Feb. 28	Mar. 1
Mar. 2	Mar. 3	Mar. 4	Mar. 5 YKD—Bethel	Mar. 6	Mar. 7	Mar. 8
Mar. 9	Mar. 10	Mar. 11 SE & SC Joint Meeting—Anchorage	Mar. 12	Mar. 13	Mar. 14	Mar. 15
Mar. 16	Mar. 17	Mar. 18 SP—Nome	Mar. 19	Mar. 20 K/A—Kodiak	Mar. 21 <i>Window Closes</i>	Mar. 22

Fall 2014 Regional Advisory Council Meeting Calendar

August–October 2014 current as of 09/11/13

Meeting dates and locations are subject to change.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Aug. 17	Aug. 18 WINDOW OPENS	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 HOLIDAY	Sept. 2	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 END OF FY2014	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	Oct. 15	Oct. 16	Oct. 17 WINDOW CLOSES	Oct. 18

NWA—TBD



THE STATE
of **ALASKA**
GOVERNOR SEAN PARNELL

Department of Fish and Game

DIVISION OF WILDLIFE CONSERVATION
Headquarters Office

PO Box 115526
1255 West 8th Street
Juneau, Alaska 99811-5526
Main: 907.465.4190
Fax: 907.465.6142

RECEIVED

MAY 23 2013

May 20, 2013

Tim Towarak, Chair
Federal Subsistence Board
1011 East Tudor Road
Anchorage, AK 99503-6119

Dear Tim, 

Few places in the world retain a stronger connection to hunting, gathering, and eating well from the land than Alaska. Indeed, the need for meaningful wildlife harvest opportunities here cannot be overstated, which is why I'm sharing my concerns over a National Park Service (NPS) management approach that has great potential to reduce these opportunities on park and preserve units statewide.

In 2010, NPS began preempting Alaska state hunting regulations on national preserve lands during its annual compendium review process. It has continued these preemptions in its 2013 compendia. While all users are affected, these closures are especially likely to affect Alaskans who depend on hunting for sustenance. Each year, the Alaska Department of Fish and Game has provided written comments opposing the proposed closures as biologically unnecessary. In essence, our concerns are based upon inadequate justification provided by NPS, including the lack of clear, identifiable criteria used to demonstrate a cause-and-effect relationship between preempted state regulations and an actual impact to park resources or values. Additionally, conservation concerns have not been shown to exist in instances where state regulations have been preempted.

This year, the department developed a series of questions aimed at clarification and increased understanding of how closures proposed and extended by NPS fit into the wildlife management framework created by Congress, including in the Alaska National Interest Lands Conservation Act (ANILCA). The NPS response was disappointing as the majority of our most pressing inquiries were referred to as previously "asked and answered," without explanation. For example:

The State commented that the relationship between the Organic Act, Redwoods Amendments, ANILCA, and NPS Management Policies are not clear. The Service believes this has been adequately explained on multiple occasions, including the determinations of need, written correspondence, in-person meetings, and other publicly available documents (including NPS Management Policies).

The NPS has yet to directly respond to the department regarding these questions. Additionally, NPS policy statements regarding wildlife harvest included:

Whether labeled predator control, intensive management, abundance-based management or another term, the practical effects of manipulating one population to affect another are contrary to the NPS legal and policy framework as discussed in the determinations of need. (Emphasis added.)

Increasingly, State authorizations seek to manipulate [wildlife] populations in the interest of reallocating prey from predators to humans, a practice which is outside the legal and policy framework applicable to NPS areas. (Emphasis added.)

It is outside of NPS legal and policy framework to reallocate prey species from predators to humans, nor is the NPS charged with managing to "support a high level of human harvest." (Emphasis added.)

The department is continuing to try to resolve these issues with the NPS national office, and I am optimistic we can reach a mutually satisfactory understanding in the near future. In the meantime, the department will continue to do our best to provide meaningful wildlife harvest opportunities across Alaska and it is our hope that the NPS will assist us to ensure Alaskans can fish, hunt, trap, and subsist as they have since long before passage of ANILCA.

Tim, please share these concerns with the Federal Subsistence Board (Board). Additionally, I encourage you to review the department's comments and the full response provided by NPS to better understand this issue and our concerns. These are available on the department's webpage at <http://www.adfg.alaska.gov/index.cfm?adfg=ongoingissues.npscompendium>. Alternatively, please contact Andrew Levi at (907) 267-2242 to receive a paper copy by mail.

In closing, thank you, and all members of the Board for your continued service. Your steadfast commitment to Alaska's wildlife resources and those who depend on them does not go unnoticed.

Sincerely,
/S/

Douglas Vincent-Lang
Director

Distribution: Alaska Board of Game
Federal Subsistence Board
Federal Subsistence Regional Advisory Councils
Fish and Game Advisory Committees
Subsistence Resource Commissions

Federal Subsistence Board

Work Session

June 18, 2013

Briefing Paper Regarding Alaska Board of Game Letter (Chairman Spraker) to Federal Subsistence Board (Chairman Towarak): Dated: April 26, 2013

Chairman Spraker's letter encourages the Board to begin the process of modifying the application of the Federal Subsistence Board's predator management policy. He also suggests that each federal agency apply the policy consistently.

The Federal subsistence program was established in a final rule effective on July 1, 1992 with regulations 36 CFR 242 and 50 CFR 100 published in the Federal Register 57 FR 22940; May 29, 1992. The Secretaries of the Interior and Agriculture established the Board and these regulations assigned it specific responsibilities. These authorities are fully listed in Subpart B __.10, which read in part:

The Secretary of the Interior and Secretary of Agriculture hereby establish a Federal Subsistence Board and assign it responsibility for administering the subsistence taking and uses of fish and wildlife on public lands, and the related promulgation and signature authority for regulations in subparts C and D of this part.

Preceding publication of these regulations the Departments of the Interior and Agriculture completed an Environmental Impact Statement (EIS) which considered numerous topics. Some topics were not analyzed and thus not included within the program. The Final EIS, Volume I, Chapter I, Section G *Issues Not Addressed In This EIS* says:

Issue: Should predators be controlled and vegetation manipulated to increase wildlife populations? Concerns were expressed about the role and habitat manipulations projects and predator control program in the FSMP and the impacts of those actions on subsistence species. Habitat manipulation projects and predator control programs are the responsibility of each land management agency and are beyond the scope of this document. Each such project or program is subject to both NEPA documentation and ANILCA Section 810 Compliance.

After much public discussion in the early 2000s the Board adopted a concise policy statement in accordance with the aforementioned regulations and programmatic EIS. See *Predator Management Policy Federal Subsistence Board*. Among other things the policy reiterates that,

Predator control and habitat management are the responsibly of and remain within the authority of the individual management agencies.

In summary, The Secretaries' programmatic EIS and the Board's regulations did not include this aspect of wildlife management in the program. The EIS specifically left this task to the individual agencies and stated that they remained subject to both National Environmental Policy Act (NEPA) documentation and ANILCA §810 evaluation. Any agency undertaking either of these activities need to complete both NEPA compliance (either and EA or EIS) and an ANILCA §810 evaluation. The powers and duties of the Board, listed in §__.10 (d) do not include predator management nor habitat manipulation and the Board is not delegated the authority to modify this section (Subpart B) of these regulations. The Secretaries have retained authority to approve changes to Subpart A and B regulations.

As to each agency's application of law, regulation and policy agencies are required to act in a manner consistent with their agency's mandates and other federal law. Agency mandates often differ as described in a letter from the Secretary of the Interior to the Eastern Interior Subsistence Regional Advisory Council in December 2006.

Attachments:

- Letter; Chairman Spraker to Chairman Towarak; April 26, 2013
- *Predator Management Policy Federal Subsistence Board*, Adopted May 20, 2004
- Letter: Acting Assistant Secretary of the Interior for Fish and Wildlife and Parks to Chairman Eastern Interior Alaska Subsistence Regional Advisory Council Gerald Nicholia, December 19, 2006



United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, DC 20240



DEC 19 2006

Mr. Gerald Nicholia, Chair
Eastern Interior Alaska Subsistence
Regional Advisory Council
101 12th Avenue, Room 110
Fairbanks, Alaska 99701

Dear Mr. Nicholia:

Thank you for your letter of September 22, 2006, to Secretary Dirk Kempthorne requesting that the process to implement an intensive management program with the State of Alaska, Department of Fish and Game on Federal public lands within the Eastern Interior Region of Alaska, be started immediately. I have been asked to respond to you directly.

I take the responsibility, as mandated in the Alaska National Interests Lands Conservation Act (ANILCA), of protecting the opportunity for continued subsistence uses in Alaska seriously; as well as that of conserving the nation's fish and wildlife and other natural resources on Alaska's Federal public lands, as directed by ANILCA and other Federal statutes. Each of the Department of the Interior (DOI) land management agencies within your region manage the resources entrusted to them according to these statutory mandates and the implementing regulations and policies. Consistent with these mandates, the DOI agencies will address your concerns.

I understand that staff from the Bureau of Land Management, National Park Service, and U.S. Fish and Wildlife Service (Service) gave presentations to your council at its October 2006 meeting in Delta Junction. They explained the legal requirements and policy guidelines each agency follows when considering requests for intensive management, including predator control. In addition, your council was provided written responses from the Refuge Managers of the Arctic, Yukon Flats, and Tetlin National Wildlife Refuges to your request to the Service Regional Director to initiate studies leading to control of predators of moose and caribou on these refuges.

Each DOI land management agency has differing legal requirements and policy guidelines regarding intensive management, including predator control, which are summarized below:

Mr. Gerald Nicholia

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Bureau of Land Management (BLM)

The BLM manages its Alaska lands primarily under the Federal Land Policy and Management Act of 1976 and ANILCA. While the agency manages land uses and habitat on its lands, management of fish and wildlife on BLM lands is conducted by the State of Alaska, consistent with the traditional role of the State in managing resident species of fish and wildlife. Essentially, predator control activities by the State of Alaska may take place on BLM lands, as long as they do not conflict with on-going or anticipated BLM authorized actions. The BLM views predator control as a State function and the agency neither supports nor condemns the predator control methods approved by the Alaska Board of Game.

U.S. Fish and Wildlife Service (Service)

The Service manages the national wildlife refuges in Alaska under the mandates of ANILCA and the Refuge Administration Act. There is nothing in ANILCA, or other applicable federal laws, regulations and policies, nor in the refuge comprehensive conservation plans, which specifically precludes predator control on national wildlife refuges in Alaska. However, these laws, regulations and policies do require comprehensive analyses prior to considering a predator control program to ensure that the action is both appropriate and biologically justified. The following are some of the general prerequisites for considering predator control on Alaska refuges.

Foremost, management actions must be biologically justified and used in a prudent and ecologically sound manner to conform to the agency's Policy on Maintaining the Biological Integrity, Diversity, and Environmental Health of the National Wildlife Refuge System (System). This policy requires that the agency 1) *identify the refuge purpose(s), legislative responsibilities, refuge role within the ecosystem, and System mission*; 2) *assess the current status of biological integrity, diversity, and environmental health through baseline... surveys and studies...*; 3) *assess historic conditions and compare them to the current condition ... This will provide a benchmark... for the relative intactness of ecosystem functions and processes; and 4) consider the refuge's importance to refuge, ecosystem, national and international landscape scales of biological integrity, diversity, and environmental health....* A thorough evaluation must be given to substantiate intended benefits of the control efforts, and alternatives to direct control must be evaluated, attempted, and exhausted as a practical means of achieving management objectives.

Because predator control of wolves and/or bears on national wildlife refuges is highly controversial, it would be considered a major Federal action subject to National Environmental Policy Act (NEPA) requirements which would include preparation of an environmental impact statement (EIS) or, at a minimum, an environmental assessment

Mr. Gerald Nicholia

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(EA). As part of an EIS or EA, the Service would evaluate predator control in the context of the purposes of the refuge and in consideration of the biological integrity policy. Additionally, the agency would evaluate the effects of the proposed predator control on subsistence uses and needs, as required by Section 810 of ANILCA. Section 810 requirements would be incorporated into the NEPA process and documents.

In addition, if predator control is proposed to be carried out on a refuge by an agency or others not acting as agents of the Service, the refuge manager must find the proposed control program to be consistent with the Service compatibility regulations implementing the Refuge Administration Act. These regulations require that permitted uses of the refuge be compatible with the purposes of the refuge, the mission of the national wildlife refuge system, and the resource management objectives identified in the refuge comprehensive conservation plans.

Be assured that the Service is giving serious consideration to the concerns you have raised relating to the effects of predation on subsistence uses. By copy of this letter I am requesting that the Service's staff in Alaska to explore available options to conduct the studies necessary to fully evaluate the need for and potential benefits of predator reductions to refuge resources and subsistence users, as well as alternatives to direct agency-conducted reduction of predators. In this evaluation, the Service will closely coordinate and, where possible, cooperate with the State of Alaska in its efforts to provide sustainable, harvestable surpluses for subsistence use.

National Park Service (NPS)

The NPS lands in Alaska are managed according to ANILCA and the underlying 1916 Organic Act, which established and continues to guide NPS management. The ANILCA, per sections 802(1), 808(6) and 815(1)(3), established a standard of "conservation of healthy populations" for wildlife management in Alaska's parks, monuments, and preserves. The legislative history to ANILCA clearly expresses congressional intent in regards to intensive management, including predator control. On page 171 of Senate Report 96-413, November 1979, it states:

In authorizing subsistence uses within National Parks, Monuments, Preserves, and National recreation Areas, it is the intent of the Committee that certain traditional National Park Service management values be maintained. It is contrary to the National Park Service concept to manipulate habitat or populations to achieve maximum utility of natural resources. Rather, the National Park System concept requires implementation of management policies which strive to maintain the natural abundance, behavior, diversity, and ecological integrity of native animals as part of their ecosystem, and the Committee intends that that concept be maintained... Accordingly, the Committee does not expect the National Park Service to engage in habitat manipulation or control of other species for the purpose of maintaining subsistence uses within the National Park System units.

Mr. Gerald Nicholia

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The same report goes on to state (pages 232-233):

The Committee recognizes that the management policies and legal authorities of the National Park System and the National Wildlife Refuge System may require different interpretations and application of the "healthy population" concept consistent with management objectives of each system. Accordingly, the Committee recognizes that the policies and legal authorities of the managing agencies will determine the nature and degree of management program affecting ecological relationships, population dynamics, and manipulations of the components of the ecosystem.

As you can see, the Congress understood and expected that the policies of the NPS were to play a significant role in interpreting how the mandate for "conservation of healthy populations" is carried out.

One of the first major actions the Secretary completed was a long and thorough review of draft NPS management policies. On August 31, 2006, the Secretary was satisfied that the policies were appropriate and struck the correct balance for NPS guidance. Those policies contain several sections (in Chapter 4) that relate to your request. In all, those sections direct the NPS to, in a manner consistent with ANILCA and its Senate history, maintain the natural population fluctuations and processes that influence the dynamics of individual plant and animal populations within their ecosystems. Section 4.4.3, *Harvest of Plants and Animals by the Public*, directly deals with the issues you have raised. Among other things, that section states: *The (National Park) Service does not engage in activities to reduce the number of native species for the purpose of increasing the number of harvest species (i.e. predator control), nor does the (National Park) Service permit others to do so on land managed by the National Park Service.*

To summarize, undertaking intensive management practices, including predator control activities as conducted by the State of Alaska, is not allowed on NPS lands.

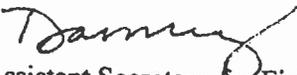
I hope this brief summary of the DOI agencies' legal frameworks for considering predator control on their respective lands is helpful to your council's understanding of the constraints they must conform to in addressing your concerns. I would encourage your council to continue to work closely with the Federal agencies and the State in developing management options to ameliorate, to the extent possible, the adverse effects of predation on wildlife resources utilized by subsistence users. In addition to seeking predator reduction programs on Federal lands which are consistent with the legal and policy mandates of the land managing agencies, opportunities for predator management on lands under State jurisdiction should be explored, as appropriate. Additionally, the council may be able to encourage increased harvests of predators by local residents under current State hunting and trapping regulations where applicable.

Mr. Gerald Nicholia

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In closing, I support and applaud your efforts to ensure that subsistence uses and way of life in Alaska are protected. I appreciate your council's continuing contribution to the Federal Subsistence Program and your diligence in representing the interests of subsistence users in your region. If you have any further questions, please feel free to contact me at (202) 208-5347.

Sincerely,


Acting Assistant Secretary for Fish
and Wildlife and Parks

**PREDATOR MANAGEMENT POLICY
FEDERAL SUBSISTENCE BOARD**

Adopted by the Federal Subsistence Board on
May 20, 2004

The Federal Subsistence Board recognizes that predators are an important component of Alaska's dynamic ecosystems, beneficial to maintaining balance, health, and diversity within associated wildlife populations and habitats. Furthermore, the Board recognizes the traditional Alaska Native cultural beliefs and values associated with wolves, bears and other predatory species, and the impact that predators can have on ungulate populations valued by subsistence users. In addition, the Board recognizes that predator control may be an appropriate management tool on some Federal public lands for restoring prey populations to provide for subsistence needs where predation has reduced or held prey populations at levels significantly below historical levels of abundance.

As authorized by the Secretaries of Interior and Agriculture [50 CFR Part 100.10 (USDI) and 36 CFR Part 242.10 (USDA)], the Board administers the subsistence taking and uses of fish and wildlife on Federal public lands through regulations that provide for the non-wasteful harvest of fish and wildlife by Federally qualified rural residents, consistent with the maintenance of healthy populations of harvested resources. Such subsistence taking and uses are "*... for direct personal or family consumption ...*" (Section 803 of ANILCA). Wildlife management activities on Federal public lands other than the subsistence take and use of fish and wildlife, such as predator control and habitat management, are the responsibility of and remain within the authority of the individual land management agencies.

Accordingly, the Board will:

- A** Consider all Federal proposals to regulate seasons and dates, methods and means, harvest limits, and customary & traditional use determinations for the subsistence take of fish and wildlife. The Board will ensure that the effect of its decisions is to provide for subsistence take and use of the subject species. The Board will also take into account approved population objectives, management plans, customary and traditional uses, and recognized principles of fish and wildlife management.
- B** Direct the Office of Subsistence Management to provide proponents of predator control proposals (all Federal proposals that specifically indicate that the reason for the proposed regulation(s) is to reduce the predator population to benefit prey populations), with procedures for submitting the proposal to the appropriate agency. Where predators have been determined to be a major contributing factor in the significant reduction of ungulate populations important for subsistence use, or in the chronic suppression of such populations at low densities, the Board will endorse timely, affirmative and effective action consistent with each respective agency's policies and management objectives, to reduce predator populations and

allow affected ungulate populations to recover. The Board will monitor actions taken by the agency to address such concerns, and will provide appropriate support where necessary to ensure the continuation of subsistence harvest opportunities.

Ensure that the appropriate Regional Council(s) is informed of predator control proposals by having them printed in the Proposal Booklet and presented to the Council at the next appropriate Council meeting, along with other rejected proposals that address concerns which are outside the authorities of the Federal Subsistence Board.

**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).
2. **Authority.** The Council is reestablished by virtue of the authority set out in the Alaska National Interest Lands Conservation Act (16 U.S.C. 3115 (1988)) Title VIII, and under the authority of the Secretary of the Interior, in furtherance of 16 U.S.C. 410hh-2. The Council is established in accordance with the provisions of the Federal Advisory Committee Act (FACA), as amended, 5 U.S.C., Appendix 2.
3. **Objectives and Scope of Activities.** The objective of the Council is to provide a forum for the residents of the region with personal knowledge of local conditions and resource requirements to have a meaningful role in the subsistence management of fish and wildlife on Federal lands and waters in the region.
4. **Description of Duties.** The Council possesses the authority to perform the following duties:
 - a. Recommend the initiation of, review, and evaluate proposals for regulations, policies, management plans, and other matters relating to subsistence uses of fish and wildlife on public lands within the region.
 - b. Provide a forum for the expression of opinions and recommendations by persons interested in any matter related to the subsistence uses of fish and wildlife on public lands within the region.
 - c. Encourage local and regional participation in the 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.
5. **Agency or Official to Whom the Council Reports.** The Council reports to the Federal Subsistence Board Chair, who is appointed by the Secretary of the Interior with the concurrence of the Secretary of Agriculture.
6. **Support.** The U.S. Fish and Wildlife Service will provide administrative support for the activities of the Council through the Office of Subsistence Management.
7. **Estimated Annual Operating Costs and Staff Years.** The annual operating costs associated with supporting the Council's functions are estimated to be \$150,000, including all direct and indirect expenses and .75 staff years.
8. **Designated Federal Officer.** The DFO is the Subsistence Council Coordinator for the region or such other Federal employee as may be designated by the Assistant Regional Director – Subsistence, Region 7, U.S. Fish and Wildlife Service. The DFO is a full-time Federal employee appointed in accordance with Agency procedures. The DFO will:
 - Approve or call all of the advisory committee's and subcommittees' meetings,
 - Prepare and approve all meeting agendas,
 - Attend all committee and subcommittee meetings,
 - Adjourn any meeting when the DFO determines adjournment to be in the public interest, and
 - Chair meetings when directed to do so by the official to whom the advisory committee reports.
9. **Estimated Number and Frequency of Meetings.** The Council will meet 1-2 times per year, and at such times as designated by the Federal Subsistence Board Chair or the DFO.
10. **Duration.** Continuing.
11. **Termination.** The Council will terminate 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 seven of the members (70 percent) represent subsistence interests within the region and three of the members (30 percent) represent commercial and sport interests within the region. The portion of membership representing commercial and sport interests must include, where possible, at least one representative from the sport community and one representative from the commercial community.

The Secretary of the Interior will appoint members based on the recommendations from the Federal Subsistence Board and with the concurrence of the Secretary of Agriculture.

Members will be appointed for 3-year terms. A vacancy on the Council will be filled in the same manner in which the original appointment was made. Members serve at the discretion of the Secretary.

Council members will elect a Chair, a Vice-Chair, and a 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 may participate in any specific party matter in which the member has a direct financial interest in a lease, license, permit, contract, claim, agreement, or related litigation with the Department.
- 14. Subcommittees.** Subject to the DFO's approval, subcommittees may be formed for the purposes of compiling information or conducting research. However, such subcommittees must act only under the direction of the DFO and must report their recommendations to the full Council for consideration. Subcommittees must not provide advice or work products directly to the Agency. The Council Chair, with the approval of the DFO, will appoint subcommittee members. Subcommittees will meet as necessary to accomplish their assignments, subject to the approval of the DFO and the availability of resources.

- 15. Recordkeeping.** Records of the Council, and formally and informally established subcommittees or other subgroups of the Council, must be handled in accordance with General Records Schedule 26, Item 2, or 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.

//Signed//

Secretary of the Interior

DEC - 2 2011

Date Signed

DEC 03 2011

Date Filed