



BRISTOL BAY SUBSISTENCE
REGIONAL ADVISORY COUNCIL

*October 28-29, 2015
Dillingham, Alaska*



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Salmon hangs in a smoke house near Kanakanak Beach, Dillingham.



Carl Johnson

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BRISTOL BAY SUBSISTENCE REGIONAL ADVISORY COUNCIL

Dillingham City School District Middle School Gym
Dillingham, Alaska
October 28 – 29, 2015
8:30 a.m. daily

TELECONFERENCE: call the toll free number: 1-866-916-7020, then when prompted enter the passcode: 37311548

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

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

AGENDA

*Asterisk identifies action item.

- 1. Roll Call and Establish Quorum** *(Secretary)*
- 2. Invocation**
- 3. Call to Order** *(Chair)*
- 4. Welcome and Introductions** *(Chair)*
- 5. Review and Adopt Agenda*** *(Chair)*1
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- 7. Reports**
 - a. Council Member Reports
 - b. Chair’s Report
- 8. Public and Tribal Comment on Non-Agenda Items** (available each morning)
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11. Agency Reports

(Time limit of 15 minutes unless approved in advance)

a. Tribal Governments	
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13. Closing Comments

14. Adjourn (Chair)

To teleconference into the meeting, call the toll free number: 1-866-916-7020, then when prompted enter the passcode: 37311548

Reasonable Accommodations

The Federal Subsistence Board is committed to providing access to this meeting for all participants. Please direct all requests for sign language interpreting services, closed captioning, or other accommodation needs to Donald Mike, 907-786-3629, donald_mike@fws.gov, or 800-877-8339 (TTY), by close of business on October 19, 2015.

DRAFT

REGION 4—Bristol Bay Regional Advisory Council

Seat	Yr Apptd Term Expires	Member Name & Address	Represents
1	1993 2016	Peter M. Abraham Togiak	Subsistence
2	1993 2016	Daniel James O'Hara Naknek	Subsistence
3	2003 2016	Nanci Ann Morris Lyon Vice Chair King Salmon	Comm/Sport
4	2007 2017	Molly B. Chythlook Chair Dillingham	Subsistence
5	2014 2017	Senafont Shugak, Jr. Pedro Bay	Subsistence
6	2014 2017	William J. Maines Dillingham	Subsistence
7	2003 2017	Dan O. Dunaway Dillingham	Comm/Sport
8	2012 2015	Lary J. Hill Iliamna	Subsistence
9	2006 2015	Thomas A. Hedlund Iliamna	Subsistence
10	2009 2015	Richard J. Wilson Secretary Naknek	Comm/Sport

BRISTOL BAY SUBSISTENCE REGIONAL ADVISORY COUNCIL

Meeting Minutes

February 24-25, 2015

Naknek Native Village Council Hall

Naknek, Alaska

Call to Order

Meeting called to order by Madame Chair Molly Chythlook.

Roll Call and Establish Quorum

Roll called conducted by Coordinator Mike as requested by Chair Chythlook.

Council members present: Molly Chythlook, Dan Dunaway, Richard Wilson, Dan O'Hara, Lary Hill, Nanci Morris Lyon, William Maines.

Absent: Pete Abraham, Senafont Shugak, Thomas Hedlund.

Welcome and Introductions

Chair Chythlook welcomed guests and staff members.

Government Agency Employees

Donald Mike	OSM
Tom Jennings	OSM
Robbin La Vine	OSM
Orville Lind	OSM
Susanna Henry	FWS Togiak NWR
Susan Alexander	FWS Alaska Peninsula/Becharof NWR
Troy Hamon	NPS Katmai Natural Resource Manager
Diane Chung	NPS Katmai Superintendent

NGOs/Public

Joe Chythlook	BBNC Board Chair
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On Teleconference

Dan Sharp	BLM Anchorage
Drew Crawford	ADF&G Federal Subsistence Liaison
Pat Petrivelli	BIA Anthropologist/ISC Member
Heather Tonneson	FWS Anchorage
Courtenay Carty	BBNA
Gayla Hoseth	BBNA
Dave Crowley	ADF&G
Pippa Kenner	OSM Anchorage
Bud Rice	NPS Anchorage
Bristol Bay Times	
Travis Ellison	ADF&G

Invocation Invocation led by Mr. Lary Hill.

Review and Adopt Meeting Agenda

Ms. Morris Lyon moved to adopt the meeting agenda, and second called by Mr. Maines.

Election of Officers

Mr. Wilson nominates Ms. Chythlook for Chair and request unanimous consent. No objections. Ms. Chythlook nominated as the Chair. Mr. Dunaway nominates Ms. Morris Lyon for the Vice Chair and requested for unanimous consent. No objections. Ms. Morris Lyon nominates Mr. Wilson for the Secretary seat and unanimous consent requested. No objections.

Review and Adoption of minutes: October 28-29, 2014

Mr. Dunaway moved to adopt the meeting minutes of October 28-29, 2014 in Dillingham, second called by Ms. Morris Lyon. Motion carries.

Reports

Council members reported on subsistence activities and issues from their respective communities.

Public Testimony

Opportunity for public testimony is available throughout the meeting.

Old Business

Rural Determination

Ms. Robbin La Vine Anthropology Division from Office of Subsistence Management presented to the Council the Rural Determination Proposed Rule. The Council took action to forward the following comments to the Board regarding the proposed rule:

- The Bristol Bay Regional Advisory Council (BBRAC) is supportive of determinations being switched from defining rural, to instead defining what is non-rural; however, there should be some criteria from establishing what is non-rural in order to make determinations defensible and justifiable. Some criteria offered include:
 - Rather than population guidelines, determine carrying capacity of the area for sustainable harvest.

- Governmental entities (including the Board and the Councils) should not determine what is sacred for a community.
- The BBRAC is supportive of eliminating the 10 year review; however, a review should not be mandatory but requested with a minimum time limit between requests (at least 3 years).
- The BBRAC was aware that the South Central Regional Advisory Council supported the proposed rule with modifications:

§__.15 Rural Determination Process.

- (a) The Board determines which areas of communities in Alaska are nonrural. Deference will be given to the Regional Advisory Councils. Current determinations are listed at §__.23.
- (b) All other communities and areas are, therefore rural.

The BBRAC expressed support for the Southcentral RAC modification but said that the amendment was not encompassing enough.

Customary and Traditional Use Determination

Ms. Robbin La Vine also presented an update on the Customary and Traditional Use Determination Process Review and action item by the request from the Southeast Regional Advisory Council. After the briefing and request the BBRAC supports the Southeast RAC in their review of Customary and Traditional Use determination process and looks forward to seeing the final language of any proposed rule that Southeast RAC might put before the Board. The BBRAC does not want to see any change in the process or current determinations in their region.

FWS Proposed Rule

Ms. Henry and Ms. Alexander, FWS Refuge Managers provided the USFWS proposed rule on hunting and fishing on Refuge lands.

New Business:

Wildlife Closure Review

Mr. Tom Jennings, Wildlife Biologist, presented the Council with a briefing on the OSM Wildlife Closure Policy.

The Council took action on WCR14-04/06 and WSA15-01.

WCR14-04/06 – The Council unanimously recommended to modify the closure and will submit a proposal for that purpose. The Council’s intent is to maintain the closure in Units 9C remainder and 9E, until such a time when the State opens a Tier II hunt then the Federal season would also be open. Staff will be working with council member Nanci Lyon to develop the proposal. The State area biologist stated at the meeting that he plans to authorize a Tier II hunt in the future.

WSA15-01 – The Council recommended (5-1) to support the Special Action to use a Federal Registration Permit for the fall moose hunt in Unit 9C on Federal public lands within the Becharof National Wildlife Refuge. Staff will be working with Alaska Peninsula/Becharof National Wildlife Refuge personnel to develop a proposal to make this permit a permanent requirement.

Call for Wildlife Regulatory Proposals

The Council during Wildlife issues discussed moose abundance, harvest success, and hunter participation. There was discussion about submitting a proposal to limit hunts to only Federally qualified subsistence users. OSM Staff will work with Council member Richard Wilson to develop a moose proposal.

2014 Annual Report

The Council adopted the 2014 Annual Report, with the following items:

1. Meshik River

The Meshik River, located on the Alaska Peninsula identified as the Northern District, and used primarily by residents of Port Heiden, for fishing, hunting, and gathering local resources within its corridor; the Meshik River also produces sockeye and Chinook salmon used by the local residents and allows for recreational opportunities.

The Council discussed that the Port Heiden residents expressed that they are not meeting their subsistence needs for Chinook. The concern expressed by local residents of Port Heiden, not meeting their subsistence needs for Chinook, is attributed to the commercial fishery affecting the run into the spawning streams. In addition, recreational fishers are also affected by the commercial fishery occurring outside of Port Heiden, harvesting Chinook bound for the Meshik River, where recreational fisheries are allowed.

Recommendation: In recent public meetings, the Council has discussed the need for management tools on the Meshik River to ensure escapement goals are met and to meet the needs of other user groups. Fish counting towers, or a fish weir, placed on the Meshik River will assist managers

establish accurate escapement goals to ensure the fishery can sustain multiple harvests.

2. Chignik Lake Salmon Returns

The communities of Chignik Lagoon, Chignik Bay, Chignik Lake, Perryville, and Ivanof Bay expressed its concerns to the Federal Subsistence Board of their subsistence priorities not being met. The communities are witnessing weaker sockeye returns to Chignik Lake drainage, which the communities depend on, as part of their subsistence resource. Particularly, the communities depend on the late sockeye run (fall) for their subsistence needs. The Alaska Department of Fish & Game has managed the fishery on the lower end of the escapement goal, allowing more commercial harvest in the Chignik Bay area, and this has resulted in less subsistence harvest opportunity for the communities. The current management strategy affects the subsistence users who depend on the sockeye. Community efforts and requests were made to area managers to manage the fishery on the upper end of the escapement goal to allow more sockeye passage to help meet subsistence needs of those communities.

Recommendation: Through consultation and cooperative management efforts, the Council requests the Federal Subsistence Board begin a dialogue to review the escapement goals of the Chignik Management Area Commercial Salmon Fishery Harvest Strategy. Managing the fishery on the upper escapement goal will allow for more fish passage and allow for the opportunity for the communities to harvest fall sockeye to meet their subsistence needs. The Chignik Lake drainage is within Federal management jurisdiction.

Agency Reports

The Council heard reports from the NPS, USFWS Refuges, BLM, and ADF&G on various projects and updates on resource and monitoring projects.

The National Park Service provide the status of the Lake Clark National Park Service Subsistence Resource Commission members status. One seat is open for the Council to appoint to the Aniakchak Subsistence Resource Commission. NPS staff provided a candidate for the Council's consideration. The Council appointed Ms. Gerta Kosbruk to serve on the Commission for Aniakchak National Monument.

Time and Location of Next Meeting:

The next meeting will be October 28, 2015 in Dillingham

Adjournment: Meeting adjourned.

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

\s\ Donald Mike

Donald Mike, DFO
Regional Advisory Council Coordinator

Molly Chythlook, Chair
Bristol Bay Subsistence Regional Advisory Council

These minutes will be formally considered by the Bristol Bay Alaska Subsistence Regional Advisory Council at its next meeting on October 29, 2013, and any corrections or notations will be incorporated in the minutes of that meeting.

LOG NUMBER: EF-C15-008

DETAILS:

Management Unit or Area (if applicable):
Topic (if applicable): Subsistence, Personal Use
Additional Topics (if applicable):
Meeting Name: Bristol Bay Finfish

AAC: 01.320. Lawful Gear and Gear specifications

Issue:

The methods, dates, and places do not reflect the proper access to our traditional and cultural foods. The harvest of spawned-out sockeye salmon has no significant commercial value, but is a traditional food source for local residents.

Title 36 CFR, Part 13. Alaska regulations. Katmai National Park and Preserve Special Regulations 13.1204 allows for a traditional redfish fishery who are "Local residents who are descendants of Katmai residents who lived in the Naknek Lake and River Drainage..." Seasons and methods for the take of redfish will be set by the Alaska Department of Fish and Game in the annual Subsistence and Personal Use Statewide Fishing Regulations booklet.

Our people, (rural residents of King Salmon, Naknek, South Naknek) traditionally had access to their traditional foods (subsistence resources) in Naknek Lake and its surrounding drainages. The current dates in regulation will not allow access to traditional food supply (resources) traditionally practiced by local traditional tribes.

Solution:

+From August 30 through December 31 by spear, dipnet, gillnet, and beach seine. Along a 100 yard length of shoreline near the outlet of Naknek River as marked by ADF&G regulatory markers; at Johnny's Lake on the Northwestern side of Naknek Lake; at the outlet of Idavians Creek on the North side of Naknek Lake; *at the mouth of Brooks River from September 18 through December 31.

Allow for beach seining to release non-targeted fin fish species. Idavians Creek is a traditional location used by local residents. (At the mouth of Brooks River by spear, dipnet, gillnet, and beach seine from September 18 through December 31)* Separate season for Brooks River.

+ extend season to Dec 31 for said descriptions and include beach seine as additional method to harvest spawned out sockeye. The proposed seasons and methods will be in line with traditionally practiced subsistence practices of local residents.

The 2014 forecast for Bristol Bay Sockeye for the Naknek River portion is estimated to be 3.35* million and escapement at 1.10 million into the Naknek River drainage. Forecast for harvest is estimated at 2.25.

(<http://www.adfg.alaska.gov/static/applications/dcfnewsrelease/376901424.pdf>) *Does not account for the South Peninsula.

Spawned out sockeye has traditionally been harvested for personal(subsistence) use by the Katmai descendants. Harvest of spawned out salmon occurs when the commercial/sport fishing season are inactive.

It makes fall red fish (spawned out salmon) available to traditional and cultural descendants of Naknek Lake and its river drainages for all Naknek Lake and River descendants.

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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:
July 29, 2015

Contact: Deborah Coble
(907) 786-3880 or (800) 478-1456
deborah_coble@fws.gov

Federal Subsistence Board work session summary

During its work session held on Tuesday, July 28, 2015 the Federal Subsistence Board (Board) discussed deferred Request for Reconsideration RFR14-01. The motion to accept the State's request for reconsideration failed unanimously with a vote of 0-8. The Red Sheep and Cane Creek drainages will remain closed to non-Federally qualified subsistence users during the Aug 10-Sept. 20 sheep season in the Arctic Village Sheep Management Area of Unit 25. No further public comments were received regarding the issue at this work session.

The Rural Determination Process briefing was divided into three phases. Phase I addressed the Board's recommendation on the current secretarial proposed rule. The Board voted to recommend to the Secretaries to adopt the proposed rule as written. Phase II was determining a starting point for non-rural communities/areas. The Board voted to publish a direct final rule adopting the pre-2007 non-rural determinations. Phase III was direction on future non-rural determinations. The Board voted to direct staff to develop options to determine future non-rural determination for the Board's consideration. All three requests passed unanimously (8-0). OSM staff is expected to have a draft of options for the Board by the January 2016 meeting.

The Ninilchik Traditional Council submitted requests concerning the Kenai River gillnet fishery to the Board. The Board voted 7-1 to direct USFWS to continue working with NTC on an operational plan for the fishery. The request to rescind USFWS in-season manager's delegation of authority failed unanimously in a 0-8 vote. The request to reverse the emergency special action that closed the subsistence fishery for Chinook Salmon on the Kenai River failed in a 4-4 vote. NTC's final request to remove or amend current regulatory language on the Kenai River gillnet fishery was deferred and may be addressed during the next regulatory cycle.

Also discussed today during the work session was the 10 Subsistence Regional Advisory Council's Annual Report Replies. The RAC nominations discussion will occur during a closed executive session today, July 29, 2015 and is not open to the public.

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

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

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Options for Board Recommendation on Current Secretarial Proposed Rule

The Board has four options for consideration:

1. Adopt as written;
2. Reject,
3. Adopt with Modification; or
4. Adopt and include in the preamble, direction for OSM and the ISC to develop a policy to address future nonrural determinations.

Program staff recommend the proposed rule be adopted as written. This action would be in line with the majority of the Regional Advisory Councils recommendations and public comments. It would also provide the shortest timeline and greatest opportunity for the resolution of this issue prior to the May 2017 deadline. If the Board does not take action prior to the deadline, communities that were selected to change from rural to nonrural in the 2007 final rule will become effective.

Options for Board Action to Determine Start-point for Nonrural Communities/Areas

The Board has three options to address rural determinations following action on the proposed rule. *If no action is taken, the 2007 final rule will become effective in May 2017.*

1. Initiate a direct final rule to adopt the pre-2007 rural determinations;
2. Initiate normal rulemaking to adopt an earlier rural determination;
3. Initiate rulemaking that would not address a start point and address each community individually.

Program staff recommend the Board initiate a direct final rule that would adopt the pre-2007 rural determinations. This action would resolve any current issues with communities/areas that were changed to nonrural in the 2007 final rule. If significant negative response from the public occurred, the direct final rule could be withdrawn and normal rulemaking could be undertaken. This option provides the shortest timeline and greatest opportunity for the resolution of this issue prior to the May 2017 deadline.

Options for Board to Direct Future Nonrural Determinations

To address future nonrural determinations, the Board has two options. The Board may direct staff to develop a draft nonrural determinations policy on how future determinations will be made; or, the Board may initiate rulemaking to address future determinations.

Program staff recommend the Board direct a policy to be drafted to address future nonrural determinations. This action will allow the greatest flexibility for Board action and the inclusion of regional variations. This option addresses concerns raised by some of the Councils (what the process of future nonrural determinations will be). Additionally it would require less time and the policy could be revised without formal rulemaking. Potential policy components could address nonrural characteristics with weighting potential that would accommodate regional variation and criteria for initiating a review of a community or area. The rural subcommittee, whose membership consists of program staff and ISC members, would develop the policy with input from the Councils, tribes, and public over the next 18 months with a goal of adoption by the Board in early 2017.

Rural Determination Recommendation Phases July 28, 2015

Phase I
Options for Board Recommendation on Current Secretarial Proposed Rule

Board Option	Pro	Con	Timeline	Notes
1. Adopt as written	<ul style="list-style-type: none"> - Shortest timeline - Majority of comments support 	<ul style="list-style-type: none"> Lacks guidance on future actions 	Publish mid-August 2015 (timeline is based on how long it would take staff to process the final rule; the response time from the Secretaries will be critical in any timeline)	<ul style="list-style-type: none"> - This option provides the greatest opportunity for the Board to resolve this issue well prior of the May 2017 deadline - Guidance for future actions could be addressed in preamble of final rule
2. Adopt with directive to develop/maintain policy	<ul style="list-style-type: none"> - Would address some of the public comments - Likely will meet proposed timeline for rule completion 	<ul style="list-style-type: none"> - Would probably add 60 days to the publication date - Secretaries could direct another round of public comments; adding considerable time and possibility that will not meet intended timeline for decision making 	Publish October 2015	<ul style="list-style-type: none"> - This option may not meet the May 2017 deadline if the Board is directed to allow for additional public comment - The preamble could address the Board's policy making plan (if that option is selected)
3. Adopt with substantial modification (a) RAC deference (b) List nonrural criteria	<ul style="list-style-type: none"> - Would address some of the public/RAC comments 	<ul style="list-style-type: none"> - Goes against Secretaries' intent to simplify the process - Would likely require additional public comment period - May require additional proposed rule, which could affect ability to meet May 2017 deadline 	Publish November 2016	
4. Reject		<ul style="list-style-type: none"> - 2007 final rule becomes effective on May 7, 2017 - Does not follow Secretarial directive to address rural issue - Does not address the majority of public comments received 	No action to be taken	

Rural Determination Recommendation Phases July 28, 2015

Phase II
Options for Board Action to Determine Start-point for Nonrural Communities/Areas

Board Option	Pro	Con	Timeline	Notes
1. Direct final rule adopting the nonrural communities pre-2007 final rule	<ul style="list-style-type: none"> - Shortest timeline - Provides foundation for nonrural 	<ul style="list-style-type: none"> Possible public disapproval due to lack of current public input 	Publish September 2015	Communities that were ruled as nonrural in 2007 final rule would become rural
2. Initiate new formal rulemaking to revert to pre-2007 rural determinations	<ul style="list-style-type: none"> - Would have RAC and public comment periods 	<ul style="list-style-type: none"> Process could take up to a year to complete 	Publish July 2016	
3. Initiate new formal rulemaking with no “start point” and address each nonrural community on a case by case basis.		<ul style="list-style-type: none"> - Process could take 2+ years to complete - 2007 final rule becomes effective on May 7, 2017 	Publish July 2017 or later	Communities selected in 2007 final rule to change status from rural to nonrural become nonrural

Phase III
Options for Board to Direct Future Nonrural Determinations

Board Option	Pro	Con	Timeline	Notes
1. Direct staff to draft policy on nonrural determinations	<ul style="list-style-type: none"> - Allows greatest flexibility for Board actions and the inclusion of regional variations - Requires less time than formal rulemaking 			Would depend on Board’s direction for public, RAC and Tribal input
2. Direct staff to initiate formal rulemaking to address future nonrural determination		<ul style="list-style-type: none"> Any future revisions would require formal rulemaking 	Approximately 1 year	

Alaska Refuges

Possible Statewide Regulatory Changes



Lisa Hupp/USFWS

Kodiak brown bear sow with cub.

National Wildlife Refuges (refuges) in Alaska are mandated to conserve species and habitats in their natural diversity and ensure that the biological integrity, diversity, and environmental health of the National Wildlife Refuge System are maintained for the continuing benefit of present and future generations of Americans. The U.S. Fish and Wildlife Service (USFWS) is proposing changes to the regulations governing Alaska refuges (under 50 CFR 36) to ensure that we are managing those refuges in accordance with our mandates and to increase consistency with other Federal laws, regulations, and policies. In addition, we aim to more effectively engage the public by updating our Public Participation and Closure Procedures to broaden notification and outreach methods, ensure consultation with Tribes and the State, provide for increased transparency in our decision-making, and to allow for additional opportunities for the public to provide input.

We recognize the importance of the fish, wildlife and other natural resources in the lives and cultures of Alaska Native peoples and in the lives of all Alaskans. These proposed regulatory changes would not change Federal subsistence regulations (36 CFR 242 and 50 CFR 100) or restrict taking of fish or wildlife under Federal subsistence regulations. The Alaska National Interest Lands Conservation Act (ANILCA) provides a priority to rural Alaskans for the nonwasteful taking of fish and wildlife for subsistence uses on refuges in Alaska. Under ANILCA all refuges in Alaska (except the Kenai Refuge) also have a purpose to provide the opportunity for continued subsistence use by rural residents, as long as this use is not in conflict with refuge purposes to conserve fish and wildlife populations and habitats in their natural diversity or fulfill international treaty obligations of the United States.

The changes we are considering would:

- Codify existing Federal mandates for conserving the natural diversity, biological integrity, and environmental health on refuges in Alaska in relation to predator harvest.

Predator control is not allowed on refuges in Alaska unless it is determined to be necessary to meet refuge purposes, federal laws, or policy and is consistent with our mandates to manage for natural and biological diversity and environmental health. The need for predator control must be based on sound science in response to a significant conservation concern. Demands for more wildlife to harvest cannot be the sole or primary basis for predator control on refuge in Alaska.

- Prohibit the following particularly efficient methods and means for non-subsistence (Federal) take of predators on refuges in Alaska due to the potential for cumulative effects to predator populations and the environment that are inconsistent with our mandates to conserve the natural and biological diversity, biological integrity, and environmental health on refuges in Alaska:
 - take of bear cubs or sows with cubs (exception allowed for resident hunters to take black bear cubs or sows with cubs under customary and traditional use activities at a den site October 15 – April 30 in specific game management units in accordance with State law)
 - take of brown bears over bait;
 - take of bears using traps or snares;
 - take of wolves and coyotes during the spring and summer denning season (May 1– August 9); and
 - take of bears from an aircraft or on the same day as air travel has occurred (take of wolves or wolverines from an aircraft or on the same day as air travel is already prohibited under current refuge regulations).
- Update the Public Participation and Closure Procedures. The following table summarizes the current regulations for the Public Participation and Closure Procedures and updates we are considering.

Public Participation and Closure Procedures

Current	Proposed Updates
Authority	
Refuge Manager may close an area or restrict an activity on an emergency, temporary, or permanent basis.	No updates
Criteria (50 CFR 36.42(b))	
Criteria includes: public health and safety, resource protection, protection of cultural or scientific values, subsistence uses, endangered or threatened species conservation, and other management considerations necessary to ensure that the activity or area is being managed in a manner compatible with refuge purposes.	Add conservation of natural and biological diversity, biological integrity, and environmental health to the current list of criteria.
Emergency closures or restrictions (50 CFR 36.42(c))	
Emergency closure may not exceed 30 days. Closure effective upon notice as prescribed in 50 CFR 36.42 (f) (see below for details). Closures related to the taking of fish and wildlife shall be accompanied by notice with a subsequent hearing.	Increase the period from 30 to 60 days, with extensions beyond 60 days being subject to nonemergency closure procedures (i.e. temporary or permanent). Closure effective upon notice as prescribed in 50 CFR 36.42 (f) (see below for details).
Temporary closures or restrictions (50 CFR 36.42(d))	
May extend only for as long as necessary to achieve the purpose of the closure or restriction, not to exceed or be extended beyond 12 months. Closure effective upon notice as prescribed in 50 CFR 36.42 (f) (see below for details). Closures related to the taking of fish and wildlife effective upon notice and hearing in the vicinity of the area(s) affected by such closures or restriction, and other locations as appropriate	Temporary closures or restrictions related to the taking of fish and wildlife may still only extend for so long as necessary to achieve the purpose of the closure or restriction. These closures or restrictions must be re-evaluated as necessary, at a minimum of every 3 years, to determine whether the circumstances necessitating the closure still exist and warrant its continuation. A formal finding will be made in writing that explains the reasoning for the decision. When a closure is no longer needed, action to remove it will be initiated as soon as practicable. The USFWS will maintain a list of refuge closures and publish this list annually for public review and input. Closure will be subject to notice procedures as prescribed in 50 CFR 36.42 (f) (see below for details). For closures related to the taking of fish and wildlife, consultation with the State and affected Tribes and Native Corporations, as well as the opportunity for public comment and a public hearing in the vicinity of the area(s) affected will be required.
Permanent closures or restrictions (50 CFR 36.42(e))	
No time limit. Closure effective after notice and public hearings in the affected vicinity and other locations as appropriate, and after publication in the Federal Register.	No time limit. For closures related to the taking of fish and wildlife, consultation with the State and affected Tribes and Native Corporations, as well as the opportunity for public comment and a public hearing in the vicinity of the area(s) affected will be required. Closures would continue to be published in the Federal Register.
Notice (50 CFR 36.42(f))	
Notice is to be provided through newspapers, signs, and radio.	Add the use of the Internet or other available methods, in addition to continuing to use the more traditional methods of newspapers, signs, and radio.

For more information, please visit:
http://www.fws.gov/alaska/nwr/ak_nwr_pr.htm



Questions and Answers on Regulatory Changes Being Proposed by the U.S. Fish & Wildlife Service for National Wildlife Refuges in Alaska

1. What are the proposed regulatory changes?

National Wildlife Refuges (refuges) in Alaska are mandated to conserve species and habitats in their natural diversity and ensure that the biological integrity, diversity, and environmental health of the National Wildlife Refuge System (Refuge System) are maintained for the continuing benefit of present and future generations of Americans. The U.S. Fish and Wildlife Service (USFWS) is proposing changes to the regulations governing Alaska refuges (under 50 CFR 36) to ensure that we are managing those refuges in accordance with our mandates and to increase consistency with other Federal laws, regulations, and policies. In addition, we aim to more effectively engage the public by updating our Public Participation and Closure Procedures to broaden notification and outreach methods, ensure consultation with Tribes and the State of Alaska (State), provide for increased transparency in our decision-making, and allow for additional opportunities for the public to provide input.

The changes we are proposing would:

- Codify existing Federal mandates for conserving the natural diversity, biological integrity, and environmental health on refuges in Alaska in relation to predator harvest. Predator control is defined as the intention to reduce the populations of predators for the benefit of prey species. Predator control is not allowed on refuges in Alaska, unless it is determined necessary to meet refuge purposes, Federal laws, or policy and is consistent with our mandates to manage for natural and biological diversity, biological integrity, and environmental health. The need for predator control must be based on sound science in response to a significant conservation concern. Demands for more wildlife for human harvest cannot be the sole or primary basis for predator control on refuges in Alaska.
- Prohibit the following particularly efficient methods and means for non-subsistence take of predators on refuges in Alaska due to the potential impacts to predator populations and the environment that are inconsistent with our mandates to conserve the natural and biological diversity, biological integrity, and environmental health on refuges in Alaska:
 - take of bear cubs or sows with cubs (*exception allowed for resident hunters to take black bear cubs or sows with cubs under customary and traditional use activities at a den site October 15 – April 30 in specific game management units in accordance with State regulations*);
 - take of brown bears over bait;
 - take of bears using traps or snares;
 - take of wolves or coyotes from May 1 – August 9; and
 - take of bears from an aircraft or on the same day as air travel has occurred (*same day airborne take of wolves or wolverines is already prohibited under current refuge regulations*).
- Update the Public Participation and Closure Procedures to make them more consistent with other Federal regulations and more effectively engage the public.

Important notes:

- These proposed changes would not apply to the take of fish or wildlife under Federal subsistence regulations or to defense of life and property as defined in State of Alaska (State) regulations (see 5 AAC 92.410).
- Hunting and trapping is considered a priority use of refuges in Alaska and most State of Alaska hunting and trapping regulations, including harvest limits, would still apply.

2. Why is the U.S. Fish & Wildlife Service proposing making these changes?

We are considering these regulatory changes to ensure that the taking of fish and wildlife on National Wildlife Refuges in Alaska is managed consistent with Federal laws, regulations, and USFWS policies. The proposed regulatory changes we are considering would clarify allowable practices for the non-subsistence take of wildlife on refuges in Alaska, as well as update existing Alaska refuge regulations for closures and restrictions.

The mission of the Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans. As such, refuges are required to work to conserve species and habitats for the long-term, benefiting not only the present, but also future generations of Americans and in Alaska, this includes the continuation of the subsistence way of life.

The USFWS is required by law to manage refuges “to ensure that . . . biological integrity, biological diversity, and environmental health are maintained” (National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997). The Alaska National Interest Lands Conservation Act (ANILCA) states that the primary purpose of the Act is “to preserve for the benefit, use, education, and inspiration of present and future generations certain lands and waters in the State of Alaska that contain nationally significant natural, scenic, historic, archeological, geological, scientific, wilderness, cultural, recreational, and wildlife values...” The first purpose for all refuges in Alaska under ANILCA is to “conserve fish and wildlife populations and habitats in their natural diversity.”

In managing for natural diversity, the USFWS conserves, protects and manages all fish and wildlife populations within a particular wildlife refuge system unit in the natural ‘mix,’ not to emphasize management activities favoring one species to the detriment of another. The USFWS assures that habitat diversity is maintained through natural means on refuges in Alaska, avoiding artificial developments and habitat manipulation programs, whenever possible. The USFWS fully recognizes and considers that rural residents utilize and are often dependent on refuge resources for subsistence purposes and manages for this use consistent with the conservation of species and habitats in their natural diversity. The terms biological integrity, diversity, and environmental health are defined in the biological integrity policy, which directs the USFWS to maintain the variety of life and its processes; biotic and abiotic compositions, structure, and functioning; and to manage populations for natural densities and levels of variation throughout the Refuge System.

The overarching goal of the USFWS’s wildlife-dependent recreation policy is to enhance opportunities and access to quality visitor experiences on refuges and to manage the refuge to conserve fish, wildlife, plants, and their habitats (605 FW 1.6). We consider hunting to be one of many priority uses of the Refuge System (when and where compatible with refuge purposes) that is a healthy, traditional outdoor pastime, deeply rooted in the American heritage (605 FW 2).

These proposed regulatory changes are aimed at ensuring that natural ecological processes and functions are maintained and wildlife populations and habitats are conserved and managed to function in their natural diversity on Alaska refuges.

3. Will the proposed regulatory changes apply to subsistence hunting and trapping on National Wildlife Refuges?

We recognize the importance of fish and wildlife and other natural resources in the lives of all Alaskans and in the lives and cultures of Alaska Native peoples. We take seriously our responsibility to provide the opportunity for continued subsistence use by rural Alaskans on refuges under ANILCA. These proposed regulatory changes will not change Federal subsistence regulations (36 CFR 242 and 50 CFR 100) or restrict taking of fish or wildlife under Federal subsistence regulations.

We recognize there may be some impacts to local communities that result from these changes. We have worked to address concerns that were raised during Tribal consultations and early public scoping in rural communities, and are open to discussing others that arise through the public comment process.

4. What authority does the U. S. Fish & Wildlife Service have to establish hunting and trapping regulations? Isn't it the State's job to manage wildlife in Alaska?

We recognize that the State has obligations to manage wildlife in Alaska according to the directives in the State constitution. The USFWS similarly must ensure that activities on refuges are consistent with Federal laws and USFWS policy and has final authority for managing plants, fish, and wildlife on refuges in Alaska. We prefer to defer to the State on regulation of hunting and trapping on refuges in Alaska; unless, in doing so, we are out of compliance with Federal laws and USFWS policy.

**5. What is the process and timeline for making these regulatory changes?
Can I participate?**

We have been consulting with Alaska Tribes and Alaska Native Claims Settlement Act (ANCSA) Corporations, as well as having discussions with the State and Federal Subsistence Regional Advisory Councils on the changes we are considering. We anticipate publishing a proposed rule (draft regulations) in the Federal Register around mid to late July of 2015, at which time a 90 day public comment period will begin. We have prepared an Environmental Assessment (EA) in accordance with the requirements of the National Environmental Policy Act (NEPA) for these proposed regulatory changes, which will be made available for comment at the same time. Public input is very important to us and in order to allow additional time for folks to provide input, we will be offering a 90 day comment period, as opposed to the traditional duration of 30 days. During the public comment period, we plan to hold meetings and hearings around the state in locations near Alaska refuges and other locations as appropriate. Comments and input we receive will inform the revision and finalization of the proposed rule. Our goal is to have a final rule published sometime in the beginning of 2016.

Local engagement is very important to us and we are committed to providing meaningful opportunities for consultation with the Tribal Governments and ANCSA Corporations in Alaska. We greatly value local knowledge in our work and are committed to strengthening our Tribal-Federal government relations by working closely with the Tribes on conservation issues in Alaska.

We would like to hear from you, whether at a community meeting or via written comment. We welcome public comment during the comment period, and will continue to offer Tribal Consultation to Federally recognized Tribes and ANCSA Corporations through the end of the comment period.

For the most current information, visit http://www.fws.gov/alaska/nwr/ak_nwr_pr.htm.

WP16–21 Executive Summary	
General Description	Proposal WP16–21 requests a <i>To-be-announced</i> caribou season be established in Units 9C and 9E and open to Federally qualified subsistence users. <i>Submitted by Bristol Bay Subsistence Regional Advisory Council.</i>
Proposed Regulation	<p>Units 9—Caribou</p> <p><i>Unit 9C remainder – Federal public lands are closed to the taking of caribou 1 bull by Federal registration permit or State Tier II permit. Federal public lands are closed to the taking of caribou except by residents of Units 9C and 9E, hunting under these regulations. No open season To be announced</i></p> <p><i>Unit 9E – Federal public lands are closed to the taking of caribou 1 bull by Federal registration permit or State Tier II permit. Federal public lands are closed to the taking of caribou except by residents of Units 9C and 9E, hunting under these regulations. No open season To be announced</i></p> <p><i>Federal permits may be issued in conjunction with the State Tier II hunt. Both Federal and State agencies will decide how many total permits to issue for both subunits to make sure that the actual harvest will not significantly exceed the harvestable surplus. Quotas and any needed closures will be announced by the Alaska Peninsula/Becharof National Wildlife Refuge Manager after consultation with ADF&G.</i></p>

WP16–21 Executive Summary					
OSM Preliminary Conclusion	<p>Support with modification to specify a May-be-announced season, remove mention of Federal public lands closure, and to remove language referencing the total number of permits to be issued; remove regulatory language referencing quotas and needed closures and delegate authority to determine quotas, and set season opening and closing dates via a delegation of authority letter.</p> <p>The modified regulation should read:</p> <p>Unit 9 - Caribou</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%; padding: 5px;"><i>Unit 9C remainder – Federal public lands are closed to the taking of caribou 1 bull by Federal registration permit or State permit.</i></td> <td style="width: 30%; padding: 5px; vertical-align: top;"><i>No open season May be announced</i></td> </tr> <tr> <td style="padding: 5px;"><i>Unit 9E – Federal public lands are closed to the taking of caribou 1 bull by Federal registration permit or State permit.</i></td> <td style="padding: 5px; vertical-align: top;"><i>No open season May be announced</i></td> </tr> </table> <p style="padding: 5px;"><i>Federal permits may be issued in conjunction with the State hunt. The Alaska Peninsula/Becharof National Wildlife Refuge Manager will announce any season and conditions for this hunt.</i></p>	<i>Unit 9C remainder – Federal public lands are closed to the taking of caribou 1 bull by Federal registration permit or State permit.</i>	<i>No open season May be announced</i>	<i>Unit 9E – Federal public lands are closed to the taking of caribou 1 bull by Federal registration permit or State permit.</i>	<i>No open season May be announced</i>
<i>Unit 9C remainder – Federal public lands are closed to the taking of caribou 1 bull by Federal registration permit or State permit.</i>	<i>No open season May be announced</i>				
<i>Unit 9E – Federal public lands are closed to the taking of caribou 1 bull by Federal registration permit or State permit.</i>	<i>No open season May be announced</i>				
Kodiak/Aleutians Regional Advisory Council Recommendation					
Bristol Bay Regional Advisory Council Recommendation					
Interagency Staff Committee Comments					

WP16–21 Executive Summary	
ADF&G Comments	
Written Public Comments	None

**DRAFT STAFF ANALYSIS
WP16-21**

ISSUES

WP16-21, submitted by the Bristol Bay Subsistence Regional Advisory Council (Council), requests that the caribou season in Units 9C remainder and 9E be modified from having no open season to a To be announced season and open to Federally qualified subsistence users.

DISCUSSION

The proponent notes that the Northern Alaska Peninsula Caribou Herd (NAPCH) population status has been slowly improving since 2008 and in the Oct. 2014 survey, based on the bull:cow ratio, there are more bulls available than are needed to grow the herd. The caribou season has been closed since the 2005/2006 season. The Council believes Federally qualified subsistence users should have an opportunity to harvest the available surplus.

The proponent states that this change will allow the Alaska Peninsula/Becharof National Wildlife Refuge (Refuge) manager to provide opportunities for local subsistence users and open a Federal hunt concurrent with a prospective State Tier II hunt.

Existing Federal Regulation

Unit 9 - Caribou

Unit 9C remainder – Federal public lands are closed to the taking of caribou *No open season*

Unit 9E – Federal public lands are closed to the taking of caribou *No open season*

Proposed Federal Regulation

Unit 9 - Caribou

Unit 9C remainder – ~~Federal public lands are closed to the taking of caribou~~ 1 bull by Federal registration permit or State Tier II permit. Federal public lands are closed to the taking of caribou except by residents of Units 9C and 9E, hunting under these regulations. *No open season To be announced*

Unit 9E – ~~Federal public lands are closed to the taking of caribou~~ 1 bull by Federal registration permit or State Tier II permit. Federal public *No open season To be announced*

lands are closed to the taking of caribou except by residents of Units 9C and 9E, hunting under these regulations.

Federal permits may be issued in conjunction with the State Tier II hunt. Both Federal and State agencies will decide how many total permits to issue for both subunits to make sure that the actual harvest will not significantly exceed the harvestable surplus. Quotas and any needed closures will be announced by the Alaska Peninsula/Becharof National Wildlife Refuge Manager after consultation with ADF&G.

Existing State Regulation

Unit 9 - Caribou

Unit 9C remainder

No open season

Unit 9E

No open season

Extent of Federal Public Lands

Federal public lands comprise approximately 86% of Unit 9C and consist of 78% National Park Service (NPS) managed lands, 4% U.S. Fish and Wildlife Service (FWS) managed lands, and 4% Bureau of Land Management (BLM) managed lands (**Unit 9 Map**). Katmai National Park manages the Alagnak Wild River and hunting is not authorized within the park boundaries. Federal public lands comprise approximately 49% of Unit 9E and consist of approximately 44% FWS managed lands, 5% NPS managed lands, and less than 1% BLM managed lands.

Customary and Traditional Use Determinations

Residents of Units 9B, 9C, 17, and Egegik have a positive customary and traditional use determination for caribou in Unit 9C. Residents of Units 9B, 9C, 9E, 17, Nelson Lagoon, and Sand Point have a positive customary and traditional use determination for caribou in Unit 9E.

Regulatory History

Proposals WP99-32, 33 and 34 were adopted by the Federal Subsistence Board (Board) in May 1999, closing Federal public lands to non-Federally qualified subsistence users due to the declining population of the NAPCH and local residents' reliance upon this subsistence resource. Adoption of the proposals changed the harvest limit from 4 caribou in both Units 9C and E to one bull by Federal permit. Additionally it changed the season in Unit 9C remainder from Aug. 10 - Sept. 20 and Nov. 15 - Feb. 28, and in Unit 9E from Aug. 10 – Sept. 20 and Nov. 1 – Apr. 30. The Board approved closure to all users except for residents living in Unit 9C and Unit 9E.

In August 2005 the Board adopted Special Action Request WSA05-02, which temporarily closed Federal public lands in Units 9C remainder and 9E to the hunting of caribou by Federally qualified subsistence users. In April 2006 the Board adopted Proposal WP06-22, which closed Federal public lands in Units 9C remainder and 9E to the hunting of caribou by all user groups. The Board took this action due conservation concerns based on the continued NAPCH population decline.

At its March 2011 meeting, the Council was briefed on Wildlife Closure Review WCR10-06, which discussed the closure for caribou in Units 9C and 9E. The Council recommended retaining the closure based on conservation concerns for the NAPCH.

At its February 2015 meeting, the Council was presented with Wildlife Closure Review WCR14-06, which again discussed the Unit 9C and Unit 9E caribou closure. In addition the Alaska Department of Fish and Game (ADF&G) reported that the State may open a very limited Tier II hunt in the fall of 2016 if NAPCH survey results continue to show positive composition counts and population minimum counts (BBSRAC 2015). Based on the closure review and ADF&G's report, the Council unanimously recommended to modify the closure but to also provide for a hunt on Federal public lands to Federally qualified subsistence users should the State open a Tier II hunt. This proposal is the result of that recommendation. Restricting the hunt to only Federally qualified subsistence users may require a Section 804 analysis to determine the priority of users when the harvest quota may be limited.

ANILCA Section 804

Section 804 states:

Except as otherwise provided in this Act and other Federal laws, the taking on public lands of fish and wildlife for non-wasteful subsistence uses shall be accorded priority over the taking on such lands of fish and wildlife for other purposes. Whenever it is necessary to restrict the taking of populations of fish and wildlife on such lands for subsistence uses in order to protect the continued viability of such populations, or to continue such uses, such priority shall be implemented through appropriate limitations based on the application of the following criteria:

- (1) customary and direct dependence upon the populations as the mainstay of livelihood;
- (2) local residency; and
- (3) the availability of alternative resources.

Biological Background

The NAPCH ranges throughout Units 9C and 9E. Historically, the size of this population has fluctuated widely, reaching peaks of approximately 20,000 caribou around 1900, in the early 1940s, and most recently in 1984 (Riley 2011). Prior to 2005, the last population low of approximately 2,000 animals was during the late 1940s. By 1963, the herd had increased to more than 10,000 animals. In 1981, the estimate was 16,000 and the herd increased to 20,000 by 1984 (Riley 2011). After that period, the herd again entered a period of decline (**Table 1**). Since 2009 there has been a slight population increase and the population is currently estimated at approximately 3,000 animals (Crowley 2014).

State management objectives for the NAPCH are to have a bull:cow ratio of 35 bulls:100 cows and a population of 12,000 – 15,000 caribou (Riley 2011). Results from composition counts since 2010 suggest the population is increasing. Surveys in October of 2014 showed a minimum count of at least 2,700 caribou (**Table 1**) (Crowley 2014). The bull:cow ratio currently exceeds the State management objective for the herd, but the population size remains well below the management objective. Based on the 2014 composition survey results, the bull:cow ratio is now above the management objective, is at the highest level since 2002, and indicates that there are surplus bulls available for harvest (Crowley 2014).

Table 1. Northern Alaska Peninsula Caribou Herd sex and age composition and herd size estimates, 1984-2014 (FWS 2006, Butler 2007, Riley 2011, Crowley 2014).

Year	Bulls:100 Cows	Calves:100 Cows	Composition Sample Size	Estimated Herd Size ^a
1984	39	39	1,087	20,000
1990	41	29	1,484	17,000
1991	42	47	1,639	17,000
1992	40	44	2,766	17,500
1993	44	39	3,021	16,000
1994	34	34	1,857	12,500
1995	41	24	2,907	12,000
1996	48	38	2,572	12,000
1997	47	27	1,064	10,000
1998	31	30	1,342	9,200
1999	40	21	2,567	8,600
2000	38	18	1,083	7,200
2001	49	28	2,392	6,300
2002	46	24	1,007	6,600
2003	36	11	2,776	-
2004	34	7	1,355	3,400
2005	23	7	1,914	2,500
2006	26	14	1,725	-
2007	27	7	1,474	-
2008	19	10	1,841	2,000
2009	19	16	2,126	2,300
2010	25	18	1,795	-
2011	26	20	2,395	-
2012	28	22	1,352	-
2013	31	21	2,076	2,400
2014	40	34	2,295	2,700

^a From 2005 to 2014 the estimate of herd size is based on fall composition surveys that were not designed to estimate population size and are considered a minimum count of herd size.

Harvest History

The decline of the NAPCH prompted both the Alaska Board of Game and the Federal Subsistence Board to implement more restrictive harvest regulations beginning in the spring of 1999. These regulations were designed to protect the survival of the herd yet allow for a limited harvest of bull caribou for qualified subsistence users.

Between 1997 and 2005, hunter success rates were typically above 61% and the reported harvest ranged from 34 to 438 caribou (**Table 2**).

Table 2. NAPCH harvest, regulatory years 1997-2014 (Butler 2005, Butler 2007; Riley 2011).

Regulatory Year	Local Resident	Nonlocal Resident	Nonresident	Unspecified Residency	Total (% Success)
1997-1998	49	112	277	0	438 (78)
1998-1999	145	136	140	0	421 (68)
1999-2000	157	6	0	2	165 (66)
2000-2001	81	1	0	9	91 (65)
2001-2002	89	0	0	0	89 (67)
2002-2003	74	6	0	2	82 (61)
2003-2004	111	13	0	0	124(72)
2004-2005	34	0	0		34 (69)
2005-2014	-----No permits issued-----				

September was historically the most important month for the harvest of the NAPCH. This was especially true for nonresidents because of the combination of weather and ease of access by boat and aircraft. Some nonresident hunters were in this area on combination hunts for other species during this period.

Subsistence harvest had been primarily opportunistic and the chronology of harvests varied depending upon caribou availability.

Other Alternative Considered

Maintaining the *No open season* status was considered since there currently is no Federal or State open season. Keeping the closed season would require the Refuge to respond to any potential Special Action Requests for opening the Federal season in response to State management actions. However, there is a possibility that the State may open a Tier II hunt in the fall of 2016. Having a *To be announced* season in regulation will provide the Refuge with management flexibility to provide Federally qualified subsistence users the opportunity to harvest caribou.

Effects of the Proposal

If this proposal is adopted it would establish a to-be-announced season in regulation and limit the harvest to residents of Units 9C and 9E. Quotas and any needed closures would be announced by the Alaska Peninsula/Becharof National Wildlife Refuge Manager after consultation with ADF&G. This will provide the Refuge with management flexibility to allow for a limited Federal season, if warranted. The NAPCH composition data has continued to improve, and the minimum population counts have slowly risen since 2009. This to-be-announced season would provide the Refuge Manager the ability to open a subsistence hunt of surplus bulls, which could provide a limited harvest opportunity for Federally qualified subsistence users, while still allowing the herd to grow.

Restricting the hunt to only Federally qualified subsistence users may require a Section 804 analysis to determine the priority of users when the harvest quota may be limited.

OSM PRELIMINARY CONCLUSION

Support Proposal WP16-21 **with modification** to specify a May-be-announced season, remove mention of Federal public lands closure, remove language referencing the total number of permits to be issued, remove regulatory language referencing quotas and needed closures and delegate authority to determine quotas, and set season opening and closing dates via a delegation of authority letter (**Appendix 1**).

The modified regulation should read:

Unit 9 - Caribou

*Unit 9C remainder – ~~Federal public lands are closed to the taking of caribou 1 bull by Federal registration permit or State permit.~~ ~~No open season~~ **May be announced***

*Unit 9E – ~~Federal public lands are closed to the taking of caribou 1 bull by Federal registration permit or State permit.~~ ~~No open season~~ **May be announced***

Federal permits may be issued in conjunction with the State hunt. The Alaska Peninsula/Becharof National Wildlife Refuge Manager will announce any season and conditions for this hunt.

Justification

The NAPCH population indices have continued to improve, indicating that there may be a limited harvestable surplus of bulls in the population in the near future, while still allowing for growth of the herd. Adopting a *May-be-announced* season into Federal regulation is proactive and will provide the Refuge a better means to provide subsistence users the opportunity to harvest caribou on Federal public lands should the opportunity arise. This regulatory change will give management flexibility to allow for a limited subsistence opportunity in future years. A to-be-announced season suggests that there will be a season announced regardless of herd composition and abundance.

Creating a delegation of authority letter to the Refuge Manager will also simplify the published regulations for subsistence users and allows the Manager to make in-season decisions in response changing caribou populations or harvest levels. Any closure of Federal public lands should be determined by an 804 analysis to identify eligible residents that may hunt caribou under these regulations.

LITERATURE CITED

BBSRAC. 2015. Transcripts of the Bristol Bay Subsistence Regional Advisory Council proceedings, Feb. 25, 2015 in Naknek, Alaska. Office of Subsistence Management, FWS. Anchorage, AK.

Butler, L. 2005. Units 9C & 9E caribou management report. Pages 38-48 *in* P. Harper, editor. Caribou management report of survey and inventory activities 1 July 2002-30 June 2004. Alaska Department of Fish and Game. Juneau, AK.

Butler, L. 2007. Units 9C & 9E caribou management report. Pages 33-42 *in* P. Harper, editor. Caribou management report of survey and inventory activities 1 July 2004-30 June 2006. Alaska Department of Fish and Game. Juneau, AK.

Crowley, D. 2014. Northern Alaska Peninsula caribou herd fall composition and population survey. Memorandum October 28, 2014. Alaska Department of Fish and Game. King Salmon, AK.

FWS. 2006. Staff Analysis WP06-22. Pages 236-242 *in* Federal Subsistence Board Meeting Materials May 16-18, 2006. Office of Subsistence Management, FWS. Anchorage, AK 529 pages.

Riley, M.D. 2011. Units 9C & 9E caribou management report. Pages 33-44 *in* P. Harper, editor. Caribou management report of survey and inventory activities 1 July 2008-30 June 2010. Alaska Department of Fish and Game, Juneau, AK.

Sellers, R.A. 2003. Unit 9C and E caribou management report. Pages 53-63 *in* C. Healy, editor. Caribou management report of survey and inventory activities 1 July 2000-30 Jun 2002. Alaska Department of Fish and Game. Juneau, AK.

Watts, D. 2014. Wildlife Biologist. Personal communication: phone. Alaska Peninsula/Becharof National Wildlife Refuge. King Salmon, AK.

Appendix 1

Refuge Manager
Alaska Peninsula/Becharof National Wildlife Refuge
P.O. Box 277
King Salmon, Alaska 99613

Dear Refuge Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the Manager of the Alaska Peninsula/Becharof 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 Alaska National Interest Lands Conservation Act (ANILCA) Title VIII jurisdiction within Unit 9C remainder and Unit 9E 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, the National Park Service and the Chair of the Bristol Bay Subsistence Regional Advisory Council (Council) to the extent possible. Federal managers are expected to work with managers from the State and other Federal agencies, the Council Chair and applicable Council members to minimize disruption to subsistence resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

1. Delegation: The Alaska Peninsula/Becharof 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 state: “The Board may delegate to agency field officials the authority to set harvest and possession limits, define harvest areas, specify methods or means of harvest, specify permit requirements, and open or close specific fish or wildlife harvest seasons within frameworks established by the Board.”

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

- To open and close the season, set quotas, any permit requirements or conditions, and harvest limit, including any sex restrictions, for the To-be-announced season for caribou on Federal public lands in Unit 9C remainder and Unit 9E.

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.

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

The Federal public lands subject to this delegated authority are those within Unit 9C remainder and Unit 9E.

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

5. Guidelines for Delegation: You will become familiar with the management history of the wildlife species relevant to this delegation in the region, with current State and Federal regulations and management plans, and be up-to-date on population and harvest status information. You will review special action requests or situations that may require a special action and all supporting information to determine (1) consistency with 36 CFR 242.19, (2) if the request/situation falls within the scope of authority, (3) if significant conservation problems or subsistence harvest concerns are indicated, and (4) what the consequences of taking an action or no action may be on potentially affected Federally qualified 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 (OSM) no later than sixty days after development of the document.

You will notify OSM and coordinate with local ADF&G managers, the Bureau of Land Management, the National Park Service 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, OSM, affected State and Federal managers, law enforcement personnel, and Council members. If an action is to supersede a State action not yet in effect, the decision will be communicated to the public, OSM, affected State and Federal Managers, and the local Council members at least 24 hours before the State action would be effective. If a decision to take no action is made, you will notify the proponent of the request immediately. A summary of special action requests and your resultant actions must be provided to the coordinator of the appropriate Subsistence Regional Advisory Council(s) at the end of each calendar year for presentation to the Council(s).

You may defer a special action request, otherwise covered by this delegation of authority, to the 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.

6. 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: Assistant Regional Director, Office of Subsistence Management
Deputy Assistant Regional Director, Office of Subsistence Management
Subsistence Council Coordinator, Office of Subsistence Management
Chair, Bristol Bay Subsistence Regional Advisory Council
Commissioner, Alaska Department of Fish and Game
Federal Subsistence Liaison Team Leader, Alaska Department of Fish and Game
Federal Subsistence Board
Interagency Staff Committee
Administrative Record

WP16–22 Executive Summary	
General Description	Proposal WP16–22 requests that a Federal registration permit be required to hunt moose in Unit 9C – that portion draining into the Naknek River from the south, during the Aug. 20 – Sept. 20 season. The proponent also requests that hunters acquire a State registration permit and report their hunt via that permit. <i>Submitted by Alaska Peninsula/Becharof National Wildlife Refuge.</i>
Proposed Regulation	<p>Units 9—Moose</p> <p><i>Unit 9C – that portion draining into the Naknek River from the south – 1 bull by Federal registration permit. All hunters are also required to acquire a State registration permit and report their hunt via that permit. A State registration permit is required during the Aug. 20 – Sept. 20 season; a Federal registration permit is required during the Dec. 1 – 31 season.</i></p> <p><i>Public lands are closed during December for the hunting of moose, except by Federally qualified subsistence users hunting under these regulations.</i></p> <p style="text-align: right;"><i>Aug. 20 – Sept. 20</i></p> <p style="text-align: right;"><i>Dec. 1 – Dec. 31</i></p>
OSM Preliminary Conclusion	<p>Support with modification to only require a Federal permit for the fall season.</p> <p>The modified regulation should read:</p> <p>Unit 9C—Moose</p> <p><i>Unit 9C – that portion draining into the Naknek River from the south – 1 bull by Federal registration permit. All hunters are also required to acquire a State registration permit and report their hunt via that permit. A State registration permit is required during the Aug. 20 – Sept. 20 season; a Federal registration permit is required during the Dec. 1 – 31</i></p> <p style="text-align: right;"><i>Aug. 20 – Sept. 20</i></p> <p style="text-align: right;"><i>Dec. 1 – Dec. 31</i></p>

WP16–22 Executive Summary	
	<p>season.</p> <p><i>Public lands are closed during December for the hunting of moose, except by Federally qualified subsistence users hunting under these regulations.</i></p>
Bristol Bay Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

**DRAFT STAFF ANALYSIS
WP16-22**

ISSUES

WP16-22, submitted by the Alaska Peninsula/Becharof National Wildlife Refuge (Refuge), requests that a Federal registration permit be required to hunt moose in Unit 9C – that portion draining into the Naknek River from the south, during the Aug. 20 – Sept. 20 season. A Federal registration permit is already required for the Dec. 1 – Dec. 31 season. The proponent also requests that hunters acquire a State registration permit and report their hunt via that permit.

DISCUSSION

Both the Alaska Board of Game and the Federal Subsistence Board (Board) have passed regulations aimed at minimizing user conflict among moose hunters in Unit 9, including the requirement of using a State registration permit throughout the unit. In Unit 9C, the Federal subsistence fall moose hunt season starts 12 days before and continues 5 days beyond the State season. This hunt is only open on Federal public lands of Unit 9C within the Becharof National Wildlife Refuge. A State registration permit is required for the fall portion of the Federal hunt; however, Federally qualified subsistence users in Unit 9C are currently hunting with a permit whose dates differ from that of the Federal subsistence season.

The proponent is concerned that the use of a State permit causes confusion because of the differing Federal and State season dates. The proponent states that a Federal subsistence registration permit would create a consistent requirement for both the fall and winter hunts, and give hunters a permit which accurately reflects the season dates of the hunt in which they are participating.

The proponent also states that State and Federal biologists agreed that requiring hunters to report via the State harvest system yields more accurate data, due to penalties imposed for non-reporting and that it would be beneficial to have the reporting for Unit 9 in one system to the extent possible. To avoid confusion, the proponent suggests that the Federal subsistence permit should clearly indicate that reporting should be done via the State permit.

Existing Federal Regulation*

Unit 9C— Moose

Unit 9C – that portion draining into the Naknek River from the south – 1 Aug. 20 – Sept. 20 bull. A State registration permit is required during the Aug. 20 – Sept. 20 season; a Federal registration permit is required during the Dec. 1

-31 season.

Dec. 1 – Dec. 31

Public lands are closed during December for the hunting of moose, except by Federally qualified subsistence users hunting under these regulations.

*Note: Wildlife Emergency Special Action WSA15-01 was approved by the Board in March of 2015. This Special Action will require the use of a Federal registration permit during the August 20 – September 20, 2015 season.

Proposed Federal Regulation

Unit 9C—Moose

Unit 9C – that portion draining into the Naknek River from the south – 1 Aug. 20 – Sept. 20 bull by Federal registration permit. All hunters are also required to acquire a State registration permit and report their hunt via that permit. ~~A State registration permit is required during the Aug. 20—Sept. 20 season; a Federal registration permit is required during the Dec. 1–31 season.~~

Dec. 1 – Dec. 31

Public lands are closed during December for the hunting of moose, except by Federally qualified subsistence users hunting under these regulations.

Other Applicable Federal Regulations

§__.6 (Licenses, permits, harvest tickets, tags, and reports) and state that:

(a) If you wish to take fish and wildlife on public lands for subsistence uses, you must be an eligible rural Alaska resident and:

* * * *

(3) Possess and comply with the provisions of any pertinent permits, harvest tickets, or tags required by the State unless any of the documents or individual provisions in them are superseded by the requirements in subpart D of this part.

§__.25(h) Permits. If a subsistence fishing or hunting permit is required by this part, the following permit conditions apply unless otherwise specified in this section:

* * * *

(5) If the return of harvest information necessary for management and conservation purposes is required by a permit and you fail to comply with such reporting requirements, you are ineligible to receive a subsistence permit for that activity during the following regulatory year, unless you demonstrate that failure to report was due to loss in the mail, accident, sickness, or other unavoidable circumstances.

Existing State Regulation

*Unit 9C – that portion draining
into the Naknek River*

*Residents: one bull by permit RM272 Sept. 1 – Sept. 15
in person in King Salmon
beginning Aug. 14*

*Residents: one antlered RM272 Dec. 1 – Dec. 31
bull by permit in person in
King Salmon beginning Nov.
13*

*Nonresidents: one bull with RM282 Sept. 5 – Sept. 15
50-inch antlers or antlers
with 3 or more brow tines on
at least one side by permit in
person in King Salmon
beginning Aug. 14*

Extent of Federal Public Lands

Federal public lands comprise approximately 86% of Unit 9C and consist of 78% National Park Service managed lands, 4% U.S. Fish and Wildlife Service managed lands, and 4% Bureau of Land Management managed lands, and <1% Alagnak Wild River. Katmai National Park manages the Alagnak Wild River and hunting is not authorized within the park boundaries (**Map 1**).

Customary and Traditional Use Determinations

Residents of Units 9A, 9B, 9C, and 9E have a positive customary and traditional use determination for moose in Units 9A, 9B, 9C, and 9E.

Regulatory History

In 2008, Proposals WP08-30 and WP08-31, addressing moose in Units 9B and 9C, were submitted to the Board by the Bristol Bay Subsistence Regional Advisory Council (Council). Proposal WP08-30 requested a shorter moose season in Unit 9B, while Proposal WP08-31 requested a closure of Federal public lands to non-Federally qualified users in Units 9B and 9C. Both proposals were related as the Council's support of WP08-30 was contingent on adoption of WP08-31. After extensive discussion and input from the State of Alaska and the Council Chair, the proposals were deferred by the Board so a working group could be formed to identify other management options that would address conflicts in the subunits of Unit 9.

Based on the direction given by the Board, the Office of Subsistence Management provided funding for and worked in cooperation with the Alaska Department of Fish and Game (ADF&G) to initiate a Unit 9 Moose Working Group. The working group was established to better understand the conflicts in the region and to develop management strategies and recommendations. The Council submitted a number of proposals (WP 10-47, 48, 49, 50, 52) to address user conflicts. In May 2010 the Board considered those proposals as well as Proposals WP10-45 (deferred WP08-30) and WP10-46 (deferred WP08-31). The Board deferred all of these proposals, consistent with the recommendations of the Council until the working group could finish its work.

The working group discussed a number of management strategies and came to consensus on three recommendations:

- Submit proposals to the Alaska Board of Game and the Federal Subsistence Board to create a registration permit for all moose hunts in Unit 9.
- Conduct educational outreach directed at local moose hunters; and
- Offer educational trapping seminars in the Unit 9 villages.

To address the need for more data and better exchange of information between locals and ADF&G, the working group proposed creating a registration permit hunt for moose throughout Unit 9. The requirements of this hunt would increase information available to wildlife managers about the moose hunt through hunt report cards. In addition, such a hunt would increase exchange of information between biologists and moose hunters during the permit distribution process. This hunt would also allow managers to redistribute hunting pressure to help eliminate user conflict.

In March 2011, the Alaska Board of Game considered and adopted Proposal 14, which was submitted by the Unit 9 working group. The proposal requested the establishment of registrations permit hunts for moose in Unit 9. At this meeting the Alaska Board of Game also adopted Proposal 17 which extended the moose hunting season five days in subunits 9C and 9E. Based on the actions of the Alaska Board of Game, the Council supported aligning, to the maximum extent possible, Federal regulations for moose hunting in Unit 9 with the changes made in State regulation (BBSRAC 2011).

In 2012, deferred Proposals WP10-45, 46, 47, 48, 50 and 52 were submitted to the Board by the Council. WP10-45 requested a change to the moose season dates in a portion of Unit 9. Proposals WP10-46, WP10-49 and WP10-50 requested that portions of Unit 9 be closed for the taking of moose by

non-Federally qualified subsistence users. Proposals WP10-47, WP10-48 and WP10-52 requested that non-Federally qualified users hunting moose in portions of Unit 9 be restricted from harvesting moose within a two mile wide buffer on either side of waterways within Federal public lands. All of the proposals were originally deferred by the Board during its May 2010 meeting pending the outcome of the Unit 9 Moose Working Group process. The Board rejected Proposals WP10-46, 47, 48, 49, 50 and 52 and adopted Proposal WP10-45 with modification to require a State registration permit to harvest moose in Unit 9 and to add an additional 5 days to the fall seasons in Units 9C and 9E.

Special Action Request WSA15-01, submitted by the Refuge, to require a Federal permit for the fall 2015 season on Federal public lands within the Refuge was approved in March 2015. Since there was already a Federal registration permit required for the December moose season in the affected portion of Unit 9C, the fall season dates were added to that permit. This proposal is a follow-up of WSA15-01, which would place the requirements for a permit during the fall season into Federal regulation.

Biological Background

Since the early 20th century, moose on the Alaska Peninsula gradually expanded their range southwestward. This expansion was accompanied by a dramatic population increase until the 1960s, when the population peaked and then began to decline. Biologists believe that range damage from over-browsing led to the decline (Butler 2010). Even after a series of hunting restrictions and improvements in range conditions, the moose population in some subunits, such as Unit 9E, had declined as much as 60% from the peak moose population in the 1960s. Brown bear predation on neonatal moose was thought to be the primary limiting factor of moose in Unit 9 (Butler 2010).

The State population objectives for moose in Unit 9 are to:

- 1) maintain existing densities in areas with moderate (0.5–1.5 moose/square mile) or high (1.5–2.5 moose/square mile) densities;
- 2) increase low-density populations (where habitat conditions are not limiting) to 0.5 moose/square mile; and
- 3) maintain sex ratios of at least 25 bulls:100 cows in medium-to-high density populations and at least 40 bulls:100 cows in low-density areas (Butler 2004 and 2008).

Overall, management objectives for bull:cow ratios and population are being maintained in Units 9B (low density area), 9C (moderate density area) and 9E (moderate density area) (Butler 2009, pers. comm.). The bull:cow ratio has been above the management objective in Unit 9C and is increasing while calf:cow ratios remain within the normal range of variation observed over the last 25 years (Butler 2010). The current moose populations in Unit 9 are considered stable albeit at low density, with the current population estimate for Unit 9C outside of Katmai National Park at approximately 800 moose (Butler 2010).

In the past decade, local residents have regularly expressed difficulty in harvesting sufficient moose; a situation they attribute to a decreasing moose population. The erratic calf:cow ratios within Unit 9 (Butler 2008) may have led to the perception that the population is declining. From 1998 to 2007, the calf:cow ratios in Unit 9B ranged as low as 2 calves:100 cows in 1999 to as high as 26 calves:100 cows in 2003 (Butler 2006 and 2008). In Unit 9C, the ratio was as low as 5 calves: 100 cows in 2003 and as high as 20

calves:100 cows in 2007 (Butler 2006 and 2008). The most recent composition surveys in 2013 showed an estimated calf:cow ratio of 25:100, and a bull:cow ratio of 38:100 in Unit 9 as a whole (Crowley 2014, pers. comm.).

Harvest History

During 2003-2013 the annual harvest by Federally qualified subsistence users in Unit 9 has ranged from 21 to 50 moose, non-Federally qualified user harvest has ranged from 17 to 32 moose and nonresident harvest has ranged from 34 to 102 moose (**Table 1**). The total reported moose harvest has ranged from 83 to 177 animals per year.

The majority of reported moose harvest has occurred in September and aircraft continue to be the most common method of transportation with boats as the second most common transport mode (Butler 2010). Nonresidents typically had a higher success rate than residents as most flew out to hunt, and many employed guides (Butler 2010).

Other Alternative Considered

The continued use of a State registration permit was considered using modified permit language that instructs Federally qualified subsistence users of their seasons and reporting requirements. As an example, the Federal Unit 20E caribou hunt uses a joint State-Federal permit that includes language for both State and Federal permit conditions that vary by season dates (Gronquist 2015, pers. comm.). This permit was agreed upon by State and Federal biologists of the Fortymile Caribou Herd planning team. State and Federal subsistence harvest data from that registration hunt are entered into the State harvest database. In the Fortymile caribou hunt, changing to a single permit for the entire hunt reduced confusion and eliminated the problem of multiple permits being issued to individual hunters (Harvest Management Coalition 2012).

This alternative was not selected, because there is not agreement among the State and Federal managers on the use of a joint permit. Unit 9C managers and biologists would need to agree to modify the current State registration permit language to accommodate issuance of only one joint permit with both State and Federal hunt conditions and enable harvest data to be entered into the State database.

Effects of the Proposal

If this Proposal is adopted, it would require Federally qualified subsistence users to use a Federal registration permit for the fall moose season in Unit 9C – that portion draining into the Naknek River from the south – while hunting on Federal public lands. This hunt is only open on Federal public lands of the Becharof National Wildlife Refuge. During the December season, Federally qualified subsistence users are already required to use a Federal registration permit to harvest moose in the affected area. The Federal subsistence permit requirement should reduce confusion for Federally qualified subsistence users by having a separate permit for the Federal hunt, which starts before and is longer than, the State season.

A Federal subsistence permit requirement will supersede the currently used State permit and void the proponent's request for reporting harvest using a State permit. Under Federal regulation 100.6 (3) (a) users cannot be required to report via the State permit.

Table 1. Reported moose hunter residency and success in Unit 9, 2003-2013 (Butler 2010, ADF&G 2014).

Year	Successful Hunters				Unsuccessful Hunters				Total ^a
	Local Resident	Nonlocal Resident	Nonresident	Unknown	Local Resident	Nonlocal Resident	Nonresident	Unknown	
2003	41	32	102	2	88	92	91	2	273
2004	34	29	95	3	94	80	82	2	258
2005	43	32	84	1	87	73	92	3	255
2006	28	24	73	0	118	67	84	0	269
2007	34	32	81	1	131	44	85	1	261
2008	33	18	54	3	139	47	77	0	263
2009	21	29	61	6	118	38	39	2	197
2010	29	17	34	3	93	51	29	3	176
2011	50	17	38	2	191	30	63	6	290
2012	31	24	44	3	162	78	54	5	299
2013	29	22	48	0	153	73	39	4	269
Mean	33.9	25.1	64.9	126.1	124.9	61.2	66.8		255.4

^a Includes unknown residency.

Issuance of a Federal permit would clarify hunt conditions and season dates for hunters, managers and enforcement officers. This should result in better harvest reporting as many Federally qualified subsistence users are unsure of the reporting requirements while using a State permit during a Federal subsistence season. Federal managers will need to assure permits are reported in timely manner and can refuse issuance of a permit to non-reporting hunters from the preceding year. Refuge staff can enter harvest reports into the Federal subsistence harvest database and share all harvest records appropriately with local State wildlife staff.

The moose population in Unit 9 appears to be stable, albeit at low densities. Changing to a Federal registration permit would have no effect on the moose population.

OSM PRELIMINARY CONCLUSION

Support Proposal WP16-22 with modification to only require a Federal permit for the fall season.

The modified regulation should read:

Unit 9C—Moose

*Unit 9C – that portion draining into the Naknek River from the south – 1 Aug. 20 – Sept. 20
 bull by Federal registration permit. ~~All hunters are also required to
 acquire a State registration permit and report their hunt via that
 permit. A State registration permit is required during the Aug. 20 – Sept. 20
 season; a Federal registration permit is required during the Dec. 1 –
 Dec. 31 season.~~*

*Public lands are closed during December for the hunting of moose,
 except by Federally qualified subsistence users hunting under these
 regulations.*

Justification

Issuance of a Federal permit would clarify hunt conditions and season dates for hunters, managers and enforcement officers. This should result in better harvest reporting as many Federally qualified subsistence users are unsure of the reporting requirements while using a State permit during a Federal season. The applicable Federal regulation is found in §__.6(a)(3) and states that the State registration permit requirement is superseded by a Federal permit requirement. Under that regulation, if a Federal permit is approved, users cannot be required to report via the State permit. Federal managers will need to assure permits are reported in timely manner and can refuse issuance of a permit to non-reporting hunters in the following year as stated in and in §__.6(a)(5).

LITERATURE CITED

ADF&G. 2014. Alaska Hunting Harvest Reports. <<http://www.wildlife.alaska.gov>> Retrieved December 8, 2014.

BBSRAC. 2015. Transcripts of the Bristol Bay Subsistence Regional Advisory Council proceedings, Feb. 25, 2015 in Naknek, Alaska. Office of Subsistence Management, FWS. Anchorage, AK.

BBSRAC. 2011. Transcripts of the Bristol Bay Subsistence Regional Advisory Council proceedings, March 10, 2011 in Naknek, Alaska. Office of Subsistence Management, FWS. Anchorage, AK.

Butler, L. 2010. Unit 9 moose management report. Pages 116–123 *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.

Butler, L. 2009. Area biologist. Personal communication: email. ADF&G. King Salmon, AK.

Butler, L.G. 2008. Unit 9 moose management report. Pages 116–124 *in* P. Harper, editor. Moose management report of survey and inventory activities 1 July 2003–30 June 2007. ADF&G. Project 1.0. Juneau, AK.

Butler, L.G. 2006. Unit 9 moose management report. Pages 107–115 *in* P. Harper, editor. Moose management report of survey and inventory activities 1 July 2003–30 June 2005. ADF&G. Project 1.0. Juneau, AK.

Butler, L.G. 2004. Unit 9 moose management report. Pages 113–120 *in* C. Brown, editor. Moose management report of survey and inventory activities 1 July 2001–30 June 2003. ADF&G. Project 1.0. Juneau, AK.

Crowley, D. 2014. Area biologist. Personal communication: email. ADF&G. King Salmon, AK.

Gronquist, R. 2015. Wildlife biologist. Personal communication: phone. BLM. Fairbanks, AK

Harvest Management Coalition. 2012. Fortymile caribou herd harvest plan 2012-2018. ADF&G. Fairbanks, AK.

WP16–23 Executive Summary	
General Description	Proposal WP16-23 requests an increase in the number of permits available for harvest of brown bear in Unit 9B within Lake Clark National Park and Preserve. <i>Submitted by Leon Alsworth of Port Alsworth.</i>
Proposed Regulation	<p>Unit 9—Brown Bear</p> <p><i>Unit 9B—Lake Clark National Park and Preserve—Rural residents of Iliamna, Newhalen, Nondalton, Pedro Bay, Port Alsworth, residents of that portion of the park resident zone in Unit 9B; and 13.440 permit holders—1 bear by Federal registration permit only. The season will be closed by the Lake Clark National Park and Preserve Superintendent when four females or ten bear have been taken, whichever occurs first.</i></p> <p><i>July 1–June 30</i></p> <p>§ __.26(n)(9)(iii)(C) In Unit 9B, Lake Clark National Park and Preserve, residents of Iliamna, Newhalen, Nondalton, Pedro Bay, Port Alsworth, and that portion of the park resident zone in Unit 9B and 13.440 permit holders may hunt brown bear by Federal registration permit in lieu of a resident tag. Ten permits will be available with at least one permit issued in each community; however, no more than five permits will be issued in a single community. The season will be closed when four females or ten bears have been taken, whichever occurs first. The permits will be issued and closure announcements made by the Superintendent Lake Clark National Park and Preserve.</p>
OSM Preliminary Conclusion	Support
Bristol Bay Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	

WP16–23 Executive Summary	
Written Public Comments	None

**DRAFT STAFF ANALYSIS
WP16-23**

ISSUES

Proposal WP16-23, submitted by Leon Alsworth of Port Alsworth, requests an increase in the number of permits available for harvest of brown bear in Unit 9B within Lake Clark National Park and Preserve.

DISCUSSION

The proponent requests a change in the number of harvest permits that are available for brown bears in Lake Clark National Park and Preserve. Currently, the annual harvest quota is ten bears, and a maximum of ten permits are issued each year. The proponent states that this limits opportunity for Federally qualified subsistence users, because some individuals hold permits but do not hunt. He suggests that all Federally qualified subsistence users would have the opportunity to hunt bears if the permitting process mirrored the sheep permitting process. For sheep, the season is closed when the seasonal quota is reached, but there is no limit to the number of permits that are issued. Conversation with the proponent confirmed that the only change requested is an increase in the number of permits issued.

Existing Federal Regulation

Unit 9—Brown Bear

Unit 9B—Lake Clark National Park and Preserve—Rural residents of Iliamna, Newhalen, Nondalton, Pedro Bay, Port Alsworth, residents of that portion of the park resident zone in Unit 9B; and 13.440 permit holders—1 bear by Federal registration permit only. The season will be closed by the Lake Clark National Park and Preserve Superintendent when four females or ten bear have been taken, whichever occurs first. July 1–June 30

§ .26(n)(9)(iii)(C) In Unit 9B, Lake Clark National Park and Preserve, residents of Iliamna, Newhalen, Nondalton, Pedro Bay, Port Alsworth, and that portion of the park resident zone in Unit 9B and 13.440 permit holders may hunt brown bear by Federal registration permit in lieu of a resident tag. Ten permits will be available with at least one permit issued in each community; however, no more than five permits will be issued in a single community. The season will be closed when four females or ten bears have been taken, whichever occurs first. The permits will be issued and closure announcements made by the Superintendent Lake Clark National Park and Preserve.

Proposed Federal Regulation

Unit 9—Brown Bear

Unit 9B—Lake Clark National Park and Preserve—Rural residents of Iliamna, Newhalen, Nondalton, Pedro Bay, Port Alsworth, residents of that portion of the park resident zone in Unit 9B; and 13.440 permit holders—1 bear by Federal registration permit only. The season will be closed by the Lake Clark National Park and Preserve Superintendent when four females or ten bear have been taken, whichever occurs first. July 1–June 30

§ __.26(n)(9)(iii)(C) In Unit 9B, Lake Clark National Park and Preserve, residents of Iliamna, Newhalen, Nondalton, Pedro Bay, Port Alsworth, and that portion of the park resident zone in Unit 9B and 13.440 permit holders may hunt brown bear by Federal registration permit in lieu of a resident tag. ~~Ten permits will be available with at least one permit issued in each community; however, no more than five permits will be issued in a single community.~~ The season will be closed when four females or ten bears have been taken, whichever occurs first. The permits will be issued and closure announcements made by the Superintendent Lake Clark National Park and Preserve.

Existing State Regulation

Unit 9—Brown Bear

Unit 9 near villages

Residents: One bear every regulatory year by permit available online at <http://hunt.alaska.gov> and in person in King Salmon beginning June 26

No closed season

Unit 9B

Residents: One bear, contact King Salmon for permit availability

Sep. 1 – May 31

Residents and nonresidents: One bear every four regulatory years

No open season. Hunts open in fall of odd-numbered years and spring of even-numbered years.

Extent of Federal Public Lands

The portion of Unit 9B within Lake Clark National Park and Preserve is 100% Federal public lands, managed by National Park Service (**Unit 9 map**).

Customary and Traditional Use Determinations

Residents of Unit 9B have a positive customary and traditional use determination for brown bear in Unit 9B.

In Unit 9B, Lake Clark National Park and Preserve, residents of Iliamna, Newhalen, Nondalton, Pedro Bay, Port Alsworth, and that portion of the park resident zone in Unit 9B and 13,440 permit holders may hunt brown bear by Federal registration permit in lieu of a resident tag.

Regulatory History

The Federal Subsistence Management Program adopted the State's positive customary and traditional use determination for brown bear in Unit 9B when it assumed management of wildlife on Federal public lands in 1990. The State harvest limit of one brown bear every four years was also adopted at that time.

The Federal Subsistence Board (Board) made changes in the brown bear seasons for the resident zone communities of Lake Clark National Park and Preserve—Iliamna, Newhalen, Nondalton, Pedro Bay and Port Alsworth—over a four year period. Adoption of Proposal P94-34 changed the harvest limit to one bear every year by Federal registration permit and provided annual spring and fall seasons to residents of Nondalton (FSB 1994). Adoption of proposals P96-30 and P96-31 made the same changes for residents of Iliamna, Newhalen, Pedro Bay, and Port Alsworth. The Board's actions on these proposals also set the current harvest quota (FSB 1996).

Adoption of Proposal P97-40 by the Board in 1997 changed the existing split season to the current year-round season for all five communities. This action also established the current system for allocating permits among communities (FSB 1997).

Prior to 2008, Federal subsistence regulations did not overtly acknowledge the eligibility of those living outside of resident zone communities but within Lake Clark National Park. That year, the Board adopted Proposal WP08-21, which clarified that individuals living within Park boundaries, not just those living in resident zone communities, were eligible to harvest brown bear within Lake Clark National Park and Preserve (FWS 2008).

Biological Background

Unit 9, which covers the Alaska Peninsula, is a prime area for brown bears. It has supported an active guiding industry since the 1960s, and serves both hunting and viewing clientele. A combination of high harvest and low salmon escapement during the late 1960s and early 1970s resulted in widespread decline of bears in the area. Subsequent hunting closures and increased law enforcement presence facilitated recovery of the brown bear population by the 1980s (Riley and Butler 2011).

Although there have been no recent surveys, the brown bear population is currently believed to be stable at high densities throughout most of the Unit 9. Line transect surveys, conducted periodically by the State between 1995 and 2005, estimated overall bear density to be approximately 28 bears/100 mi², or 8,000 – 9,300 bears unit-wide (Riley and Butler 2011). Lake Clark National Park was last surveyed in 2000, when overall bear density was estimated to be 10 bears/100 mi². Bear density was higher in coastal regions of the park and was estimated to be 38 bears/100 mi². Recent observations indicate that the bear numbers in the park haven't changed significantly since this survey was conducted (Mangipane 2015, pers. comm.).

Because hunting regulations generally protect family groups, the proportion of single bears can be used to assess harvest pressure in a population. Surveys conducted between 1999 and 2007 showed that the brown bear population in Unit 9 consisted of 32 – 42% single bears, suggesting that the population has been productive and exposed to low to moderate harvest rates (Riley and Butler 2011). In this population, temporal and spatial variability in bear abundance is expected to be associated with changes in resource availability rather than human harvest (Riley and Butler 2011).

Harvest History

Demand for brown bear permits for Lake Clark National Park and Preserve appears to be modest overall. Since 2005, the maximum number of permits has been issued only twice—in 2007 and 2010. On average, fewer than 6 permits are issued each year. However, 81% of permits issued between 2005 and 2014 have been to residents of Port Alsworth. In eight of the last ten years, five permits, the maximum allowed per community, have been issued to Port Alsworth residents (**Figure 1**).

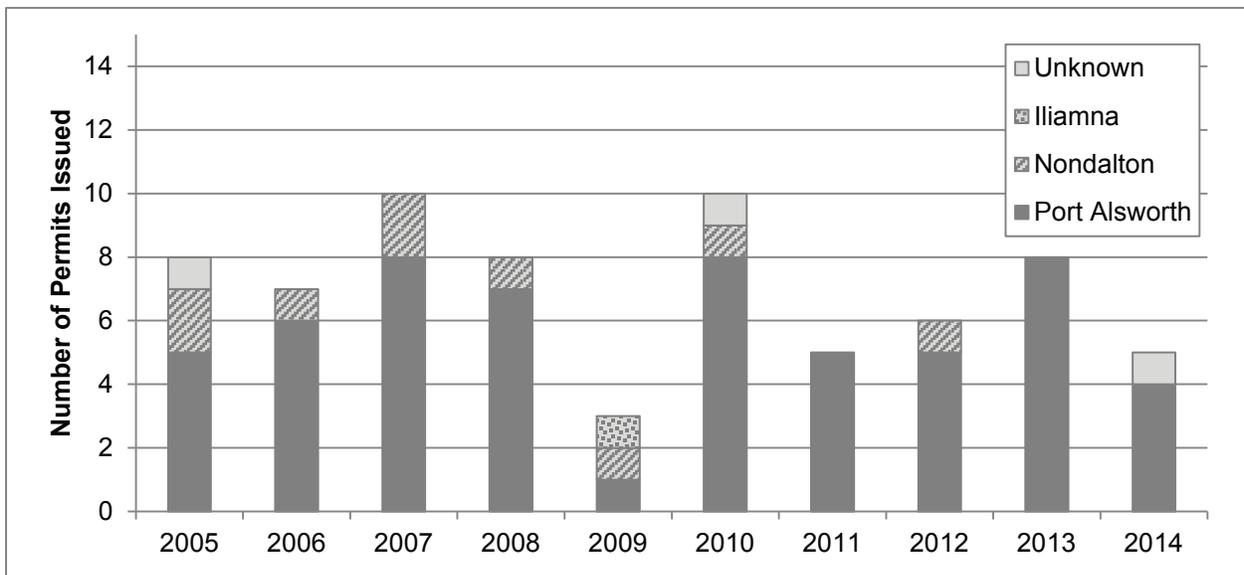


Figure 1. Federal permits issued for brown bear subsistence harvest within Lake Clark National Park and Preserve (OSM 2015).

Brown bear harvest within Lake Clark National Park and Preserve is low. Of the 64 individuals issued Federal permits to hunt in the Park and Preserve between 2005 and 2013, only 19 reported hunting. Seven bears were harvested by Federal permit during this time period, four of which were female. All were taken

by residents of Port Alsworth. In 2010, the only year in which more than one bear was harvested by Federal permit, four bears, including three females, were harvested. Harvest reports indicate that no bears have been harvested by Federal permit since 2010. Permit holders reported a total of 151 hunt days between 2005 and 2013. Of these hunt days, 147 were by Port Alsworth residents (OSM 2015).

Under State regulation, only 3 bears were reported harvested Unit 9B between 2005 and 2013 (OSM 2015). It is unknown what proportion was harvested within Lake Clark National Preserve.

Effects of the Proposal

If adopted, this proposal would remove the limit on the number of permits issued for brown bear harvest within Lake Clark National Park and Preserve. Instead, permits would continue to be issued until the harvest quota was met. This would allow all Federally qualified subsistence users access to permits, regardless of how many community members had already acquired permits. There are no conservation concerns for brown bears associated with this action, as the harvest has been very low and the quota will limit total harvest. An expedited reporting period could be included as a permit condition to address any concern that the quota might be exceeded.

OSM PRELIMINARY CONCLUSION

Support Proposal WP16-23.

Justification

The maximum number of brown bear permits for Lake Clark National Park and Preserve are frequently issued to Port Alsworth residents. However, many permit holders never use their permit, and reported hunting effort remains low. Total harvest of brown bears, which is attributed exclusively to residents of Port Alsworth, is very low and has consistently remained below the quota established in the 1990s. This suggests that there is little risk of overharvest associated with increasing the number of permits issued. Issuing additional permits will ensure that all residents of resident zone communities have the opportunity to obtain permits, particularly given the disproportionate harvest effort and success of Port Alsworth residents.

LITERATURE CITED

FSB. 1994. Transcripts of Federal Subsistence Board proceedings, April 13, 1994. Office of Subsistence Management, FWS. Anchorage, AK.

FSB. 1996. Transcripts of Federal Subsistence Board proceedings, April 30, 1996. Office of Subsistence Management, FWS. Anchorage, AK.

FSB. 1997. Transcripts of Federal Subsistence Board proceedings, April 9, 1997. Office of Subsistence Management, FWS. Anchorage, AK.

FWS. 2008. Staff analysis WP08-32. Pages 461 – 473 in Federal Subsistence Board Meeting Materials April 30 – May 2, 2007. Office of Subsistence Management, FWS. Anchorage, AK. 598 pp.

Wildlife Proposals

Mangipane, B. 2015. Wildlife biologist. Personal communication: phone. NPS. Port Alsworth, AK.

OSM. 2015. Alaska Federal subsistence program database. Internet: <https://ifw7asm-orcldb.fws.gov:8090/apex/f?p=menu>. Retrieved May 12, 2015.

Riley, M.D. and L. Butler. 2011. Unit 9 brown bear management report. Pages 109-117 *in* P. Harper, editor. Brown bear management report of survey and inventory activities 1 July 2008 – 30 July 2010. Alaska Department of Fish and Game. Juneau, AK.

WP16–24 Executive Summary	
General Description	Proposal WP16–24 requests that Federal lands in Units 9B and 9C be closed to the hunting of moose, except by Federally qualified subsistence users. <i>Submitted by Richard Wilson, Naknek.</i>
Proposed Regulation	<p>Unit 9—Moose</p> <p><i>Unit 9B—1 bull by State registration permit Aug. 20–Sept. 20</i></p> <p><i>Public lands are closed for the hunting of moose, except by Federally qualified subsistence users hunting under these regulations.</i> <i>Dec. 1-Jan. 15</i></p> <p><i>Unit 9C – that portion draining into the Naknek River from the north – 1 bull by State registration permit Aug. 20 – Sept. 20</i></p> <p><i>Dec. 1 – Dec. 31</i></p> <p><i>Public lands are closed for the hunting of moose, except by Federally qualified subsistence users hunting under these regulations.</i></p> <p><i>Unit 9C – that portion draining into the Naknek River from the south – 1 bull. A State registration permit is required during the Aug. 20 – Sept. 20 season; a Federal registration permit is required during the Dec. 1 -31 season. Aug. 20 – Sept. 20</i></p> <p><i>Dec. 1 – Dec. 31</i></p> <p><i>Public lands are closed during December for the hunting of moose, except by Federally qualified subsistence users hunting under these regulations.</i></p> <p><i>Unit 9C–remainder–1 bull by State registration permit Sept. 1-20</i></p> <p><i>Dec. 15-Jan. 15</i></p> <p><i>Public lands are closed for the hunting of moose, except by Federally qualified</i></p>

WP16–24 Executive Summary	
	<i>subsistence users hunting under these regulations.</i>
OSM Preliminary Conclusion	Oppose
Bristol Bay Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

**DRAFT STAFF ANALYSIS
WP16-24**

ISSUES

Proposal WP16-24, submitted by the Richard Wilson of Naknek, requests that Federal lands in Units 9B and 9C be closed to the hunting of moose, except by Federally qualified subsistence users.

DISCUSSION

Both the Alaska Board of Game and the Federal Subsistence Board (Board) have passed regulations aimed at minimizing user conflict among moose hunters in Unit 9, including requiring the use of a State registration permit throughout the unit. The proponent states the proposed change will give greater opportunity to Federally qualified subsistence users by reducing competition for a low density moose population. The proponent also states that moose in Unit 9 have become much more important to local hunters since the decline of caribou populations in the area. The proponent notes that because of repeated poor snow conditions for moose surveys in Units 9B and 9C, the current moose population estimates have been difficult to obtain. He believes that limiting the hunt to local residents would be a more conservative management approach because of the lack of recent moose population estimates.

Existing Federal Regulation**Unit 9— Moose**

<i>Unit 9B–1 bull by State registration permit</i>	<i>Aug. 20–Sept. 20</i>
	<i>Dec. 1–Jan. 15</i>
<i>Unit 9C – that portion draining into the Naknek River from the north – 1 bull by State registration permit</i>	<i>Aug. 20 – Sept. 20</i>
	<i>Dec. 1 – Dec. 31</i>
<i>Unit 9C – that portion draining into the Naknek River from the south – 1 bull. A State registration permit is required during the Aug. 20 – Sept. 20 season; a Federal registration permit is required during the Dec. 1 –31 season.</i>	<i>Aug. 20 – Sept. 20</i>
	<i>Dec. 1 – Dec. 31</i>
<i>Public lands are closed during December for the hunting of moose, except by Federally qualified subsistence users hunting under these</i>	

regulations.

Unit 9C–remainder–1 bull by State registration permit

Sept. 1-20

Dec. 15-Jan. 15

Proposed Federal Regulation

Unit 9— Moose

Unit 9B–1 bull by State registration permit

Aug. 20–Sept. 20

Public lands are closed for the hunting of moose, except by Federally qualified subsistence users hunting under these regulations.

Dec. 1-Jan. 15

Unit 9C – that portion draining into the Naknek River from the north – 1 bull by State registration permit

Aug. 20 – Sept. 20

Dec. 1 – Dec. 31

Public lands are closed for the hunting of moose, except by Federally qualified subsistence users hunting under these regulations.

Unit 9C – that portion draining into the Naknek River from the south – 1 bull. A State registration permit is required during the Aug. 20 – Sept. 20 season; a Federal registration permit is required during the Dec. 1 –31 season.

Aug. 20 – Sept. 20

Dec. 1 – Dec. 31

Public lands are closed ~~during December~~ for the hunting of moose, except by Federally qualified subsistence users hunting under these regulations.

Unit 9C–remainder–1 bull by State registration permit

Sept. 1-20

Public lands are closed for the hunting of moose, except by Federally qualified subsistence users hunting under these regulations.

Dec. 15-Jan. 15

Existing State Regulation

Unit 9B

*Residents: one bull by permit RM272 Sept. 1-Sept. 15
available in person in Unit
9B villages or in King
Salmon beginning Aug. 14,
contact King Salmon for
additional information*

*Residents: one antlered bull RM272 Dec. 15-Jan. 15
by permit available in person
in Unit 9B villages or in King
Salmon beginning Nov. 13,
contact King Salmon for
additional information*

*Nonresidents: one bull with RM282 Sept. 5-Sept. 15
50-inch or antlers with 4 or
more brow tines on at least
one side by permit available
in person in Unit 9B villages
or in King Salmon beginning
Aug. 14, contact King
Salmon for additional
information*

*Unit 9C – that portion draining
into the Naknek River*

*Residents: one bull by permit RM272 Sept. 1 – Sept. 15
in person in King Salmon
beginning Aug. 14*

*Residents: one antlered RM272 Dec. 1 – Dec. 31
bull by permit in person in
King Salmon beginning Nov.
13*

*Nonresidents: one bull with RM282 Sept. 5 – Sept. 15
50-inch antlers or antlers
with 3 or more brow tines on
at least one side by permit in
person in King Salmon
beginning Aug. 14*

Unit 9C remainder

*Residents: one bull by permit RM272 Sept. 1-Sept. 15
available in person in King
Salmon beginning Aug. 14*

*Residents: one antlered bull RM272 Dec. 15-Jan. 15
by permit available in person
in King Salmon beginning
Nov. 13*

*Nonresidents: one bull with RM282 Sept. 5-Sept. 15
50-inch antlers or antlers
with 3 or more brow tines on
at least one side by permit in
person in King Salmon
beginning Aug. 14 bull by
permit available in person in
King Salmon beginning Nov.
13*

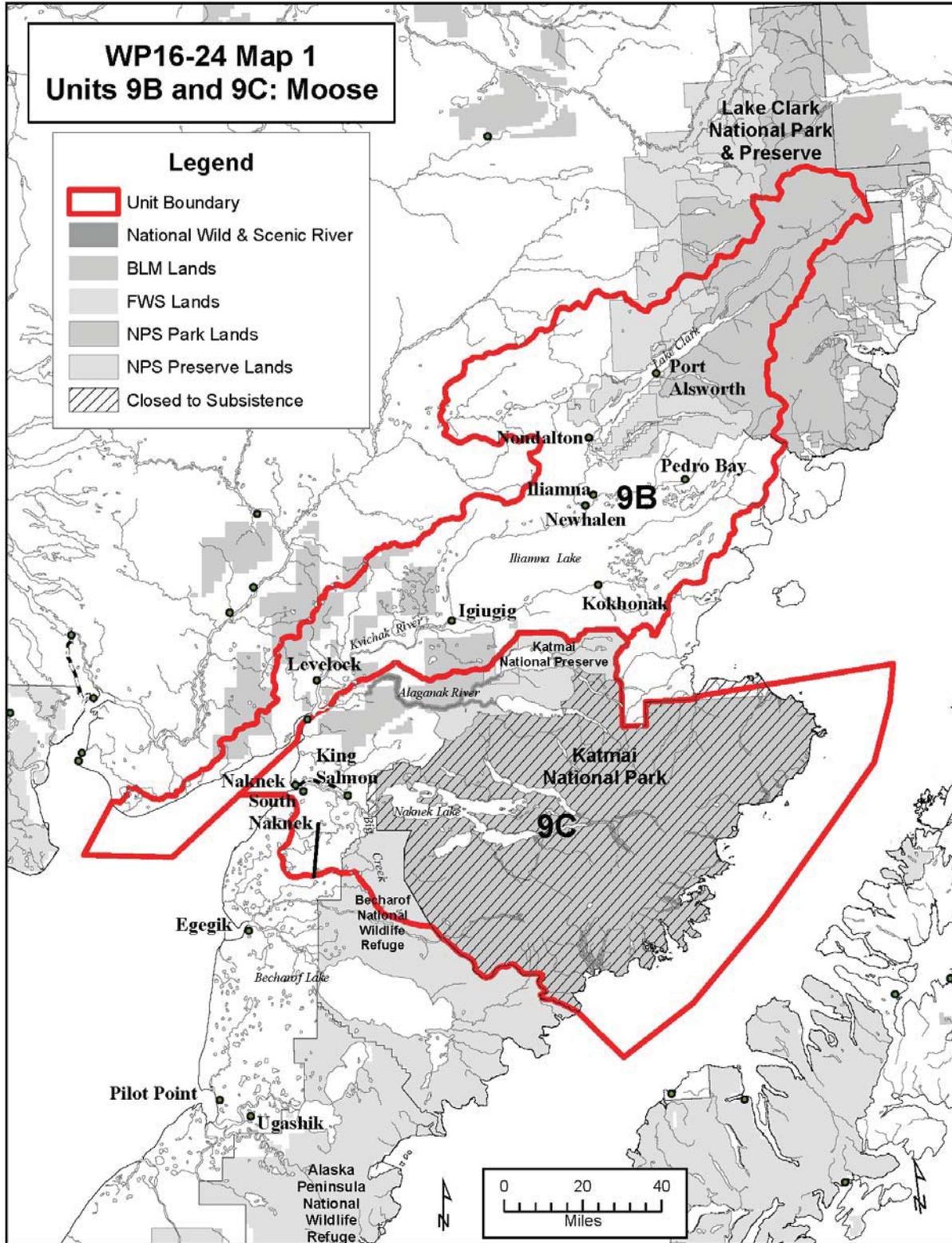
Extent of Federal Public Lands

Federal public lands comprise approximately 56% of Unit 9B and consist of 26% National Park Service (NPS) managed lands and 18% Bureau of Land Management (BLM) managed lands.

Federal public lands comprise approximately 86% of Unit 9C and consist of 78% NPS managed lands, 4% U.S. Fish and Wildlife Service managed lands, and 4% BLM managed lands, and <1% Alagnak Wild River. NPS manages the Alagnak Wild River. Hunting is not authorized within the Katmai National Park boundaries and the park comprises approximately 71% of Unit 9C (**Map 1**).

Customary and Traditional Use Determinations

Residents of Units 9A, 9B, 9C, and 9E have a customary and traditional use determination for moose in Units 9A, 9B, 9C, and 9E.



Regulatory History

In 2008, Proposals WP08-30 and WP08-31, addressing moose in Units 9B and 9C, were submitted by the

Bristol Bay Subsistence Regional Advisory Council (Council). Proposal WP08-30 requested a shorter moose season in Unit 9B while WP08-31 requested a closure of Federal public lands to non-Federally qualified users in Units 9B and 9C. Both proposals were related as the Council's support of WP08-30 was contingent on adoption of WP08-31. After extensive discussion and input from the State of Alaska and the Council Chair, the proposals were deferred by the Board so a working group could be formed to identify other management options that would address conflicts in the subunits of Unit 9.

Based on the direction given by the Board, the Office of Subsistence Management provided funding for and worked in cooperation with the Alaska Department of Fish and Game (ADF&G) to initiate a Unit 9 moose working group. The working group was established to better understand the conflicts in the region and to develop management strategies and recommendations. The Council submitted a number of proposals (WP 10-47, 48, 49, 50, 52) to address user conflicts. In May 2010, the Board considered those proposals as well as proposals WP10-45 (deferred WP08-30) and WP10-46 (deferred WP08-31). The Board deferred all of these proposals, consistent with the recommendations of the Council until the working group could finish its work.

The working group discussed a number of management strategies and came to consensus on three recommendations (ADF&G 2010):

- Submit proposals to the Alaska Board of Game and the Federal Subsistence Board to create a registration permit for all moose hunts in Unit 9.
- Conduct educational outreach directed at local moose hunters; and
- Offer educational trapping seminars in the Unit 9 villages.

To address the need for more data and better exchange of information between local residents and ADF&G, the working group proposed creating a registration permit hunt for moose throughout Unit 9. The requirements of this hunt would increase information available to wildlife managers about the moose hunt through registration permit hunter reports. In addition, such a hunt would increase exchange of information between biologists and moose hunters during the permit distribution process. This hunt would also allow managers to redistribute hunting pressure to help eliminate user conflict.

In March 2011, the Alaska Board of Game adopted Proposal 14, which was submitted by the Unit 9 working group. The proposal requested the establishment of registration permit hunts for moose in Unit 9. At this meeting the Alaska Board of Game also adopted Proposal 17 which extended the moose hunting season five days. In Unit 9C the end date changed from Sept. 15 to Sept. 20 and in Unit 9E the end date changed from Sept. 20 to Sept. 25. Based on the actions of the Alaska Board of Game, the Council supported aligning, to the maximum extent possible, Federal regulations for moose hunting in Unit 9 with the changes made in State regulation (BBSRAC 2011).

In 2012, deferred Proposals WP10-45, 46, 47, 48, 50 and 52 were addressed by the Board. WP10-45 requested a change to the moose season dates in a portion of Unit 9. Proposals WP10-46, WP10-49 and WP10-50 requested that portions of Unit 9 be closed to the taking of moose by non-Federally qualified subsistence users. Proposals WP10-47, WP10-48 and WP10-52 requested that non-Federally qualified

subsistence users hunting moose in portions of Unit 9 be restricted from harvesting moose within a two mile wide buffer on either side of waterways within Federal public lands. All of the proposals were originally deferred by the Board during its May 2010 meeting pending the outcome of the Unit 9 Moose Working Group process. In 2012, the Board rejected Proposals WP10-46, 47, 48, 49, 50 and 52 and adopted Deferred Proposal WP10-45 with modification to require a State registration permit to harvest moose in Unit 9 and to add an additional 5 days to the fall seasons in Units 9C and 9E. In Unit 9C, the season end date changed from Sept. 15 to Sept. 20 and in Unit 9E the season end date changed from Sept. 20. to Sept. 25.

Emergency Special Action Request WSA15-01 submitted by the Alaska Peninsula/Becharof National Wildlife Refuge, was approved by the Board in March 2015, to require a Federal permit for the fall 2015 season on Federal public lands within the Refuge. Since there was already a Federal registration permit required for the December moose season in the affected portion of Unit 9C, the fall season dates can be added to that permit. The Refuge submitted Proposal WP16-22 as a follow-up to WSA15-01 that would requesting the change be made in regulation.

In 2007, the Board enacted a *Policy on Closures to Hunting, Trapping and Fishing on Federal Public Lands in Alaska* (Aug. 29, 2007) (**Appendix 1**), which governs whether or not a closure to non-Federally qualified users should be implemented. As such, a closure can only be justified if it meets any of the criteria set forth in that policy.

Biological Background

Since the early 20th century, moose on the Alaska Peninsula gradually expanded their range southwestward. This expansion was accompanied by a dramatic population increase until the 1960s, when the population peaked and then began to decline. Biologists believe that range damage from over-browsing lead to the decline (Butler 2010). Even after a series of hunting restrictions and improvements in range conditions, the moose population in some subunits, such as Unit 9E, had declined as much as 60% from the peak moose population in the 1960s. Brown bear predation on neonatal moose was thought to be the primary limiting factor of moose in Unit 9 (Butler 2010).

State population objectives for moose in Unit 9 (Butler 2004 and 2008) are to:

- 1) maintain existing densities in areas with moderate (0.5–1.5 moose/square mile) or high (1.5–2.5 moose/square mile) densities;
- 2) increase low-density populations (where habitat conditions are not limiting) to 0.5 moose/square mile; and,
- 3) maintain sex ratios of at least 25 bulls:100 cows in medium-to-high density populations and at least 40 bulls:100 cows in low-density areas

Overall, management objectives for bull:cow ratios and population are being maintained in Units 9B (low density area), 9C (moderate density area) and 9E (moderate density area) (Butler 2009, pers. comm.). The bull:cow ratio has been above the management objective in Unit 9C and is increasing (**Table 1**) while calf:cow ratios remain within the normal range of variation observed over the last 25 years (Butler 2010). In Unit 9B, the past two composition surveys report the bull:cow ratio at or just below the biological objective (**Table 1**). The bull:cow ratios suggest that the moose population in Unit 9C has a harvestable

surplus of bulls available and the ratio is well above management and biological objectives (Watts 2015, pers. comm.). The Units 9B and 9C, the bull:cow ratios also suggest that hunter harvest is not a primary factor limiting moose abundance because the legal harvest in these units is limited to bulls only and if human harvest was the primary cause of low abundance, the bull:cow ratios would be more negatively skewed (Watts 2015, pers. comm.). The current moose populations in Unit 9 are considered stable albeit at low density, with the current population estimate for Unit 9B at approximately 2,000 moose and for Unit 9C outside of Katmai National Park at approximately 800 moose (Butler 2010).

Table 1. Moose composition survey results in Units 9B and 9C, 2003-2013 (Butler 2008 and 2010, Crowley 2014, pers. comm.).

	Unit 9B (low density population)		Unit 9C (medium density population)	
	Bulls: 100 Cows	Calves: 100 Cows	Bulls: 100 Cows	Calves: 100 Cows
Population Objective	40	--	25	--
Year				
2003	14	26	23	5
2004	-	-	-	-
2005	23	19	34	19
2006	-	-	-	-
2007	40	2	40	20
2008	-	-	46	13

2013	34	23	-	-

In the past decade, local residents have regularly expressed difficulty in harvesting sufficient moose; a situation they attribute to a decreasing moose population. The erratic calf:cow ratios within Unit 9 (Butler 2008) may have led to the perception that the population is declining. From 1998 to 2007, the calf:cow ratios in Unit 9B ranged as low as 2 calves:100 cows in 1999 and 2007 to as high as 26 calves:100 cows in 2003 (Butler 2006 and 2008). In Unit 9C, the calf:cow ratio (**Table 1**) was as low as 5 calves:100 cows in 2003 and as high as 20 calves:100 cows in 2007 (Butler 2006 and 2008). Recent composition surveys in 2013 showed an estimated calf:cow ratio of 25:100, and a bull:cow ratio of 38:100 in Unit 9 as a whole (Crowley 2014, pers. comm.). Lack of snow cover prevented completion of 2014 surveys (Klutsch 2015, pers. comm.). Low calf:cow ratios suggest that calf recruitment and possibly calf production (depending on twinning rates) is a primary factor limiting moose abundance, and collectively, these data suggest that habitat and predation are probably key limiting factors to the moose population in Units 9B and 9C (Watts 2015, pers. comm.).

Harvest History

Reported moose harvest from 2003 to 2013 for Unit 9 can be found in **Table 2**. Local resident harvest has

ranged from 21 to 50 moose, non-local resident harvest has ranged from 17 to 32 moose and nonresident harvest has ranged from 34 to 102 moose. The total reported moose harvest has ranged from 83 to 177 animals per year.

The majority of reported moose harvest has occurred in September and aircraft continue to be the most common method of transportation with boats as the second most common transport mode (Butler 2010). Nonresidents typically had a higher success rate than residents as most flew out to hunt, and many employed guides (Butler 2010).

In Unit 9C from 1995 to 2011, harvest reports for Federal hunt FM0904 totaled 102 permits issued, 42 hunted, and 6 moose were harvested (OSM 2015). This hunt occurs only in the Big Creek drainage within the Becharof National Wildlife Refuge, is remote and influenced by factors such as weather, fuel cost, and proximity of Federal public lands to local residents' communities

Following a Unit 9 Moose Working Group recommendation, harvest has been reported with the use of registration permits (RM272, RM282) since 2011 (**Table 3**). In Unit 9B and 9C local resident harvest has ranged from 23 to 45 moose, nonlocal resident harvest has ranged from 11 to 19 moose, and nonresident harvest has ranged from 4 to 17 moose. The total reported moose harvest from RM272 and RM282 has ranged from 44 to 66 in Units 9B and 9C.

Local resident harvest in 2014 was above average when comparing recent records (**Tables 2 and 3**) after following two below average years in 2012 and 2013. Harvest success in Unit 9B for 2014 was the second highest since 2011 and was affected by heavy snowfall allowing better hunter access (BBSRAC 2015). At the February 2015 meeting, the area biologist reported that in Unit 9C, hunter success remained low and that low calf:cow ratios, until recently (2013), have probably been part of the problem. He also noted that there is very little wolf harvest in Unit 9C (BBSRAC 2015).

In Units 9B and 9C, Federally qualified subsistence users have longer seasons and additional opportunity to harvest moose. In Unit 9B, the Federal fall season is 17 days longer than the State season and 14 days longer in the winter season. In Unit 9C, that portion draining into the Naknek River, the Federal fall season is 17 days longer than the State season; and in Unit 9C remainder, the Federal fall season is 5 days longer than the State season. In both units the nonresident moose season is 11 days and runs from Sept. 5-15.

Table 2. Reported moose hunter residency and success in Unit 9, 2003-2013 (Butler 2010, ADF&G 2014).

Year	Successful Hunters					Unsuccessful Hunters					Total ^a
	Local Resident	Nonlocal Resident	Non-resident	Unknown	Total	Local Resident	Nonlocal Resident	Non-resident	Unknown	Total	
2003	41	32	102	2	177	88	92	91	2	273	
2004	34	29	95	3	161	94	80	82	2	258	
2005	43	32	84	1	160	87	73	92	3	255	
2006	28	24	73	0	125	118	67	84	0	269	
2007	34	32	81	1	148	131	44	85	1	261	
2008	33	18	54	3	108	139	47	77	0	263	
2009	21	29	61	6	117	118	38	39	2	197	
2010	29	17	34	3	83	93	51	29	3	176	
2011	50	17	38	2	107	191	30	63	6	290	
2012	31	24	44	3	102	162	78	54	5	299	
2013	29	22	48	0	99	153	73	39	4	269	
Mean	33.9	25.1	64.9		126.1	124.9	61.2	66.8		255.4	

^a Includes unknown residency.

Table 3. Reported moose hunter residency and success for RM272 and success for RM282 in Units 9B and 9C, 2011-2014 (ADF&G 2015, Klutsch 2015).

Year	Successful Hunters					Unsuccessful Hunters					Total ^a
	Local Resident	Nonlocal Resident	Non-resident	Un-known	Total	Local Resident	Nonlocal Resident	Non-resident	Unknown	Total	
2011	45	11	4	2	62	139	40	28	4	211	
2012	23	19	6		48	131	33	14	4	182	
2013	23	13	8		44	129	34	13	2	178	
2014	37	12	17		66	132	34	26		192	
Mean	32	14	9		55	133	35	20		191	

^a Includes unknown residency.

Effects of the Proposal

If this Proposal is adopted, it would close Federal public lands to the hunting of moose except by Federally qualified subsistence users.

The moose population in Unit 9 appears to be stable, albeit at low densities and can withstand the current hunting pressure. If this proposal is adopted, the bull:cow ratio may increase since bull harvest by non-Federally qualified subsistence users would be eliminated on Federal public lands. Limiting the number of bulls harvested may be contrary to management goals if the population is at or near carrying capacity. Fewer bulls being harvested could result in decreased forage availability and reproductive potential for the moose population on Federal public lands.

OSM PRELIMINARY CONCLUSION

Oppose Proposal WP16-24

Justification

Whether or not a closure to non-Federally qualified users should be implemented is governed by the Board's *Policy on Closures to Hunting, Trapping and Fishing on Federal Public Lands in Alaska* (Aug. 29, 2007). As such, a closure can only be justified if it meets any of the criteria set forth in that policy. None of the criteria are satisfied for this proposal.

Closure is not necessary for the conservation of healthy populations of wildlife. The Unit 9B and 9C moose population has been relatively stable, albeit at low densities and local resident harvest has remained relatively steady over recent years. Limiting the number of bulls harvested by non-Federally qualified subsistence users may be contrary to management goals if the population is at or near carrying capacity. Fewer bulls being harvested could result in decreased forage availability and reproductive potential for the moose population on Federal public lands. High bull:cow ratios and low calf:cow ratios suggest that calf recruitment and possibly calf production is a primary factor limiting moose abundance, not hunter harvest. Collectively, these data suggest that habitat and predation are probably key limiting factors to the moose population in Units 9B and 9C. Thus, a more conservative management approach limiting bull harvest by non-Federally qualified subsistence users is not warranted in these units as the moose population is currently sufficient to provide harvest opportunities for Federally qualified subsistence users as well as non-Federally qualified users.

A closure is not necessary to ensure the continuation of subsistence uses by Federally qualified subsistence users. Currently, Federally qualified subsistence users have longer seasons than non-Federal users. They currently have an additional 17 days to harvest moose during the fall season in Units 9B and 9C than the State season. In Unit 9B, the Federal winter season provides 14 additional days than the State season. In Unit 9C remainder the Federal fall season is 5 days longer than the State season.

Since 2011, as recommended by the Unit 9 Moose Working Group, a registration permit has been required to provide improved harvest information needed to help address user conflicts. Recent data indicate that

harvest levels have been fairly constant for several years, and in 2014 harvest by local residents was the second highest since the registration permit was instituted. Currently there are only 4 years of registration harvest reports and it will be beneficial to acquire a few more years of harvest information to help determine whether a closure is warranted.

Finally, none of the other criteria for closure have been satisfied, as the proponent has not indicated that any are applicable. Therefore, they were not considered for this analysis.

LITERATURE CITED

ADF&G. 2015. Alaska Hunting Harvest Reports. <<http://www.wildlife.alaska.gov>> Retrieved May 30, 2015.

ADF&G. 2014. Alaska Hunting Harvest Reports. <<http://www.wildlife.alaska.gov>> Retrieved December 8, 2014.

ADF&G. 2010. Unit 9 Moose Working Group April 28-29, 2010 meeting summary, final report. ADF&G. Anchorage, AK.

BBSRAC. 2015. Transcripts of the Bristol Bay Subsistence Regional Advisory Council proceedings, Feb. 25, 2015 in Naknek, Alaska. Office of Subsistence Management, FWS. Anchorage, AK.

BBSRAC. 2011. Transcripts of the Bristol Bay Subsistence Regional Advisory Council proceedings, March 10, 2011 in Naknek, Alaska. Office of Subsistence Management, FWS. Anchorage, AK.

Butler, L. 2010. Unit 9 moose management report. Pages 116–123 *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.

Butler, L. 2009. Area biologist. Personal communication: email. ADF&G. King Salmon, AK.

Butler, L.G. 2008. Unit 9 moose management report. Pages 116–124 *in* P. Harper, editor. Moose management report of survey and inventory activities 1 July 2003–30 June 2007. ADF&G. Project 1.0. Juneau, AK.

Butler, L.G. 2006. Unit 9 moose management report. Pages 107–115 *in* P. Harper, editor. Moose management report of survey and inventory activities 1 July 2003–30 June 2005. ADF&G. Project 1.0. Juneau, AK.

Butler, L.G. 2004. Unit 9 moose management report. Pages 113–120 *in* C. Brown, editor. Moose management report of survey and inventory activities 1 July 2001–30 June 2003. ADF&G. Project 1.0. Juneau, AK.

Crowley, D. 2014. Area biologist. Personal communication: email. ADF&G. King Salmon, AK.

Klutsch, C. 2015. Program technician. Personal communication: phone, email. ADF&G. King Salmon, AK.

OSM. 2015. Harvest database. Office of Subsistence Management. Retrieved June 2, 2015.

Watts, D. 2015. Wildlife biologist. Personal communication: email. FWS. King Salmon, AK.

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

FEDERAL SUBSISTENCE BOARD

Adopted August 29, 2007

PURPOSE

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

INTRODUCTION

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

BOARD AUTHORITIES

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

POLICY

The decision to close Federal public lands or waters to Federally qualified or non-qualified subsistence users is an important decision that will be made as set forth in Title VIII of ANILCA. The Board will not restrict the taking of fish and wildlife by users on Federal public lands (other than national parks and park monuments) unless necessary for the conservation of healthy populations of fish and wildlife resources, or to continue subsistence uses of those populations, or for public safety or administrative reasons, or ‘pursuant to other applicable law.’ Any individual or organization may propose a closure. Proposed closures of Federal

public lands and waters will be analyzed to determine whether such restrictions are necessary to assure conservation of healthy populations of fish and wildlife resources or to provide a meaningful preference for qualified subsistence users. The analysis will identify the availability and effectiveness of other management options that could avoid or minimize the degree of restriction to subsistence and non-subsistence users.

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

Decision Making

The Board will:

- Proceed on a case – by – case basis to address each particular situation regarding closures. In those cases for which conservation of healthy populations of fish and wildlife resources allows, the Board will authorize non-wasteful subsistence taking.
- Follow the statutory standard of "customary and traditional uses." Need is not the standard. Established use of one species may not be diminished solely because another species is available. These established uses have both physical and cultural components, and each is protected against all unnecessary regulatory interference.
- Base its actions on substantial evidence contained within the administrative record, and on the best available information; complete certainty is not required.
- Consider the recommendations of the Regional Advisory Councils, with due deference (ANILCA § 805 (c)).
- Consider comments and recommendations from the State of Alaska and the public (ANILCA § 816(b)).

Conditions for Establishing or Retaining Closures

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

- Closures are necessary for the conservation of healthy populations of fish and wildlife:
 - a) When a fish or wildlife population is not sufficient to provide for both Federally qualified subsistence users and other users, use by non-Federally qualified users may be reduced or prohibited, or

- b) When a fish or wildlife population is insufficient to sustain all subsistence uses, the available resources shall be apportioned among subsistence users according to their:
- 1) Customary and direct dependence upon the populations as the mainstay of livelihood.
 - 2) Local residency, and
 - 3) Availability of alternative resources, or
- c) When a fish or wildlife population is insufficient to sustain any use, all uses must be prohibited.
- Closures are necessary to ensure the continuation of subsistence uses by Federally qualified subsistence users.
 - Closures are necessary for public safety.
 - Closures are necessary for administrative reasons.
 - Closures are necessary "pursuant to other applicable law."

Considerations in Deciding on Closures

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

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

- Relevant State and Federal management plans and their level of success as well as any relationship to other Federal or State laws or programs.
- Other Federal and State regulatory options that would conserve healthy populations and provide a meaningful preference for subsistence, but would be less restrictive than closures.
- The potential adverse and beneficial impacts of any proposed closure on affected fish and wildlife populations and uses of lands and waters both inside and outside the closed area.
- Other issues that influence the effectiveness and impact of any closure.

Reviews of Closures

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

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

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

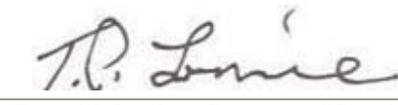

Chair, Federal Subsistence Board


Board Member, U.S. Fish and Wildlife Service


Board Member, Bureau of Indian Affairs


Board Member, U.S. Forest Service


Board Member, National Park Service


Board Member, Bureau of Land Management

WP16–25/26 Executive Summary	
General Description	Proposal WP16–25/26 requests that the split season for caribou in a portion of Unit 17A and 17C be changed from Aug. 1 – Sept. 30 and Dec. 1 – Dec. 31, to Aug. 1 – Mar. 31 and the harvest limit be increased from 2 caribou to 3 caribou. <i>Submitted by Togiak Fish and Game Advisory Committee and Nushagak Fish and Game Advisory Committee.</i>
Proposed Regulation	<p>Units 17A and 17C—Caribou</p> <p><i>Units 17A and 17C – that portion of 17A and 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay – up to 23 caribou by Federal registration permit. Public lands are closed to the taking of caribou except by residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark’s Point, and Ekuk hunting under these regulations. The harvest quota, harvest limit, and the number of permits available will be announced by the Togiak National Wildlife Refuge Manager after consultation with the Alaska Department of Fish and Game and the Nushagak Peninsula Caribou Planning Committee. Successful hunters must report their harvest to the Togiak National Wildlife Refuge within 24 hours after returning from the field. The season may be closed by announcement of the Togiak National Wildlife Refuge Manager.</i></p> <p style="text-align: right;"><i>Aug. 1 – Sept. 30 Mar. 31 Dec. 1 – Mar. 31</i></p>
OSM Preliminary Conclusion	Support Proposal WP16-25 with modification to remove the regulatory language referencing harvest quotas and limits, and the number of permits available and delegate authority to determine the harvest quota and limit, and the number of permits to be issued via a delegation of authority letter and Take no action on Proposal WP16-26.

WP16–25/26 Executive Summary	
	<p>The modified regulation should read:</p> <p style="text-align: center;">Unit 17A and 17C— Caribou</p> <p><i>Units 17A and 17C – that portion of 17A and 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay – up to 23 caribou by Federal registration permit. Public are closed to the taking of caribou except by residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark’s Point, and Ekuk hunting under these regulations. The harvest quota, harvest limit, and the number of permits available will be announced by the Togiak National Wildlife Refuge Manager after consultation with the Alaska Department of Fish and Game and the Nushagak Peninsula Caribou Planning Committee. Successful hunters must report their harvest to the Togiak National Wildlife Refuge within 24 hours after returning from the field. The season may be closed by announcement of the Togiak National Wildlife Refuge Manager.</i></p> <p style="text-align: right;">Aug. 1 – Sept. 30 Mar. 31 Dec. 1 – Mar. 31</p>
Bristol Bay Regional Advisory Council Recommendation	
Western Interior Alaska Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

DRAFT STAFF ANALYSIS
WP16-25/26

ISSUES

Proposal WP16-25, submitted by the Togiak Fish and Game Advisory Committee, and Proposal WP16-26, submitted by the Nushagak Fish and Game Advisory Committee, request that the split season for caribou in a portion of Unit 17A and 17C be changed from Aug. 1 – Sept. 30 and Dec. 1 – Dec. 31, to Aug. 1 – Mar. 31 and the harvest limit be increased from 2 caribou to 3 caribou.

DISCUSSION

The Nushagak Peninsula Caribou Herd (NPCH) is a viable, growing population and reported harvest the past 2 years has been well below the harvest objectives. The proponent stated a harvestable surplus of caribou exists and that the harvest objective was not met during the 2013-2014 season. The proponent stated that the 2014/2015 season the reported harvest was only 6% of the harvest objective. Difficult and unsafe winter travel conditions in 2015 limited the opportunity to harvest Nushagak Peninsula caribou. A longer season and increased harvest limit would provide additional opportunity for Federally qualified subsistence users and may help reduce the caribou population closer to the management objective. Proposal WP16-31/32 considers same day airborne hunting in the Nushagak Peninsula area.

Existing Federal Regulation**Unit 17A and 17C— Caribou**

<i>Units 17A and 17C – that portion of 17A and 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay – up to 2 caribou by Federal registration permit. Public lands are closed to the taking of caribou except by residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark’s Point, and Ekuk hunting under these regulations. The harvest quota, harvest limit, and the number of permits available will be announced by the Togiak National Wildlife Refuge Manager after consultation with the Alaska Department of Fish and Game and the Nushagak Peninsula Caribou Planning Committee. Successful hunters must report their harvest to the Togiak National Wildlife Refuge within 24 hours after returning from the field. The season may be closed by announcement of the Togiak National Wildlife Refuge Manager.</i>	<i>Aug. 1 – Sept. 30</i>
	<i>Dec. 1 – Mar. 31</i>

Proposed Federal Regulation

Unit 17A and 17C— Caribou

Units 17A and 17C – that portion of 17A and 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay – up to 23 caribou by Federal registration permit. Public lands are closed to the taking of caribou except by residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark’s Point, and Ekuk hunting under these regulations. The harvest quota, harvest limit, and the number of permits available will be announced by the Togiak National Wildlife Refuge Manager after consultation with the Alaska Department of Fish and Game and the Nushagak Peninsula Caribou Planning Committee. Successful hunters must report their harvest to the Togiak National Wildlife Refuge within 24 hours after returning from the field. The season may be closed by announcement of the Togiak National Wildlife Refuge Manager.

Aug. 1 – ~~Sept.~~ Mar. 31

~~Dec. 1 – Mar. 31~~

Existing State Regulation

Unit 17 - Caribou

Unit 17A, all drainages that terminate east of Right Hand Point—two caribou by permit *may be announced*

Unit 17C remainder—two caribou by permit *may be announced*

Extent of Federal Public Lands

Federal public lands comprise approximately 85% of the Nushagak Peninsula hunt area and are wholly located within Togiak National Wildlife Refuge (NWR) in portions of Unit 17A and 17C (**Unit 17 Map**).

Customary and Traditional Use Determinations

Residents of Units 9B, 17, Lime Village, and Stony River have a customary and traditional use determination for caribou in Unit 17 remainder. However, by regulation Federal public lands on the Nushagak Peninsula are closed to the harvest of caribou except by the residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark’s Point, and Ekuk.

Regulatory History

Caribou were reintroduced to the Nushagak Peninsula in 1988 and were intended to provide area residents with an important subsistence resource. (FWS, et. al. 1994). In 1994, Proposal P94-42 established a Jan. 1–Mar. 31 harvest season for the NPCH in portions of Units 17A and 17C, and instituted a closure to all users except residents of Togiak, Dillingham, Manokotak, Twin Hills, Aleknagik, Clark’s Point, and Ekuk (FSB 1994). The newly established season started on January 1, 1995. Prior to the Federal Subsistence Board’s (Board) action, there had been no harvest season for the reintroduced Nushagak caribou population. Special Action S95-06 extended the season from Jan. 1–Mar. 31 to Dec. 1–Mar. 31 for the 1995/1996 regulatory year. In 1996, the Board adopted P96-34 changing the caribou season from Jan. 1–Mar. 31 to Dec. 1–Mar. 31 and establishing a fall season Aug. 1 – Aug. 30 (FSB 1996). In 1997, the Board adopted Proposal P97-47, which increased the harvest limit from one to two caribou on the Nushagak Peninsula portions of Units 17A and 17C, as there was a harvestable surplus of caribou and the previous year’s harvest was well below the management objective (FSB 1997). In 1998, the Board approved Special Action S97-10, which extended the fall season from Aug. 1–Aug. 30 to Aug. 1–Sept. 30. This extension became permanent when the Board adopted Proposal P99-39 in 1999 (FSB 1999).

In 2001, the Board adopted Proposal WP01-18 to authorize use of a designated hunter permit. In 2003, the Board approved special action WSA03-01 reducing the harvest limit from 2 caribou to 1 caribou for the NPCH hunt and gave the Togiak NWR manager authority to close the season when harvest objectives are met. This action was taken to help prevent overharvest of the declining NPCH. In 2003, the Board adopted Proposal WP03-22 reducing the harvest limit from 2 caribou to 1 caribou; additionally the Board gave the Togiak NWR manager authority to close the season, and required reporting harvest within 24 hours after returning from the field. The modifications provided management flexibility and reduced the need for special actions and follow-up proposals.

Closure reviews were conducted in 2008 and 2012 (WCR08-07 and WCR12-07). The Bristol Bay Subsistence Regional Advisory Council (Council) unanimously recommended maintaining the closures during both reviews (BBSRAC 2009, 2013). The Council felt it was important to maintain this closure and that the NPCH were an important subsistence resource. Local residents were still having a difficult time finding moose and Mulchatna caribou, and in spite of an increasing NPCH population, maintaining this closure would provide a subsistence priority for this resource.

Special Action Request WSA15-02 was submitted by the Village of Manokotak in April of 2015 and requested a season extension to May 31 because of poor winter travel conditions and subsequent low caribou harvest. The Special Action was rejected by the Board primarily based on public safety concerns. There was a risk of individuals harvesting and consuming a caribou that was darted during a radio collaring project at the end of the hunting season which could have had negative health consequences. Subsistence users may have been exposed to a mix of drugs used to capture caribou if they ate recently darted animals. The drugs may have only been in a small percentage of individuals; however, there was risk in allowing harvest to occur when drugged individuals may have been harvested. If a drugged individual were to be harvested and meat was shared, the effects could have been dispersed among community members,

especially to those at greater risk such as the elderly and children. There was also concern related to cow caribou disturbance and harvest during the calving season.

Biological Background

Within the first 10 years following reintroduction, the Nushagak Peninsula Caribou Herd grew from 146 animals in 1988 to a peak of 1,399 caribou when counted in March 1998. During the next decade, calf recruitment and adult female survival decreased and the population declined to 462 caribou in 2007. The population then increased to 1,018 caribou by 2014. (Hinkes et al. 2005, Aderman 2015) (**Table 1**).

Table 1. Sex and age composition and minimum counts of Nushagak Peninsula caribou, southwest Alaska, 1988-2014 (Aderman 2015, Aderman 2015, pers. comm.).

Year	Bulls: 100 Cows	Calves: 100 Cows	Minimum Count of Herd Size
1988	11.7	10	146
1989	---	---	268
1990	---	---	383
1991	---	---	561
1992	59.8	71.6	734
1993	---	---	1,007
1994	71.3	64.6	1,106
1995	---	---	1,214
1996	---	---	1,255
1997	63.7	62.0	1,273
1998	57.4	62.6	1,281
1999	48.1	52.5	1,159
2000	51.5	38.1	1,037
2001	45.9	34.8	937
2002	42.9	36.1	810
2003	47.3	44.1	780
2004	42.5	33.8	665
2005	38.2	32.4	600
2006	31.3	35.6	550
2007	49.2	40.0	462
2008	43.8	59.6	575
2009	37.1	34.8	600
2010	42.1	45.2	801
2011	28.9	38.6	805
2012	52.0	50.2	902
2013	32.2	40.3	926
2014	43.8	52.5	1,018

The causes of the decline between 1999 and 2009 are not clearly understood and are almost certainly multi-factored (Aderman and Lowe 2012). The most likely explanation for the decline is that the exceptionally high growth through 1998 produced large annual cohorts of females that survived until a relative old age, at which time they declined in productivity. This high proportion of unproductive females, combined with high harvest years in 2001 and 2002, changed the population trajectory from an increasing trend to a decreasing trend, where it remained until the ultimate replacement of old, unproductive females with younger, more productive females. Changing nutritional conditions (both short-term, such as those associated with drought or winter icing; as well as longer-term changes, such as

lowered overall carrying capacity due to continuous grazing on the Nushagak Peninsula since 1988) underlay and exacerbated this decline, but were not likely the primary drivers. Wolf predation could have been a factor in the decline; however, a study of wolf predation from 2007–2011 found that wolf predation was not a primary driver of Nushagak Peninsula caribou population dynamics (Walsh and Woolington 2012, report in progress). Brown bears are common on the Nushagak Peninsula and likely have learned to exploit the caribou population, but their impact on the NPCH is not known (Aderman and Lowe 2012).

Since 2007, the population has increased due to improved fall calf recruitment and adult female survival (Aderman 2015). The most recent count was conducted in June 2014 and a minimum of 1,018 caribou were observed. This minimum count is above the upper end of the Nushagak Peninsula Caribou Management Plan’s population objective (to maintain a population range of 400–900 caribou and an optimum of 750 caribou) (Aderman 2015). The NPCH population has been trending upward since 2007 and is currently above the target population objective of 750 caribou (**Table 1**) (Aderman 2015).

Managers are concerned that continued growth of the herd may result in a population crash. Caribou harvest will need to increase substantially to prevent another population decline like that experienced in the late 1990s and early 2000s (Aderman 2015). Composition surveys are conducted for the NPCH in early to mid-October. Recent surveys estimated 32 bulls:100 cows and 40 calves:100 cows in 2013 and 44 bulls:100 cows and 53 calves:100 cows in 2014 (**Table 1**) (Aderman 2015, pers. comm.).

Harvest History

Reported harvest increased during the eight years after the season was established in 1994/1995 (**Table 2**). Unreported harvest can be high, similar to other rural areas in Alaska, and illegal take of NPCH has been documented (Aderman and Lowe 2012).

The original NPCH Management Plan set a harvest level of no more than 10 percent of the population when the population was over 600 caribou (FWS, et. al. 1994). In 2011, the Management Plan Committee (Committee) reviewed and updated the plans harvest strategy to make it more responsive to a dynamic caribou population. The updated strategy establishes an annual harvest goal based on population size and trend, and allows harvest when the population exceeds 200 caribou and is stable or increasing. The Committee also updated the population objective from 600 to 1,000 caribou to 400 to 900 caribou. The revised harvest strategy also calls for a liberal harvest when the population is 800 caribou or greater, and recommends harvesting all animals over a minimum count of 750 caribou (Aderman 2015). The Committee recommended that Federal registration permits be allocated to eligible communities based on a formula in which each community receives 5% of the total permits, plus additional permits based on a percentage of the aggregate participating communities.

Table 2. Reported harvest of caribou, by month, on the Nushagak Peninsula during regulatory years 1994/1995 to 2014/2015 (Aderman 2015; Aderman 2015, pers. comm.).

Regulatory year	Month							Total
	AUG	SEPT	DEC	JAN	FEB	MAR	Unknown	
1994/1995	NS ^a	NS	NS	3	1	25	6	35
1995/1996	NS	NS	3	0	5	43	1	52
1996/1997	5	NS	0	0	2	13	0	20
1997/1998	5	NS	0	2	25	35	0	67
1998/1999	0	2	0	0	0	50	3	55
1999/2000	0	0	0	2	7	54	0	63
2000/2001	0	6	0	0	22	98	0	126
2001/2002	0	3	0	0	9	115	0	127
2002/2003	3	0	0	0	0	0	0	3
2003/2004	2	3	0	0	0	29	0	34
2004/2005	1	0	0	0	0	8	0	9
2005/2006	1	1	0	0	0	9	0	11
2006/2007	NS	NS	NS	NS	0	NS	0	0
2007/2008	NS	NS	NS	NS	0	0	0	0
2008/2009	NS	NS	NS	NS	5	2	1	8
2009/2010	NS	NS	NS	NS	3	14	1	18
2010/2011	NS	NS	NS	NS	18	27	0	45
2011/2012	0	2	NS	NS	20	64	0	86
2012/2013	6	3	0	5	6	89	0	109
2013/2014	3	1	0	0	0	98	0	102
2014/2015	8	7	0	0	1	0	0	16
Total	34	28	3	12	124	773	12	986
% Total	3.4	2.8	0.3	1.2	12.6	78.4	1.2	-

^a NS = No season

Hunting effort is influenced by travel conditions, availability of and opportunity to harvest Mulchatna caribou and moose, and economic factors (Aderman and Lowe 2012). Most of the reported harvest has occurred in February and March (**Table 2**), because of improved hunter access to the herd via snowmachines (Aderman and Lowe 2012). Winter harvest in 2015 consisted of one male taken in February (Aderman 2015 pers. comm), and there was no reported harvest in March 2015 due to poor travel conditions as a result of low snowfall. Difficult travel conditions have limited the harvest in other years as well. As prescribed by the management plan, there were no fall hunts in 2006, 2007, and 2008 because the population was below 600 animals. There were a limited number of permits (five) available for the winter hunts in 2006/2007 and 2007/2008, but no harvest was reported (Aderman 2008, pers. comm.). Annual harvests have increased as the population has recovered (**Table 2**). In addition, the harvest limit was increased from one to two caribou beginning with the Feb. 1–Mar. 31, 2012 season (Aderman 2012, pers. comm.).

Effects of the Proposal

If these proposals are adopted, they would eliminate the current split season and add an additional 61 days of hunting opportunities for Federally qualified subsistence users, as well as increase the available harvest limit from 2 caribou to 3 caribou. The NPCH population is above the management objectives, and increasing harvest opportunities should help to slow the growth of the herd. Currently, managers are concerned that if the herd continues to grow it could result in a population crash and increased subsistence harvest opportunity is a tool to help prevent a crash.

OSM PRELIMINARY CONCLUSION

Support Proposal WP16-25 **with modification** to remove the regulatory language referencing harvest quotas, limits, and the number of permits available and delegate authority to determine the harvest quota, limit, and the number of permits to be issued via a delegation of authority letter (**Appendix 1**) and **Take no action** on Proposal WP16-26.

The modified regulation should read:

Unit 17A and 17C— Caribou

Units 17A and 17C – that portion of 17A and 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay – up to ~~23~~ caribou by Federal registration permit. Public are closed to the taking of caribou except by residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark’s Point, and Ekuk hunting under these regulations. ~~The harvest quota, harvest limit, and the number of permits available will be announced by the Togiak National Wildlife Refuge Manager after consultation with the Alaska Department of Fish and Game and the Nushagak Peninsula Caribou Planning Committee. Successful hunters must report their harvest to the Togiak National Wildlife Refuge within 24 hours after returning from the field. The season may be closed by announcement of the Togiak National Wildlife Refuge Manager.~~

Aug. 1 – ~~Sept. 30~~ Mar. 31

~~Dec. 1 – Mar. 31~~

Justification

Reported harvest from the past two years, has been substantially lower than the management objectives and quotas for caribou in the area covered by these proposals. Managers are concerned that continued growth of the herd may result in a population crash. Thus, failure to increase harvest opportunity could eventually present a conservation concern for this population. The NPCH is viable, growing and can sustain a longer season and increased harvest limit. Unsafe winter travel conditions have limited Federally qualified subsistence users’ opportunity to harvest caribou in some years. A longer season and increased harvest limit will provide Federally qualified subsistence users additional opportunity. Creation of a delegation of

authority letter for the Togiak National Wildlife Refuge Manager will help to clarify regulations and allow for hunt management flexibility through in-season adjustment of hunt parameters.

The two proposals, WP16-25 and WP16-26 request the same regulatory changes. The recommendation is to take no action on WP16-26 because that request can be fully addressed through action on WP16-25.

LITERATURE CITED

- Aderman, A. R. 2015. Wildlife biologist. Personal communication: phone, email. Togiak National Wildlife Refuge, FWS. Dillingham, AK.
- Aderman, A. R. 2015. Population monitoring and status of the Nushagak Peninsula Caribou Herd, 1988–2014. Unpublished report. Togiak National Wildlife Refuge, FWS. Dillingham, AK. 30 pages.
- Aderman, A. R. 2012. Wildlife biologist. Personal communication: email. Togiak National Wildlife Refuge, FWS. Dillingham, AK.
- Aderman, A. R., and S. J. Lowe. 2012. Population monitoring and status of the Nushagak Peninsula Caribou Herd, 1988–2011. Unpublished report. Togiak National Wildlife Refuge, FWS. Dillingham, AK. 29 pages.
- Aderman, A. R. 2008. Wildlife biologist. Personal communication: email. Togiak National Wildlife Refuge, FWS. Dillingham, AK.
- BBSRAC. 2009. Transcripts of the Bristol Bay Subsistence Regional Advisory Council proceedings, Apr. 1, 2009 in Anchorage, AK. Office of Subsistence Management, FWS. Anchorage, AK.
- BBSRAC. 2013. Transcripts of the Bristol Bay Subsistence Regional Advisory Council proceedings, Feb. 12, 2013 in Naknek, AK. Office of Subsistence Management, FWS. Anchorage, AK.
- FSB. 1994. Transcripts of Federal Subsistence Board proceedings, April 13, 1994. Office of Subsistence Management, FWS. Anchorage, AK.
- FSB. 1996. Transcripts of Federal Subsistence Board proceedings, April 30, 1996. Office of Subsistence Management, FWS. Anchorage, AK.
- FSB. 1997. Transcripts of Federal Subsistence Board proceedings, April 9, 1997. Office of Subsistence Management, FWS. Anchorage, AK.
- FSB. 1999. Transcripts of Federal Subsistence Board proceedings, May 5, 1999. Office of Subsistence Management, FWS. Anchorage, AK.
- FWS. 1994. Staff Analysis Proposal 42. Pages 335-341 *in* Federal Subsistence Board Meeting Materials April 11-15, 1994. Office of Subsistence Management, FWS. Anchorage, AK. 726 pages.
- FWS, ADF&G, and Nushagak Peninsula Caribou Planning Committee. 1994. Nushagak Peninsula Caribou Management Plan. Anchorage, AK. 9 pp.

Hinkes, T. H. et al. 2005. Influence of population growth on caribou herd identity, calving ground fidelity, and behavior. *Journal of Wildlife Management* 69:1147-1162.

Walsh, P., and J. Woolington. 2008. Temporal use of the Nushagak Peninsula by wolves, Togiak National Wildlife Refuge, southwest Alaska. Unpublished report. Togiak National Wildlife Refuge, FWS. Dillingham, AK. 19 pages.

Appendix 1

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

Dear Refuge Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the manager of the Togiak National Wildlife Refuge to issue emergency or temporary special actions if necessary to ensure the conservation of a healthy wildlife population, to continue subsistence uses of wildlife, for reasons of public safety, or to assure the continued viability of the population. This delegation only applies to the Federal public lands subject to Alaska National Interest Lands Conservation Act (ANILCA) Title VIII jurisdiction within that portion of Units 17A and 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay, for the management of caribou on these lands.

It is the intent of the Board that actions related to management of caribou by Federal officials be coordinated, prior to implementation, with the Alaska Department of Fish and Game (ADF&G), 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 managers from the State and other Federal agencies, the Council Chair, and applicable Council members to minimize disruption to subsistence resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

1. **Delegation:** The 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** below. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by Federal regulation at 36 CFR 242.19 and 50 CFR 100.19.

2. **Authority:** This delegation of authority is established pursuant to 36 CFR 242.10(d)(6) and 50 CFR 100.10(d)(6), which state: “The Board may delegate to agency field officials the authority to set harvest and possession limits, define harvest areas, specify methods or means of

harvest, specify permit requirements, and open or close specific fish or wildlife harvest seasons within frameworks established by the Board.”

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

- To determine the harvest quota and set the harvest limit, and determine the number of permits to be issued, for caribou on Federal public lands in Unit 17A and 17C— that portion consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay.

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

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

The Federal public lands subject to this delegated authority are those within Unit 17A and 17C— that portion consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay.

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

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

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

You may defer a special action request, otherwise covered by this delegation of authority, to the 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.

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

Sincerely,

Tim Towarak
Chair, Federal Subsistence Board

cc: Commissioner, Alaska Department of Fish and Game
Assistant Regional Director, Office of Subsistence Management
Deputy Assistant Regional Director, Office of Subsistence Management

Chair, Bristol Bay Subsistence Regional Advisory Council
Subsistence Council Coordinator, Office of Subsistence Management
Federal Subsistence Liaison Team Leader, Alaska Department of Fish and Game
Federal Subsistence Board
Interagency Staff Committee
Administrative Record

WP16–27/28 Executive Summary	
General Description	Proposal WP16–27/28 requests that the timeframe when the <i>Up to a 31-day season</i> for moose can be announced in Unit 17A be changed from Dec. 1–Jan. 31 to Dec. 1–end of Feb. and that the harvest limit be changed from up to 2 moose with no antler restrictions, to up to 2 moose with a limit of one antlered bull and one antlerless moose. <i>Submitted by Togiak Fish and Game Advisory Committee and Nushagak Fish and Game Advisory Committee.</i>
Proposed Regulation	<p>Units 17A—Moose</p> <p><i>Unit 17A – up to 2 moose (one antlered bull and one antlerless) by State registration permit</i> <i>Up to a 31-day season may be announced between Dec. 1–Jan. 31end of Feb.</i></p>
OSM Preliminary Conclusion	<p>Support Proposal WP16–27 with modification to specify the antler restrictions and Take no action on Proposal WP16-28.</p> <p>The modified regulation should read:</p> <p>Unit 17A—Moose</p> <p><i>Unit 17A – up to 2 moose; one antlered bull by State registration permit, one antlerless moose by State registration permit.</i> <i>Up to a 31-day season may be announced between Dec. 1–Jan. 31end of Feb.</i></p>
Bristol Bay Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	

WP16–27/28 Executive Summary	
ADF&G Comments	
Written Public Comments	None

**DRAFT STAFF ANALYSIS
WP16-27/28**

ISSUES

Proposal WP16-27, submitted by the Togiak Fish and Game Advisory Committee, and Proposal WP16-28, submitted by the Nushagak Fish and Game Advisory Committee, request that the timeframe when the *Up to a 31-day season* for moose can be announced in Unit 17A be changed from Dec. 1–Jan. 31 to Dec. 1–end of Feb. and that the harvest limit be changed from up to 2 moose with no antler restrictions, to up to 2 moose with a limit of one antlered bull and one antlerless moose.

DISCUSSION

This change would mirror State regulations and provide the Federal manager a longer window for the may-be-announced season to occur. With a longer window, the manager can be more adaptive by setting winter season dates in response to weather and travel conditions that can limit subsistence hunting opportunities. The proposed limit change is intended to keep the population healthy and productive by adjusting moose harvest limits.

Existing Federal Regulation

Unit 17A—Moose

Unit 17A – up to 2 moose by State registration permit

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

Proposed Federal Regulation

Unit 17A—Moose

Unit 17A – up to 2 moose (one antlered bull and one antlerless) by State registration permit

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

Existing State Regulation

Unit 17A—Moose

*Unit 17A – Two moose (one antlered bull and one antlerless) by permit may be announced available in person in Dillingham and Togiak, (up to a 31-day season may be announced Dec.-end of Feb.)**

Extent of Federal Public Lands

Federal public lands comprise approximately 87% of Unit 17A and consist entirely of U.S. Fish and Wildlife Service managed lands (**Unit 17 Map**).

Customary and Traditional Use Determinations

The Board has recognized the customary and traditional uses of moose by residents of Kwethluk in Unit 17A and Unit 17B, those portions north and west of a line beginning from the Unit 18 boundary at the northwestern end of Nenevok Lake, to the southern point of upper Togiak Lake, and northeast to the northern point of Nuyakuk Lake, northeast to the point where the Unit 17 boundary intersects the Shotgun Hills.

In Unit 17A, that portion north of Togiak Lake that includes Izavieknik River drainages, residents of Akiak and Akiachak have a positive customary and traditional use determination for moose.

In Unit 17A remainder, residents of Unit 17, Goodnews Bay and Platinum; excluding residents of Akiachak, Akiak, and Quinhagak, have a positive customary and traditional use determination for moose.

Regulatory History

The Federal Subsistence Board (Board) approved Special Action S97-03 in 1997 to open a temporary moose season from Aug. 20-Sept. 15 based on a healthy and growing population.

Special Action SW00-05 was approved by the Board to temporarily change regulations from *No Federal Open Season* to a season from Aug. 20-Sept. 15, 2000, with a one bull harvest limit by State registration permit because of the continued moose population growth.

In 2001, the Board approved Proposal WP01-20 with modification to establish a season aligned with the State season from Aug. 25-Sept. 15 and required a State registration permit for one bull.

Special Action WSA02-11, requesting a winter hunt, was approved by the Board with modification to require the use of a State registration permit for the Federal hunt. The Board adopted the request because of the robust moose population.

In 2004, Proposal WP04-46 was adopted by the Board and established a winter season of up to 14 days during the period of Dec. 1-Jan. 31 and required a State registration permit for the harvest of one bull in the portion of Unit 17A to the area east of the west shore of Nenevok Lake, west bank of the Kemuk River, and west bank of the Togiak River south from the confluence of the Togiak and Kemuk Rivers. The season could be opened or closed by the Togiak National Wildlife Refuge Manager after consultation with the Alaska Department of Fish and Game (ADF&G) and local users. The Board supported this action to minimize regulatory complexity and provide a greater opportunity for Federally qualified subsistence users to harvest moose in Unit 17A.

In 2012, the Board adopted Proposal WP12-40 to open all of Unit 17A to the winter moose hunt, because it limited complexity between Federal and State regulations and provided greater opportunity to harvest from an expanding moose population. The season and harvest limit remained unchanged from a winter season to be announced with a harvest limit of 1 antlered bull.

In February 2015, the Alaska Board of Game adopted Proposal 49 to change the harvest limit for the winter registration hunt in Unit 17A. That action changed the harvest limit from one bull and one antlerless moose to one antlered bull and one antlerless moose, and added the month of February to the possible 31 day hunt season, a season of up to 31 days which may be announced to occur between Dec. 1 and the end of February. These changes were made in response to an increasing moose population and concerns over a potential population crash, in addition to unpredictable travel conditions that occur during the winter hunting seasons. The harvest limit changes were intended to help keep the moose harvest within sustainable limits by providing additional protection for both cow and bull moose and to better achieve the desired population objective for the bull:cow ratio. The harvest limits would add that protection by reducing potential mistaken harvest of cows after the cow quota has been met and by reducing the potential harvest of large breeding bulls that may have dropped their antlers, shifting potential bull harvest to younger bulls that still carry antlers (ADF&G 2015).

Biological Background

Moose are relative newcomers to southwest Alaska and to Unit 17A, possibly migrating into the area from the middle Kuskokwim River drainages during the last century. Aerial surveys conducted in the 1980s and 1990s often resulted in less than 10 moose being observed in the unit (Woolington 2010). Local residents harvested moose opportunistically, but other species such as caribou, bears, and beaver were the main sources of wild meat in the area. ADF&G began collecting data on the moose population in 1971 and eventually established a minimum population objective of 300 moose and a target population of 1,100–1,750 for moose (Woolington 2010). The target objective has since been adjusted by refinement of the estimate of the moose winter habitat map that indicated a more realistic carrying capacity estimate of 900 to 1,350 moose (ADF&G, et. al. 2012).

Late-winter minimum counts for Unit 17A show an increase from 652 moose in 2002 to 1,166 moose in 2011 (**Table 1**). In the neighboring Goodnews River drainage (southern Unit 18), moose numbers increased from 2 in 2002 to 196 in 2011 (Aderman 2011, pers. comm.). Currently, the moose population in Unit 17A is increasing and is nearing the upper limit of the population objectives (ADF&G 2015).

A cooperative research effort between the Togiak National Wildlife Refuge and ADF&G in Unit 17A in 1998 resulted in 36 adult moose being collared. Aerial radio-tracking was conducted monthly for all moose and weekly for cows during the calving period. Annual calf production during 1998–2003 averaged 136.5 calves per 100 cows with an average twinning rate of 64.6 percent. Calf survival from birth to November averaged 52.7 percent and annual adult survival during the same period averaged 85.6 percent (FWS 2004). More recent data has shown an average annual calf production between 1998 and 2013 of 127.5 calves per 100 cows with an average twinning rate of 64.4% over the same period. Calf survival from birth to November during this time averaged 47.8%, with an average recruitment of approximately 63 calves per 100 cows (Aderman 2014). A May 2015 radio-tracking survey observed calf survival and recruitment both higher than long term averages (Aderman 2015 pers. comm.). Other composition data has not been collected recently, but bull:cow ratios have historically been high in all areas of Unit 17 (Woolington 2010).

Table 1. Moose population minimum counts from winter surveys in Unit 17A from 1991-2011 (Aderman 2014).

Unit 17A Moose Survey Results^a	
Year	Minimum Count
1991	4
1992	6
1993	-
1994	84
1995	136
1996	-
1997	234
1998	429
1999	511
2000	422
2001	471
2002	652
2003	-
2004	777
2005	-
2006	1023
2007	-
2008	1070
2009	-
2010	-
2011	1166

^a Surveys were not conducted in all years.

Harvest History

Between 2003 and 2014, fall harvest ranged from 7-40 moose, with an average harvest of 25 moose (**Table 2**). The average harvest during winter for this time period was 11 moose and ranged from 2-22 moose. For the same time period, the total harvest of both fall and winter hunts averaged 36 moose and ranged from 11-54 moose.

The State winter hunt is managed using a registration permit for an antlered bull and a separate permit for antlerless moose with a small quota (approximately 10 moose) for antlerless animals (ADF&G 2015). Marginal snow conditions in recent years have prevented hunters from accessing hunt areas with snowmachines which are the main means of transport during the winter moose season (ADF&G 2015).

Table 2. Moose harvest during fall and winter hunts in Unit 17A from 1997-2014 (Aderman 2015, pers. comm.; Barten 2015, pers. comm.; Woolington 2010)

Unit 17A Moose Harvest			
Year	Fall Harvest	Winter Harvest	Total Harvest
1997	15	-	15
1998	10	-	10
1999	10	-	10
2000	10	-	10
2001	7	-	7
2002	8	-	8
2003 ^a	7	4	11
2004	10	10	20
2005	21	3	24
2006	24	12	36
2007 ^b	32	9	41
2008	24	21	45
2009	29	2	31
2010	27	10	37
2011	28	22	50
2012	29	16	45
2013	22	12	34
2014 ^c	40	17	57

^a Winter hunt began in 2003. ^b Beginning in 2007, winter hunt included a western portion of Unit 17C. ^c Preliminary reported harvest for 2014.

Effects of the Proposal

If adopted, this proposal would add an extra month to the time frame in which the up to 31 day season could be announced should weather conditions dictate a later season opening. Expanding the range of possible season dates will provide greater flexibility to managers in setting seasons and may allow increased hunting opportunity to Federally qualified subsistence users when the travel conditions are more favorable.

If adopted, this proposal would also change the harvest limit from up to two moose with no antler restrictions, to up to two moose with a limit of only one antlered bull and only one antlerless moose. Federal and State moose regulations will be aligned which would reduce regulatory complexity for Federally qualified subsistence users, managers and law enforcement officers. Adoption of the proposed limit changes, will help managers keep the moose harvest within sustainable limits by providing additional protection for both cow and bull moose and to better achieve the desired population objective for the bull:cow ratio. The limits will help reduce potential mistaken harvest of cows after the cow quota has been

met. The limit changes will also reduce the potential harvest of large breeding bulls that have dropped their antlers while shifting potential bull harvest to younger bulls that still carry antlers.

OSM PRELIMINARY CONCLUSION

Support Proposal WP16-27 **with modification** to specify the antler restrictions and **Take no action** on Proposal WP16-28.

The modified regulation should read:

Unit 17A—Moose

*Unit 17A – up to 2 moose; **one antlered bull by State registration permit, one antlerless moose by State registration permit.***

*Up to a 31-day season may be announced between Dec. 1–~~Jan.~~
~~3~~**end of Feb.***

Justification

The moose population in Unit 17A is healthy, continuing to increase in numbers, and is expanding westward into Unit 18. Adoption of the proposal's limit changes, will help managers keep the moose harvest within sustainable limits by providing additional protection for both cow and bull moose and to better achieve the desired population objective for the bull:cow ratio. The limits will help reduce potential mistaken harvest of cows after the cow quota has been met. The limit changes will also reduce the potential harvest of large breeding bulls that have dropped their antlers while shifting potential bull harvest to younger bulls that still carry antlers. The modified regulation would clarify that the harvest limit is set at two moose though only one may be an antlered bull and the other would have to be an antlerless moose. In addition, by adopting the modified proposal, Federal and State Unit 17A moose regulations will be aligned which would reduce regulatory complexity for Federally qualified subsistence users, managers and law enforcement officers.

The proposal will add an extra month to the time frame in which the up to 31 day season could be announced, should the weather conditions dictate a later season opening. Expanding the range of possible season dates will provide greater flexibility to managers in setting seasons and may allow increased hunting opportunity to Federally qualified subsistence users when the travel conditions are more favorable.

The two proposals, WP16-27 and WP16-28 request the same regulatory changes. The recommendation is to take no action on WP16-28 because that request can be fully addressed through action on WP16-27.

LITERATURE CITED

Aderman, A.R. 2015. Wildlife Biologist. Personal communication: phone, email. Togiak National Wildlife Refuge, Dillingham, AK.

Aderman, A.R. 2011. Wildlife Biologist. Personal communication: email. Togiak National Wildlife Refuge, Dillingham, AK.

Aderman, A.R. 2014. Monitoring moose demographics at Togiak National Wildlife Refuge, southwestern Alaska, 1998 – 2013. Progress Report. Togiak National Wildlife Refuge and Alaska Department of Fish and Game, Dillingham, AK. 25 pp.

ADF&G, Togiak Advisory Committee, Nushagak Advisory Committee, Bristol Bay Subsistence Regional Advisory Council and Togiak National Wildlife Refuge. 2012. Draft moose management plan for game management Unit 17A, Dec. 21, 2012. Dillingham, AK. 7pp.

ADF&G. 2015. Alaska Board of Game. Proposal book, Feb. 13 – 20, 2015. Proposal 49. Wasilla, AK.

Barten, N. L. 2015. Area Wildlife Biologist. Personal communication: email. ADF&G, Dillingham, AK.

FWS. 2004. Staff Analysis WP04-45. Pages 353–362 *in* Federal Subsistence Board Meeting Materials May 18–May 21, 2004. Office of Subsistence Management, FWS. Anchorage, AK. 834 pages.

Woolington, J.D. 2010. Unit 17 moose management report. Pages 248–270 *in* P. Harper, editor. Moose management report of survey and inventory activities 1 July 2007–30 June 2009. Alaska Department of Fish and Game. Project 1.0. Juneau, AK.

WP16–29/30 Executive Summary	
General Description	<p>Proposal WP16–29/30 requests that the caribou seasons in Unit 9B and portions of Unit 17 be extended from Aug. 1 – Mar. 15 to Aug. 1 – Mar. 31.</p> <p><i>Submitted by Nushagak Fish and Game Advisory Committee and Togiak Fish and Game Advisory Committee.</i></p>
Proposed Regulation	<p>Unit 9—Caribou</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.</i></p> <p style="text-align: right;"><i>Aug. 1-Mar. 1531</i></p> <p>Unit 17—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.</i></p> <p style="text-align: right;"><i>Aug. 1-Mar. 1531</i></p> <p><i>Unit 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.</i></p> <p style="text-align: right;"><i>Season may be announced between Aug. 1-Mar. 1531</i></p> <p><i>Unit 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 may be taken Aug. 1-Jan. 31.</i></p> <p style="text-align: right;"><i>Aug. 1-Mar. 1531</i></p>
OSM Preliminary Conclusion	<p>Support with modification to remove regulatory language referencing season openings and closures, harvest limits and hunt areas and delegate</p>

WP16–29/30 Executive Summary	
	<p>authority to the Togiak National Wildlife Refuge Manager to determine the season, harvest limits and hunt areas via a delegation of authority letter and Take no action on Proposal WP16-30.</p> <p>The modified regulation should read:</p> <p>Unit 9—Caribou</p> <p><i>Unit 9B— 2 caribou by State registration permit; Aug. no more than 1 caribou may be a bull, and no 1-Mar. 1531 more than 1 caribou may be taken Aug. 1-Jan. 31.</i></p> <p>Unit 17—Caribou</p> <p><i>Unit 17A all drainages west of Right Hand Aug. Point— 2 caribou by State registration permit; no 1-Mar. 1531 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.</i></p> <p><i>Unit 17A remainder and 17C remainder— Season may be selected drainages; a harvest limit of up to 2 announced caribou by State registration permit will be between Aug. determined at the time the season is 1-Mar. 1531 announced. Season, harvest limit, and hunt area to be announced by the Togiak National Wildlife Refuge Manager.</i></p> <p><i>Unit 17B and 17C— that portion of 17C east of Aug. the Wood River and Wood River Lakes— 2 1-Mar. 1531 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></p>
Bristol Bay Regional Advisory Council Recommendation	
Yukon-Kuskokwim Delta Regional Advisory Council Recommendation	

WP16–29/30 Executive Summary	
Western Interior Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

**DRAFT STAFF ANALYSIS
WP16-29/30**

ISSUES

WP16-29, submitted by the Nushagak Fish and Game Advisory Committee, and WP16-30, submitted by the Togiak Fish and Game Advisory Committee, request that the caribou seasons in Unit 9B and portions of Unit 17 be extended from Aug. 1 – Mar. 15 to Aug. 1 – Mar. 31.

DISCUSSION

The proponent states that this change would allow Federally qualified subsistence hunters a slightly longer season in which to harvest the Mulchatna Caribou Herd (MCH) on Federal public lands within Unit 9B and in portions of Unit 17. In addition, the proponent states that this change would mirror State regulations and reduce regulatory complexity for subsistence users.

Existing Federal Regulation

Unit 9—Caribou

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 17—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

Unit 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 between Aug. 1-Mar. 15

Unit 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

Proposed Federal Regulation**Unit 9—Caribou**

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. ~~1531~~

Unit 17—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. ~~1531~~

Unit 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 between Aug. 1-Mar. ~~1531~~

Unit 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 may be taken Aug. 1-Jan. 31. Aug. 1-Mar. ~~1531~~

Existing State Regulation**Unit 9—Caribou**

Unit 9B— 2 caribou by permit. No more than one bull may be taken; no more than one caribou may be taken Aug. 1-Jan. 31. Aug. 1-Mar. 31

Unit 17—Caribou

Unit 17A— all drainages that terminate east of Right May be announced

Hand Point— 2 caribou by permit.

Unit 17A remainder, 17B and 17C— east of the east banks of the Wood River, Lake Aleknagik, Agulowak River, Lake Nerka and the Agulukpak River— 2 caribou by permit; no more than one bull may be taken; no more than one caribou may be taken from Aug. 1-Jan.31.

Aug. 1-Mar. 31

Unit 17C remainder— 2 caribou by permit.

May be announced

Extent of Federal Public Lands

Federal public lands comprise approximately 44% of Unit 9B and consist of 26% National Park Service (NPS) managed lands and 18% Bureau of Land Management (BLM) managed lands (**Unit 9 Map**).

Federal public lands comprise approximately 28% of Unit 17 and consist of 21% U.S. Fish and Wildlife Service (FWS) managed lands, 4% BLM managed lands and 3% NPS managed lands (**Unit 17 Map**).

Customary and Traditional Use Determinations

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

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 Goodnews Bay, Platinum, Quinhagak, Eek, Tuntutuliak, and Napakiak have a customary and traditional use determination for caribou.

In Unit 17A— that portion north of Togiak Lake that includes Izavieknik River drainages— residents of Akiak, Akiachak, and Tuluksak have a customary and traditional use determination for caribou.

Residents of Kwethluk have a customary and traditional use determination for caribou in Units 17A and 17B— those portions north and west of a line beginning from the Unit 18 boundary at the northwestern 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.

In Unit 17B—that portion of Togiak National Wildlife Refuge within Unit 17B—residents of Bethel, Goodnews Bay, Platinum, Quinhagak, Eek, Akiak, Akiachak, Tuluksak, Tuntutuliak, and Napakiak have a customary and traditional use determination for caribou.

In Unit 17 remainder, residents of Units 9B, 17, Lime Village, and Stony River have a customary and traditional use determination for caribou.

Regulatory History

State and Federal regulations for the MCH were liberalized during the dramatic population increase that occurred in the 1990s. Numerous modifications were made to the Federal subsistence regulations for various management units as the MCH population increased and expanded into new range. In 1994, the Federal Subsistence Board (Board) adopted P94-35 that changed the limit from 4 to 5 caribou and no more than 2 bulls. In 1997, by adopting P97-45, the Board removed the no more than 2 bull restriction.

Following a population decline, the season and harvest limit regulations became more restricted 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 from Aug. 1–Jan. 31.

In 2007, the 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 to three caribou due to the large population decline.

In March 2009, the Alaska Board of Game adopted Proposal 57 that 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 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 Mar. 15 for all units, including the remainder of Units 17A and 17C, and also adopted Proposal WP10-53 as submitted. In addition, Proposal WP10-60, which requested the harvest limit for caribou in Unit 18 be reduced from three to two caribou, was adopted by the Board with modification to include restriction harvest limit of one bull 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 2012, the Board adopted Proposal WP12-42 with modification to maintain the two caribou harvest limit, but changed the harvest season to Aug. 1–Sept. 30 and Dec. 20– to the last day of February in that 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 were still able to harvest caribou from Aug. 1–Mar. 15 throughout Unit 18 under State regulations.

Wildlife Special Action WSA11-10/11 was submitted by the Yukon Delta National Wildlife Refuge in February 2012. WSA11-10 requested a two week season reduction for caribou in Unit 18, 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 March 1, 2012. The Board rejected these 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 adjustments to season dates and harvest limits, while also helping to assess the response of the caribou population 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.

The Association of Village Council Presidents submitted Temporary Special Action WSA13-03 in 2013 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 population was still within State management objectives with composition data improving as well.

In 2014, the Board adopted Proposal WP14-22 with modification requiring hunters in Units 9A, 9B, 9C, 17A, 17B, 17C, 18, 19A, and 19B to use a State registration permit to provide better and more timely harvest reporting. Unit specific regulatory language found in portions of Units 17A and 17C was removed and a delegation of authority letter was issued to the Togiak National Wildlife Refuge Manager for specific in-season management authorities that included: open and close the season and set the harvest limit, including any sex restrictions for caribou on Federal public lands in Unit 17A—all drainages west of Right Hand Point; and, open and close the season, set the harvest limit and identify the hunt area for the may-be-announced season in Units 17A remainder and 17C remainder.

In February 2015, the Alaska Board of Game adopted Proposal 47 to extend the caribou season by two weeks in Units 9B and 17, with a season end date of Mar. 31. The proponent cited that in some years, poor weather and difficult travel conditions prevented hunters from utilizing the full Aug. 1-Mar. 15 season and sometimes caribou were only available in the last few days of March. Caribou is a highly valued food source for Nushagak River villages and members of those villages have often requested season extensions.

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, 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 population 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). In 2009, the population objective was reduced to 30,000–80,000 caribou, which was thought to be more realistic for the herd (ADF&G 2009). Harvest objectives were also reduced 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 herd 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. A 2008 photo census provided a minimum count of 30,000 caribou, which is as the low end of the State's population objective (**Table 1**) (Woolington 2012). A recent presentation to the Alaska Board of Game suggested the population may now be around 26,000 caribou (Barten 2015). 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).

Estimated bull:cow ratios have been below the management objective since 2001, but recent composition surveys have shown some improvement (**Table 1**). The proportion of bulls classified as large during 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 pregnant 2- and 3-year old cows increased in 2013 and calf weights have been good, suggesting that 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 (**Figures 1 and 2**). Fall 2014 composition counts found that the bull:cow ratio met the management objective and calf:cow ratios were at management objectives in two of the past three years (Barten 2015). Data from 2011-2013 shows that calf survival is high (76% avg.) in the Kemuk Mountain area (western portion), which has an active intensive management program for wolves, while calf survival is lower (50% avg.) in the Tundra Lake area (eastern portion), which has no active intensive management (Barten 2015). Wolf removal under intensive management is planned to continue during spring of 2015. 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).

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	bulls	bulls	Bulls			
	<u>100</u>	<u>100</u>	<u>(%)</u>	<u>(%)</u>	<u>(% of</u>	<u>(% of</u>	<u>(% of</u>	<u>(%)</u>	<u>size</u>	<u>size</u>
	<u>cows</u>	<u>cows</u>			<u>bulls)</u>	<u>bulls)</u>	<u>bulls)</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.

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

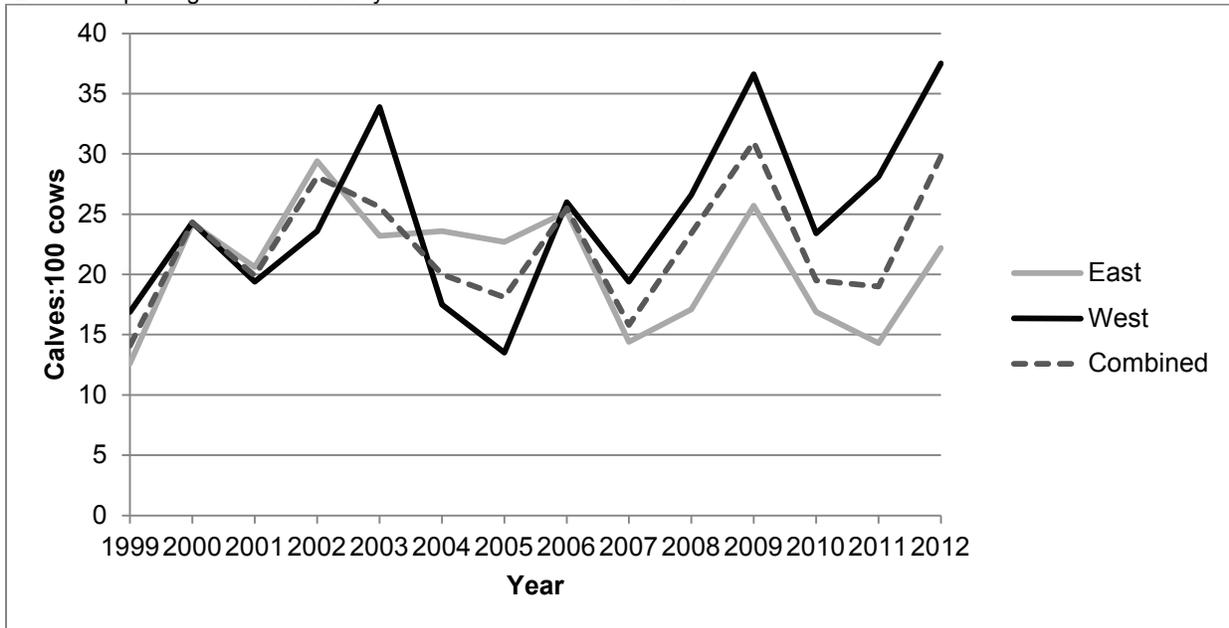


Figure 1. Calf:cow ratio estimates for the Mulchatna Caribou Herd during fall (October) population composition surveys (Woolington 2012). Surveys were conducted on the east (Unit 17B and the eastern portion of Unit 19B) and west (Unit 18 and the western portion of Unit 19B) sides of the herd’s range.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

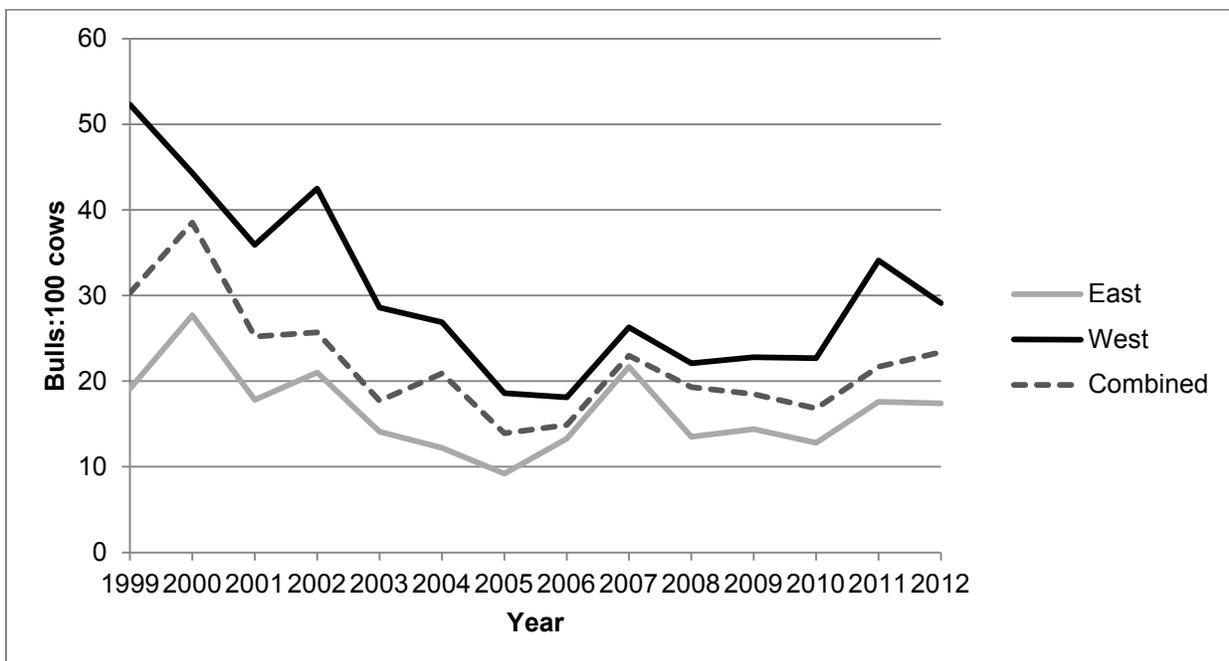


Figure 2. Bull:cow ratio estimates for the Mulchatna Caribou Herd during fall (October) population composition surveys (Woolington 2012). Surveys were conducted on the east (Unit 17B and the eastern portion of Unit 19B) and west (Unit 18 and the western portion of Unit 19B) sides of the herd’s range.

Combined composition data also includes survey data from Units 19A and 17C and a small group of caribou in the upper Tikchik River basin.

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 within the range of the MCH 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) declined significantly 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). Harvest of the MCH over the past five years has averaged 347 animals per year (Barten 2015).

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

Effects of the Proposal

If adopted, the proposal will lengthen the caribou season in Unit 9B and Unit 17 by 16 days providing Federally qualified subsistence users additional opportunity to harvest caribou. Poor weather and difficult winter travel conditions often limit hunting opportunity and the added season length will provide more opportunities for subsistence users. The current harvest objective is 2,400 to 8,000 caribou. Recent reported harvest averaged 347 animals over the past 5 years and an increase in harvest is possible with a longer season. The proposed regulatory change will reduce regulatory complexity between State and Federal regulations.

OSM PRELIMINARY CONCLUSION

Support Proposal WP16-29 **with modification** to remove regulatory language referencing season openings and closures, harvest limits and hunt areas and delegate authority to the Togiak National Wildlife Refuge Manager to determine the season, harvest limits and hunt areas via a delegation of authority letter (**Appendix 1**) and **Take no action** on Proposal WP16-30.

The modified regulation should read:

Unit 9—Caribou

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. ~~1531~~

Unit 17—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. ~~1531~~

Unit 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 between Aug. 1-Mar. ~~1531~~

Unit 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. 31

Justification

Fall composition counts have shown that objectives were met for calves in two of the past three years and suggest improved herd recruitment. In 2014, the bull:cow ratio was met suggesting there are surplus bulls available for harvest. Poor weather and difficult winter travel conditions often limit hunting opportunity and the added season length will provide more options for subsistence users. Lengthening the season from Aug. 1- Mar. 15 to Aug. 1-Mar. 31 will provide Federally qualified subsistence users 16 additional days of harvest opportunity for caribou. Harvest by non-Federally qualified subsistence users has decreased substantially and there is no nonresident caribou season in these units. Recent reported harvest averaged 347 animals over the past 5 years which is well below the State's current harvest objective of 2,400 to 8,000 caribou and the MCH should be able to withstand the additional harvest by Federally qualified subsistence users should this proposal be adopted. The proposed regulatory change will reduce complexity between State and Federal regulations.

The two proposals, WP16-29 and WP16-30 request the same regulatory changes. The recommendation is to take no action on WP16-30 because that request can be fully addressed through action on WP16-29.

LITERATURE CITED

- ADF&G. 2009. Alaska Board of Game. Proposal book, Feb. 27 – Mar. 9, 2009. Proposal 55. Anchorage, AK.
- Barten, N.L. 2015. Area Wildlife Biologist. Unit 17-Area Overview, presentation to Alaska Board of Game, Feb. 13-20, 2015. ADF&G. Wasilla, AK.
- Butler, L. 2013. Fish and Game Coordinator. Personal communication: email. ADF&G. Palmer, AK.
- FSB. 2012. Transcripts of Federal Subsistence Board proceedings, January 18, 2012. Office of Subsistence Management, FWS. Anchorage, AK.
- OSM. 2013. Federal Subsistence Management Program harvest database; accessed July 2013.
- Taylor, K.P. 1989. Mulchatna caribou survey and inventory report. Pages 3–6 in S. Morgan, ed. Annual report of survey-inventory activities. Vol. XVIII. Part XI. Progress Report, Project W-22-6. Job 3.0. ADF&G. Juneau, AK.
- Van Daele, L.J and T. Boudreau. 1992. Caribou use of the proposed Cominco Pebble Copper Mine Site, Iliamna Lake, Alaska. Unpublished report to Cominco Exploration-Alaska by ADF&G. Dillingham, AK. 19 pp.
- Woolington, J.D. 2012. Mulchatna caribou herd composition count. Unpublished report. ADF&G. Dillingham, AK. 6 pages.

Woolington, J.D. 2011a. Mulchatna caribou herd composition count. Unpublished report. ADF&G. Dillingham, AK. 6 pages.

Woolington, J.D. 2011b. Mulchatna caribou management report, Units 9B, 17, 19 south, 19A & 19B. Pages 11-32 in P. Harper, editor. Caribou management report of survey and inventory activities 1 July 2008-30 June 2010. ADF&G. Juneau, AK.

Woolington, J.D. 2009. Mulchatna caribou management report, Units 9B, 17, 18 south, 19A & 19B. Pages 11–31 in P. Harper, editor. Caribou management report of survey and inventory activities 1 July 2006–30 June 2008. ADF&G. Juneau, AK.

Woolington, J.D. 2007. Mulchatna caribou management report, Units 9B, 17, 18 south, 19A & 19B. Pages 14–32 in P. Harper, editor. Caribou management report of survey and inventory activities 1 July 2004–30 June 2006. ADF&G. Juneau, AK.

Woolington, J.D. 2003. Mulchatna caribou management report. Pages 34–52 in C. Healy, editor. Caribou management report of survey and inventory activities 1 July 2000–30 June 2002. ADF&G. Juneau, AK.

Woolington, J.D. 2001. Mulchatna management report. Pages 23–38 in C. Healy, editor. Caribou management report of survey and inventory activities 1 July 1998–30 June 2000. ADF&G. Federal Aid in Wildlife Restoration Grants W-27-2, W-27-3. Proj. 3.0 Juneau, AK.

Appendix 1

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

Dear Refuge Manager:

This letter delegates specific regulatory authority from the Federal Subsistence Board (Board) to the manager of the Togiak National Wildlife Refuge to issue emergency or temporary special actions if necessary to ensure the conservation of a healthy wildlife population, to continue subsistence uses of wildlife, for reasons of public safety, or to assure the continued viability of the population. This delegation only applies to the Federal public lands subject to Alaska National Interest Lands Conservation Act (ANILCA) Title VIII jurisdiction within all drainages west of Right Hand Point in Unit 17A and Units 17A remainder and 17C remainder for the management of caribou on these lands.

It is the intent of the Board that actions related to management of caribou by Federal officials be coordinated, prior to implementation, with the Alaska Department of Fish and Game (ADF&G), 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 managers from the State and other Federal agencies, the Council Chair, and applicable Council members to minimize disruption to subsistence resource users and existing agency programs, consistent with the need for special action.

DELEGATION OF AUTHORITY

1. Delegation: The 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** below. Any action greater than 60 days in length (temporary special action) requires a public hearing before implementation. Special actions are governed by Federal regulation at 36 CFR 242.19 and 50 CFR 100.19.

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

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

- To open and close the season and set the harvest limit, including any sex restrictions, 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 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 caribou populations, to continue

subsistence uses, for reasons of public safety, or to assure the continued viability of the population.

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

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

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

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

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

You may defer a special action request, otherwise covered by this delegation of authority, to the 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.

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

Sincerely,

Tim Towarak
Chair, Federal Subsistence
Board

cc: Commissioner, Alaska Department of Fish and Game
Assistant Regional Director, Office of Subsistence Management
Deputy Assistant Regional Director, Office of Subsistence Management
Chair, Bristol Bay Subsistence Regional Advisory Council
Subsistence Council Coordinator, Office of Subsistence Management
Federal Subsistence Liaison Team Leader, Alaska Department of Fish and Game
Federal Subsistence Board
Interagency Staff Committee
Administrative Record

WP16-31/32 Executive Summary	
General Description	Requests a change in Federal subsistence regulations to allow same day airborne harvest of Nushagak Peninsula caribou during the winter hunt, Jan. 1 – Mar. 31. <i>Submitted by the Nushagak Advisory Committee and the Togiak Advisory Committee, respectively.</i>
Proposed Regulation	_.26(b)(16) Take or assist in the taking of an ungulate, bear, wolf, wolverine, or other furbearer before 3:00 a.m. following the day in which airborne travel occurred (except for flights in regularly scheduled commercial aircraft). This restriction does not apply to subsistence taking of deer (except within NPS areas) and of caribou on the Nushagak Peninsula (a portion of Units 17A and 17C) during Jan. 1 – Mar. 31, provided the hunter is 300 feet from the airplane, the setting of snares or traps, or the removal of furbearers from traps or snares.
OSM Preliminary Conclusion	Support
Bristol Bay Subsistence Regional Advisory Council Recommendation	
Yukon–Kuskokwim Delta Subsistence Regional Advisory Council Recommendation	
Western Interior Alaska Subsistence Regional Advisory Council Recommendation	
Interagency Staff Committee Comments	
ADF&G Comments	
Written Public Comments	None

**DRAFT STAFF ANALYSIS
WP16-31/32**

ISSUE

Proposals WP16-31/32, submitted by the Nushagak Advisory Committee and the Togiak Advisory Committee, respectively, request a change in Federal subsistence regulations to allow same day airborne harvest of Nushagak Peninsula caribou during the winter hunt, Jan. 1 – Mar. 31.

DISCUSSION

The proponents state that allowing same day airborne subsistence harvest of the Nushagak Peninsula caribou herd in Unit 17 would provide more opportunity for Federally qualified subsistence users during the winter hunt season. The proponents state that aircraft have traditionally been used to harvest resources in the Bristol Bay area and more recent harvests of Nushagak Peninsula animals have been below harvest objectives due in large part to poor snow cover in the winter. Both proponents state that allowing same day airborne harvesting would not impact the herd as harvest is controlled by permits issued, not by means of access. Proposals WP16-31/32 can be considered in tandem with WP-25/26 as both concern and impact the Nushagak Peninsula caribou herd.

Existing Federal Regulation

Unit 17A and 17C— Caribou

<i>Units 17A and 17C – that portion of 17A and 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay – up to 2 caribou by Federal registration permit. Public lands are closed to the taking of caribou except by residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark’s Point, and Ekuk hunting under these regulations. The harvest quota, harvest limit, and the number of permits available will be announced by the Togiak National Wildlife Refuge Manager after consultation with the Alaska Department of Fish and Game and the Nushagak Peninsula Caribou Planning Committee. Successful hunters must report their harvest to the Togiak National Wildlife Refuge within 24 hours after returning from the field. The season may be closed by announcement of the Togiak National Wildlife Refuge Manager.</i>	<i>Aug. 1 – Sept. 30</i>
	<i>Dec. 1 – Mar. 31</i>

Subsistence Restrictions

_.26(b)(16) Take or assist in the taking of an ungulate, bear, wolf, wolverine, or other furbearer before 3:00 a.m. following the day in

which airborne travel occurred (except for flights in regularly scheduled commercial aircraft). This restriction does not apply to subsistence taking of deer (except within NPS areas), the setting of snares or traps, or the removal of furbearers from traps or snares.

Proposed Federal Regulation

Unit 17A and 17C— Caribou

<p><i>Units 17A and 17C – that portion of 17A and 17C consisting of the Nushagak Peninsula south of the Igushik River, Tuklung River and Tuklung Hills, west to Tvativak Bay – up to 2 caribou by Federal registration permit. Public lands are closed to the taking of caribou except by residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark’s Point, and Ekuk hunting under these regulations. The harvest quota, harvest limit, and the number of permits available will be announced by the Togiak National Wildlife Refuge Manager after consultation with the Alaska Department of Fish and Game and the Nushagak Peninsula Caribou Planning Committee. Successful hunters must report their harvest to the Togiak National Wildlife Refuge within 24 hours after returning from the field. The season may be closed by announcement of the Togiak National Wildlife Refuge Manager.</i></p>	<p><i>Aug. 1 – Sept. 30</i></p> <p><i>Dec. 1 – Mar. 31</i></p>
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Subsistence Restrictions

*_.26(b)(16) Take or assist in the taking of an ungulate, bear, wolf, wolverine, or other furbearer before 3:00 a.m. following the day in which airborne travel occurred (except for flights in regularly scheduled commercial aircraft). This restriction does not apply to subsistence taking of deer (except within NPS areas) **and of caribou on the Nushagak Peninsula (a portion of Units 17A and 17C) during Jan. 1 – Mar. 31, provided the hunter is 300 feet from the airplane, the setting of snares or traps, or the removal of furbearers from traps or snares.***

Existing State Regulation

Methods and Means:

- (8) a person who has been airborne may not take or assist in taking a big game animal until after 3:00 a.m. following the day in which the flying occurred; however, this paragraph does not apply to*
 - (A) taking deer;*
 - (B) repealed 7/1/92;*

- (C) a person flying on a regularly scheduled commercial airline, including a commuter airline;*
- (D) taking caribou from January 1 through April 15, in Unit 22 if the hunter is at least 300 feet from the airplane at the time of taking;*
- (E) repealed 7/1/2009;*
- (F) repealed 7/1/2008;*
- (G) a hunter taking a bear at a bait station with the use of bait or scent lures with a permit issued under 5 AAC 92.044, and if the hunter is at least 300 feet from the airplane at the time of taking;*

Extent of Federal Public Lands

Federal public lands comprise approximately 87% of Unit 17A and consist entirely of Togiak National Wildlife Refuge managed lands. Federal public lands comprise approximately 26% of Unit 17C and consist of 15% U.S. Fish and Wildlife Service (USFWS) managed lands and 11% Bureau of Land Management (BLM) managed lands (**Unit 17 Map**).

Customary and Traditional Use Determinations

Residents of Units 9B, 17, Lime Village, and Stony River have a customary and traditional use determination for caribou in Unit 17; however, by regulation, Federal public lands on the Nushagak Peninsula are closed to the harvest of caribou except by the residents of Togiak, Twin Hills, Manokotak, Aleknagik, Dillingham, Clark's Point, and Ekuk.

Regulatory History

Caribou were reintroduced to the Nushagak Peninsula in 1988 and were intended to provide area residents with an important subsistence resource (FWS 1994). In 1994, the Federal Subsistence Board (Board) adopted Proposal P94-42, which established a Jan. 1–Mar. 31 harvest season on the NPCH in portions of Units 17A and 17C, and instituted a closure to all users except residents of Togiak, Dillingham, Manokotak, Twin Hills, Aleknagik, Clark's Point, and Ekuk (FSB 1994). As justification, the Board recognized the growth of the herd since reintroduction and that it was approaching the carrying capacity for their range and could now support a limited and local subsistence harvest. The seven resident villages were recognized for their participation in the reintroduction and management planning for the herd. Prior to the Board action, there had been no harvest season for the Nushagak caribou population.

Special Action S95-06 extended the season from Jan. 1–Mar. 31 to Dec. 1–Mar. 31 for the 1995/1996 regulatory year. When the Board adopted Proposal P96-34 in 1996, the season extension was adopted into Federal regulations and a fall season (Aug. 1 – Aug. 30) was established in the affected area (FSB 1996).

In 1997, the Board adopted Proposal P97-47, which increased the harvest limit from one to two caribou on the Nushagak Peninsula portions of Units 17A and 17C, as there was a harvestable surplus of caribou and the previous year's harvest was well below the management objective (FSB 1997).

In 1998, the Board approved Special Action S97-10, which extended the fall season from Aug. 1–Aug. 30 to Aug. 1–Sept. 30, and this extension became permanent when the Board adopted Proposal P99-39 in 1999 (FSB 1999).

In 2001, the Board adopted Proposal WP01-18 to authorize use of a designated hunter permit. Special Action WSA03-01 reduced the harvest limit from 2 caribou to 1 caribou for the NPCH hunt and gave the Togiak National Wildlife Refuge (TNWR) Manager authority to close the season when harvest objectives have been met.

The Board adopted Proposal WP03-22 in 2003 with modification to change the harvest limit from 2 caribou to up to 2 caribou. It also gave the Togiak NWR manager authority to close the season, and required reporting harvest within 24 hours after returning from the field. The modifications allowed management flexibility and reduced the need for special actions and follow-up proposals.

Closure reviews were conducted in 2008 and 2012 (WCR08-07 and WCR12-07). The Bristol Bay Subsistence Regional Advisory Council (Council) unanimously recommended maintaining the closures during both reviews (BBSRAC 2009, 2013). Local residents were still having a hard time finding moose and Mulchatna caribou, so in spite of an increasing NPCH population, maintaining this closure was still important to help subsistence hunters harvest this important resource.

Special Action WSA15-02 was submitted by the Village of Manokotak in April of 2015 and requested a season extension to May 31 because of poor winter travel conditions and subsequent low caribou harvest. The Special Action was rejected by the Board primarily on the basis of public health concerns because of a risk of consuming caribou that were darted during a radio collaring project at the end of the hunting season. There was also concern over disturbance to cow caribou during the calving season.

Proposals to change Federal regulation to allow same day airborne subsistence harvest of Nushagak Peninsula caribou have been submitted to the Board before. In 1997 the Nushagak Peninsula Caribou Planning Committee submitted Proposal 48 requesting authorization of same day air-borne hunting of caribou on the Nushagak Peninsula. The Council members were split evenly on the issue and the proposal was not supported. It was recommended the proposal be resubmitted for the 1998-99 regulatory cycle. The following year Proposal 56 was submitted by Robert Heyano of Dillingham. The Board rejected Proposal 48 at its April, 1997 meeting and rejected Proposal 56 at its May, 1998 meeting on recommendation from the Council.

Proposals 48 and 56 both cited the customary use of airplanes for harvesting wildlife in Bristol Bay as predating that of snow machines (prior to the States passage of the Airborne Hunting Act by 1972). Both proposals emphasized the rapid growth of the herd and the low subsistence harvests which, the claimant's state, are due in part to low snow pack and poor land based transportation options. The Board rejected both Proposals due to concerns over exposing the herd to harassment that may increase the harvest effort required by snow machine hunters, that airborne harvest, employed by rural residents with access to aircraft, will provide a huge advantage over those rural residents without aircraft, and that some local residents and the Bristol Bay Native Association (representing 30 villages in the region) opposed the proposal.

Cultural Knowledge and Traditional Practices

Proponents of Proposals 48 and 56, submitted in 1997, stated that aircraft and same day airborne hunting were in use before the more common use of snow machines and prior their prohibition by the Alaska Board of Game. In the Council recommendations related to Proposal 56, the chair commented that some same day airborne hunting is allowed by the State in adjacent management units and that hunting in the 1940s and 1950s was conducted with the use of airplanes.

Comprehensive subsistence surveys conducted by the Alaska Department of Fish and Game, Division of Subsistence, documented the importance of caribou for the Bristol Bay communities of Aleknagik, Clarks Point, Dillingham, Manokotak, Togiak, and Twin Hills (Coley-Kenner, Krieg, Chythlook, and Jennings 2003; Fall, Schichnes, Chythlook, and Walker 1986; Holen, Stariwat, Krieg, and Lemons 2012; Schinchnes and Chythlook 1988; Seitz 1996). In all communities over each study year (ranging from 1974 to 2010) while fewer households harvested caribou, most households used caribou meat. Such a use pattern indicates the extent and significance of sharing throughout the area.

In the earlier studies, residents harvested caribou from the Mulchatna herd and the Northern Alaska Peninsula herd, as the Nushagak Peninsula caribou herd was introduced to the region in 1988. The herd locations were far from most of the communities, and while some residents reported harvest by boat during the fall in conjunction with moose harvest activities, many others used airplanes during the winter to reach the Mulchatna herd and almost exclusively airplanes were used during the winter to access and harvest the Northern Alaska Peninsula herd. This was particularly true for the community of Manokotak.

Manokotak was surveyed in 1986 for the harvest year of 1985 (Schinchnes and Chythlook 1988). During the survey 54 of 59 households were surveyed for the study, or approximately 91%. Of those 54 households 89% reported using caribou while 31% reported actually harvesting caribou. The average household harvest was 112 lb of caribou or 22 lb of caribou per person. The majority of the caribou hunting took place after freeze-up via either snow machine or airplane. Three households in the survey reported owning private aircraft which were used to harvest caribou. Others reported chartering flights. Hunting partners of 3 to 5 parties usually shared the expense of airplane access to a herd. Upon a successful hunt, the meat was divided between the participants, and was again distributed upon return. In 1985 caribou was broadly shared within the community of Manokotak, 65% of households reported receiving caribou from others. Regardless of the methods or means of access to harvest caribou or any other resource, sharing of the harvest was and remains a critical component of the subsistence way of life in Bristol Bay and across the state.

Biological Background

In its first 10 years, the Nushagak Peninsula Caribou Herd grew from 146 animals reintroduced in 1988 to a peak of 1,399 caribou counted in March 1998. During the next decade, calf recruitment and adult female survival decreased and the population declined to 462 caribou in 2007. The population then increased to 1,018 caribou by 2014 (Hinkes et al. 2005, Aderman 2015) (**Table 1**).

The causes of the decline between 1999 and 2009 are not clearly understood and are almost certainly multi-factored (Aderman and Lowe 2012). The most likely explanation for the decline is that the exceptionally high growth through 1998 produced large annual cohorts of females that survived until a relative old age, at which time they declined in productivity. This high proportion of unproductive females, combined with high harvest years in 2001 and 2002, changed the population trajectory from an increasing trend to a decreasing trend, where it remained until the ultimate replacement of older, unproductive females with younger, productive ones. Changing nutritional conditions (both short-term, such as those associated with drought or winter icing; as well as longer-term changes, such as lower overall carrying capacity due to continuous grazing on the Nushagak Peninsula since 1988) underlay and exacerbated this decline, but were not likely the primary drivers. Wolf predation could be a factor in the decline; however, a study of wolf predation from 2007–2011 found that wolf predation was not a primary driver of Nushagak Peninsula caribou population dynamics (Walsh and Woolington 2012). Brown bears are common on the Nushagak Peninsula and likely have learned to exploit the caribou population, but their impact on the NPCH is not known (Aderman and Lowe 2012).

Table 1. Sex and age composition and minimum counts of Nushagak Peninsula caribou, southwest Alaska, 1988-2014 (Aderman 2015, Aderman pers. comm. 2015).

Year	Bulls: 100 Cows	Calves: 100 Cows	Minimum Count of Herd Size
1988	11.7	10	146
1989	---	---	268
1990	---	---	383
1991	---	---	561
1992	59.8	71.6	734
1993	---	---	1,007
1994	71.3	64.6	1,106
1995	---	---	1,214
1996	---	---	1,255
1997	63.7	62.0	1,273
1998	57.4	62.6	1,281
1999	48.1	52.5	1,159
2000	51.5	38.1	1,037
2001	45.9	34.8	937
2002	42.9	36.1	810
2003	47.3	44.1	780
2004	42.5	33.8	665
2005	38.2	32.4	600
2006	31.3	35.6	550
2007	49.2	40.0	462
2008	43.8	59.6	575
2009	37.1	34.8	600
2010	42.1	45.2	801
2011	28.9	38.6	805
2012	52.0	50.2	902
2013	32.2	40.3	926
2014	43.8	52.5	1,018

Since 2007, the population has increased due to improved fall calf recruitment and adult female survival (Aderman 2015). The most recent count was conducted in June 2014 and a minimum of 1,018 caribou were observed. This number is above the upper end of the Nushagak Peninsula Caribou Management Plan's objective to maintain a population range of 400–900 caribou (Aderman 2015).

Managers are concerned that continued growth of the herd may result in a population crash due to the limited carrying capacity of the immediate range. Caribou harvest will need to increase substantially to prevent another population decline like that experienced in the late 1990s and early 2000s (Aderman 2015). Composition surveys are conducted for the NPCH in early to mid-October. Recent surveys estimated 32 bulls:100 cows and 40 calves:100 cows in 2013 and 44 bulls:100 cows and 53 calves:100 cows in 2014 (**Table 1**) (Aderman 2015, pers. comm.).

Harvest History

Reported harvest increased during the eight years immediately following the establishment of the season in 1994/1995 only to decrease in subsequent years as the population declined (**Table 2**). Unreported harvest can be high, similar to other rural areas in Alaska, and illegal take of NPCH caribou has been documented as well (Aderman and Lowe 2012).

The original NPCH Management Plan set a harvest level of no more than 10 percent of the population when the population was over 600 caribou (FWS, et. al. 1994). In 2011, the Management Plan Committee (Committee) reviewed and updated the planned harvest strategy to make it more responsive to a dynamic caribou population. The updated strategy establishes an annual harvest goal based on population size and trend, and permits harvest when the population exceeds 200 caribou and is stable or increasing. The Committee also updated the population objective from 600 - 1,000 caribou to 400 - 900 caribou. The revised harvest strategy also calls for a liberal harvest when the population is 800 caribou or greater, at which point harvesting everything over 750 is recommended (Aderman 2015). The Committee recommended that Federal registration permits be allocated to eligible communities based on a formula in which each community receives 5% of the total permits, plus additional permits based on a percentage of the aggregate participating communities.

Hunting effort is influenced by winter travel conditions, availability of and opportunity to take Mulchatna caribou and moose, and economic factors (Aderman and Lowe 2012). Most of the reported harvest has occurred in February and March (**Table 2**) because of improved hunter access to the herd via snow machines (Aderman and Lowe 2012). Winter harvest in 2015 consisted of one male taken in February (Aderman 2015 pers. comm). There was no reported harvest in March 2015 due to poor travel conditions as a result of low snowfall. Difficult travel conditions have limited the harvest in other years as well. As prescribed by the management plan, there were no fall hunts in 2006, 2007, and 2008 because the population was below 600 animals. There were a limited number of permits (five) available for the winter hunts in 2006/2007 and 2007/2008, but no harvest was reported (Aderman 2008, pers. comm.). Annual harvests have increased as the population has recovered (**Table 2**). In addition, the harvest limit was increased from one to two caribou beginning with the 2012 season (Aderman 2012, pers. comm.).

Table 2. Reported harvest of caribou, by month, on the Nushagak Peninsula during regulatory years 1994/1995 to 2014/2015 (Aderman 2015; Aderman 2015, pers. comm.).

Regulatory year	Month							Total
	AUG	SEPT	DEC	JAN	FEB	MAR	Unknown	
1994/1995	NS ^a	NS	NS	3	1	25	6	35
1995/1996	NS	NS	3	0	5	43	1	52
1996/1997	5	NS	0	0	2	13	0	20
1997/1998	5	NS	0	2	25	35	0	67
1998/1999	0	2	0	0	0	50	3	55
1999/2000	0	0	0	2	7	54	0	63
2000/2001	0	6	0	0	22	98	0	126
2001/2002	0	3	0	0	9	115	0	127
2002/2003	3	0	0	0	0	0	0	3
2003/2004	2	3	0	0	0	29	0	34
2004/2005	1	0	0	0	0	8	0	9
2005/2006	1	1	0	0	0	9	0	11
2006/2007	NS	NS	NS	NS	0	NS	0	0
2007/2008	NS	NS	NS	NS	0	0	0	0
2008/2009	NS	NS	NS	NS	5	2	1	8
2009/2010	NS	NS	NS	NS	3	14	1	18
2010/2011	NS	NS	NS	NS	18	27	0	45
2011/2012	0	2	NS	NS	20	64	0	86
2012/2013	6	3	0	5	6	89	0	109
2013/2014	3	1	0	0	0	98	0	102
2014/2015	8	7	0	0	1	0	0	16
Total	34	28	3	12	124	773	12	986
% Total	3.4	2.8	0.3	1.2	12.6	78.4	1.2	-

^aNS = No season

Effects of the Proposal

If adopted, this proposal would alter methods and means in Federal regulations to allow same day airborne harvest of caribou in Unit 17 on the Nushagak Peninsula during the winter hunt from Jan. 1 – Mar. 31. Allowing same day airborne harvest would provide additional opportunity for Federal qualified subsistence users, especially during winters when poor snowfall makes travel across the Nushagak Peninsula by snow machine difficult. It would also provide a disproportionate advantage to those rural residents with aircraft over those without aircraft or access to aircraft. However, as Bristol Bay community harvest and use patterns demonstrate, most hunters are generous with their success and distribute meat throughout their community regardless of methods used to access the resource. Adoption of this proposal is not expected to adversely affect the Nushagak Peninsula Caribou Herd as harvest is controlled through the issuing of permits with a harvest limit set by the Federal land manager and the population is already above the management objective.

OSM PRELIMINARY CONCLUSION

Support Proposal WP16-31/32.

Justification

The Nushagak Peninsula Caribou Herd (NPCH) has increased significantly from 462 animals in 2007 to 1,018 animals in 2014. However, despite a harvestable surplus, local residents have not been able to reach the NPCH due to poor winter travel conditions. This proposal would provide greater opportunity to Federally qualified subsistence users in the winter hunt of Nushagak Peninsula caribou without adversely affecting the caribou herd population; harvest numbers will be controlled by permit not by the burden of poor access.

LITERATURE CITED

- Aderman, A. R. 2015. Wildlife biologist. Personal communication: phone, email. Togiak National Wildlife Refuge, FWS. Dillingham, AK.
- Aderman, A. R. 2015. Population monitoring and status of the Nushagak Peninsula Caribou Herd, 1988–2014. Unpublished report. Togiak National Wildlife Refuge, FWS. Dillingham, AK. 30 pages.
- Aderman, A. R. 2012. Wildlife biologist. Personal communication: email. Togiak National Wildlife Refuge, FWS. Dillingham, AK.
- Aderman, A. R., and S. J. Lowe. 2012. Population monitoring and status of the Nushagak Peninsula Caribou Herd, 1988–2011. Unpublished report. Togiak National Wildlife Refuge, FWS. Dillingham, AK. 29 pages.
- Aderman, A. R. 2008. Wildlife biologist. Personal communication: email. Togiak National Wildlife Refuge, FWS. Dillingham, AK.
- BBSRAC. 2009. Transcripts of the Bristol Bay Subsistence Regional Advisory Council proceedings, Apr. 1, 2009 in Anchorage, AK. Office of Subsistence Management, FWS. Anchorage, AK.
- BBSRAC. 2013. Transcripts of the Bristol Bay Subsistence Regional Advisory Council proceedings, Feb. 12, 2013 in Naknek, AK. Office of Subsistence Management, FWS. Anchorage, AK.
- Coley-Kenner, P., T. M. Krieg, M. B. Chythlook, and G. Jennings. 2003. Wild Resource Harvests and Uses by Residents of Manokotak, Togiak and Twin Hills, 1999/2000. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 275, Anchorage.
- Fall, J. A., J. C. Schichnes, M. Chythlook, and R. J. Walker. 1986. Patterns of Wild Resource Use in Dillingham: Hunting and Fishing in an Alaskan Regional Center. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 135, Anchorage.
- FSB. 1994. Transcripts of Federal Subsistence Board proceedings, April 13, 1994. Office of Subsistence Management, FWS. Anchorage, AK.

FSB. 1997. Transcripts of Federal Subsistence Board proceedings, April 9, 1997. Office of Subsistence Management, FWS. Anchorage, AK.

FSB. 1999. Transcripts of Federal Subsistence Board proceedings, May 5, 1999. Office of Subsistence Management, FWS. Anchorage, AK.

FWS. 1994. Staff Analysis Proposal 42. Pages 335-341 *in* Federal Subsistence Board Meeting Materials April 11-15, 1994. Office of Subsistence Management, FWS. Anchorage, AK. 726 pages.

Hinkes, T. H. et al. 2005. Influence of population growth on caribou herd identity, calving ground fidelity, and behavior. *Journal of Wildlife Management* 69:1147-1162.

Holen, D., J. Stariwat, T. M. Krieg, and T. Lemons. 2012. Subsistence Harvests and Uses of Wild Resources in Aleknagik, Clark's Point, and Manokotak, Alaska, 2008. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 368, Anchorage.

Schinchnes, J. and M. Chythlook. 1988. Use of Fish and Wildlife in Manokotak, Alaska. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 152, Anchorage.

Seitz, J. 1996. The Use of Fish and Wildlife in Clarks Point, Alaska. Alaska Department of Fish and Game, Division of Subsistence Technical Paper No. 186, Anchorage.

Walsh, P., and J. Woolington. 2008. Temporal use of the Nushagak Peninsula by wolves, Togiak National Wildlife Refuge, southwest Alaska. Unpublished report. Togiak National Wildlife Refuge, FWS. Dillingham, AK. 19 pages.

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

Dear Refuge Manager:

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, including any sex restrictions, 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 and identify the hunt area for the may-be-announced season in Unit 17A remainder and 17C remainder.

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.

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

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

6. 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

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

Dear Refuge Manager:

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 antler or sex restrictions, for moose on Federal public lands in Unit 17A.

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

FISHERIES RESOURCE MONITORING PROGRAM

BACKGROUND

Beginning in 1999, the Federal government assumed expanded management responsibility for subsistence fisheries on Federal public lands in Alaska under the authority of Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA). Expanded subsistence fisheries management introduced substantial new informational needs for the Federal system. Section 812 of ANILCA directs the Departments of the Interior 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 (OSM). The Monitoring Program was envisioned as a collaborative interagency, interdisciplinary approach to enhance existing fisheries research, and effectively communicate information needed for subsistence fisheries management on Federal public lands.

Biennially, the Office of Subsistence Management announces a funding opportunity for investigation plans addressing subsistence fisheries on Federal public lands. The 2016 Notice of Funding Availability Funding Opportunity focused on priority information needs developed either by strategic planning efforts or subject matter specialist input, followed by review and comment by the Subsistence Regional Advisory Councils. The Monitoring Program is administered through regions, which were developed to match subsistence management regulations, as well as stock, harvest, and community issues common to a geographic area. The six Monitoring Program regions are shown in **Figure 1**.

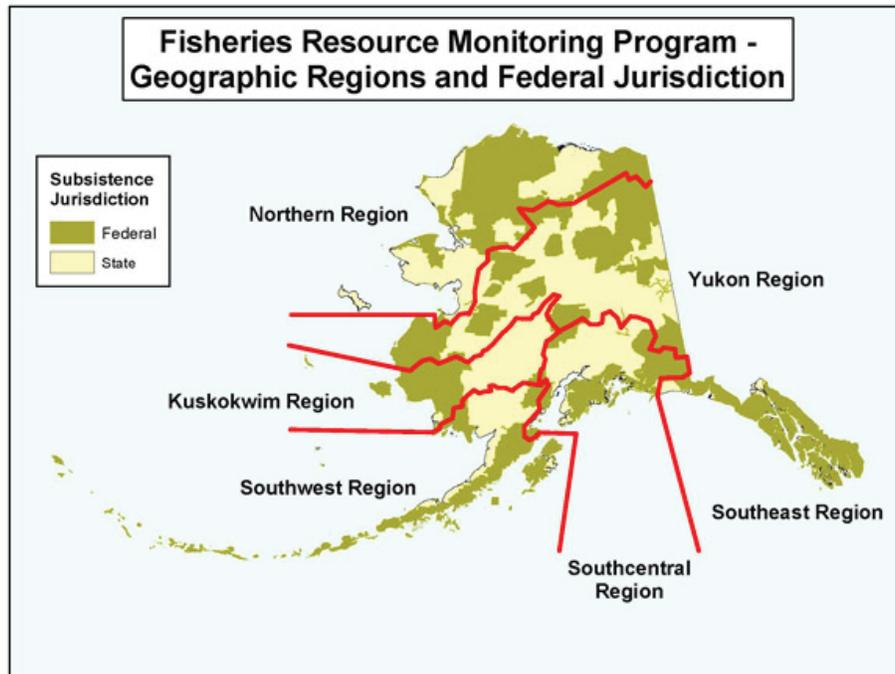


Figure 1. Geographic Regions for the Fisheries Resource Monitoring Program. Federal lands are shaded green and State lands are shaded yellow.

To implement the Monitoring Program, a collaborative approach is utilized in which five Federal agencies (U.S. 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 submitted for funding consideration. 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 forwards a Monitoring Plan to the Assistant Regional Director of OSM for final approval.

Strategic plans sponsored by the Monitoring Program have been developed by workgroups of fisheries managers, researchers, Federal Subsistence Regional Advisory Councils, and by other stakeholders for three of the six regions: Southeast, Southcentral (excluding Cook Inlet Area), and Southwest Alaska. These plans identify prioritized information needs for each major subsistence fishery and are available for viewing on the Federal Subsistence Management, Fisheries Resource Monitoring Program website (<http://www.doi.gov/subsistence/index.cfm>). Individual copies of plans are available by placing a request to the Office of Subsistence Management. 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 experts on the Regional Advisory Councils, the Technical Review Committee, Federal and State managers, and staff from the Office of Subsistence Management. Finally, a strategic plan specifically for research on whitefish species in the Yukon and Kuskokwim River drainages was completed in spring 2011 as a result of efforts supported through Monitoring Program project 08-206 (Yukon and Kuskokwim Coregonid Strategic Plan). Currently, all regional strategic plans need to be updated. The OSM, in collaboration with Regional Advisory Councils and agency partners, will be exploring methods to update these plans, develop a schedule into the future and ensure they are current and represent the most up-to-date information about subsistence needs and concerns throughout the state.

HISTORICAL OVERVIEW

The Monitoring Program was first implemented in 2000, with an initial allocation of \$5 million. Since 2001, a total of \$103.6 million has been allocated for the Monitoring Program to fund a total of 431 projects (Figure 2; Figure 3).

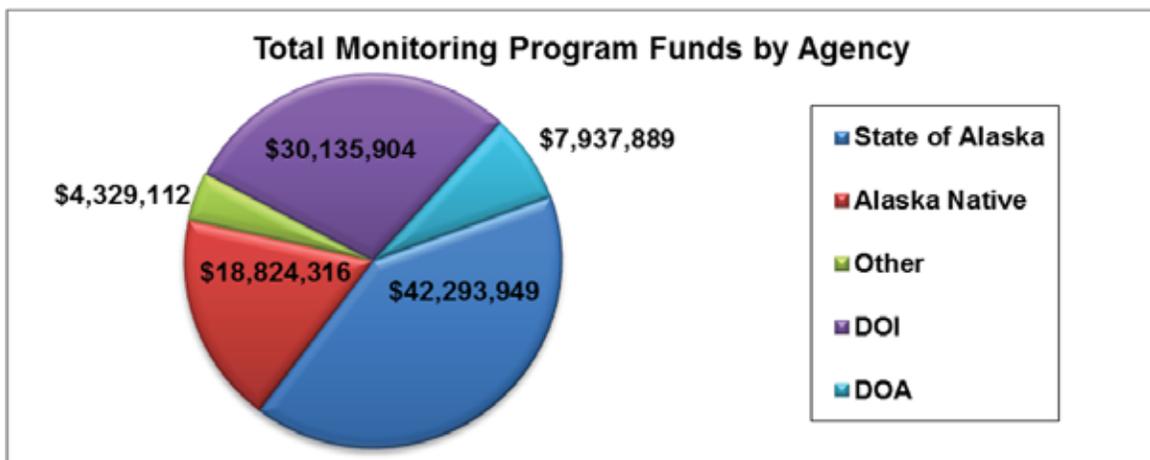


Figure 2. Total Project funds through the Monitoring Program from 2000 through 2014 listed by the organization of the Principal Investigator for projects funded. The funds listed are the total approved funds from 2000 to 2014. DOI = Department of Interior and DOA = Department of Agriculture.

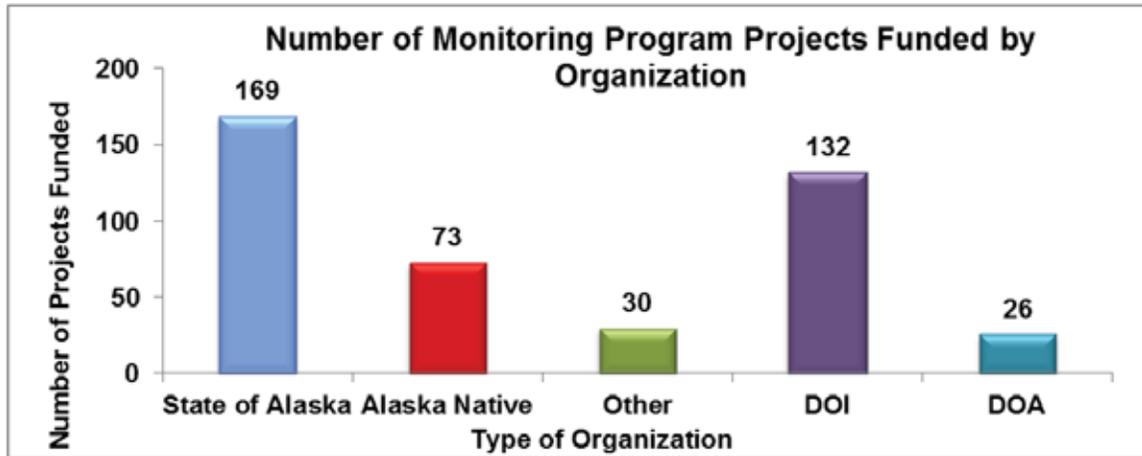


Figure 3. The total number of projects funded through the Monitoring Program from 2000 through 2014 listed by the organization of Principal Investigator. DOI = Department of Interior and DOA = Department of Agriculture.

During each biennial funding cycle, the Monitoring Program budget funds ongoing multi-year projects (2, 3 or 4 years) as well as new projects. Budget guidelines are established by geographic region (**Table 1**) and data type. The regional guidelines were developed using six criteria that included level of risk to species, level of threat to conservation units, amount of subsistence needs not being met, amount of information available to support subsistence management, importance of a species to subsistence harvest and level of user concerns with subsistence harvest. Budget guidelines provide an initial target for planning; however they are not final allocations and will be adjusted annually as needed (**Figure 5**; **Figure 6**).

Table 1. Regional allocation guideline for Fisheries Resource Monitoring Funds.

Region	Department of Interior Funds	Department of Agriculture Funds
Northern	17%	0%
Yukon	29%	0%
Kuskokwim	29%	0%
Southwest	15%	0%
Southcentral	5%	33%
Southeast	0%	67%
Inter-regional	5%	0%

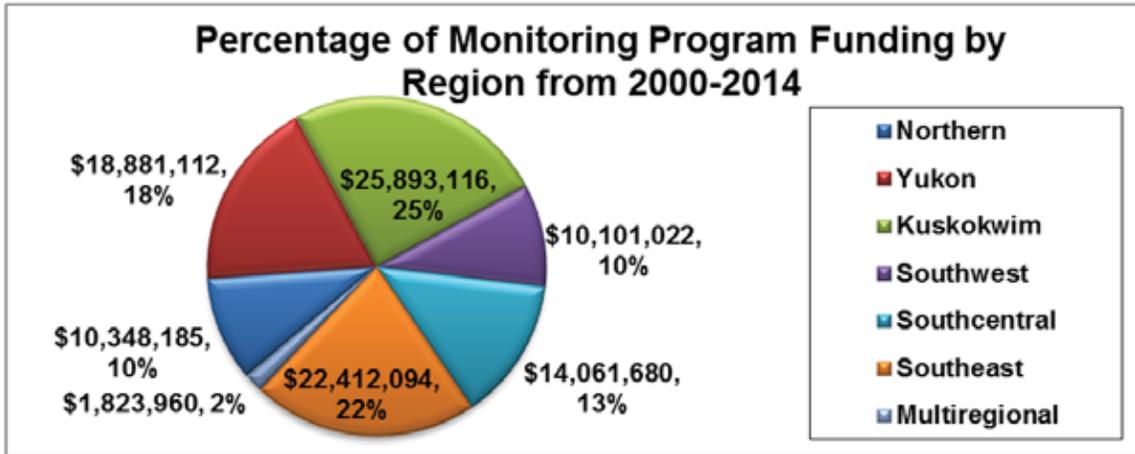


Figure 4. Total Project funding by Geographic Region from 2000 through 2014.

Two primary types of research projects are solicited for the Monitoring Program including Harvest Monitoring/Traditional Ecological Knowledge (HMTEK) and Stock, Status and Trends (SST), although projects that combine these approaches are also encouraged. Project funding by type is shown in Figure 5. Definitions of the two project types are listed below:

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.

Harvest Monitoring and Traditional Ecological Knowledge (HMTEK) - These projects address assessment of subsistence fisheries including quantification of harvest and effort, and description and assessment of fishing and use patterns.

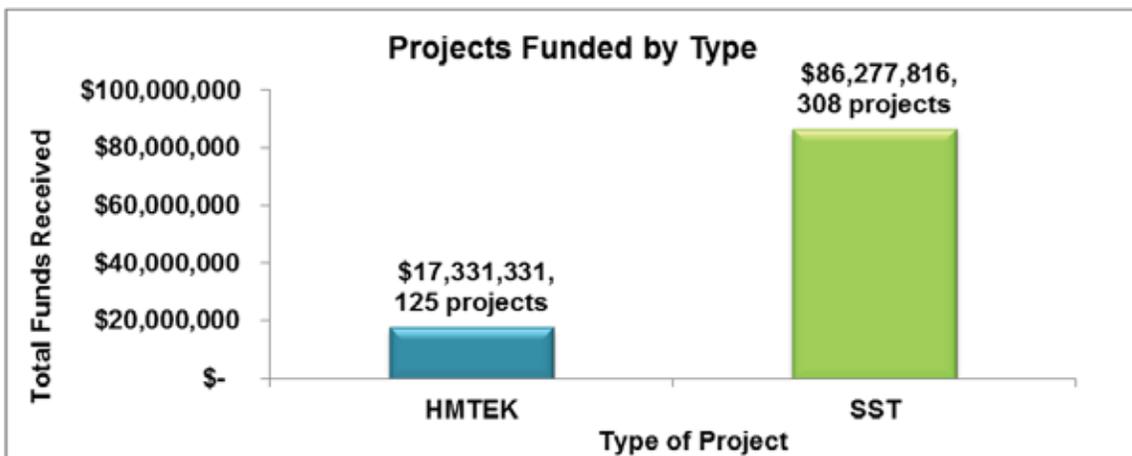


Figure 5. Total Project funding by type from 2000 through 2014. HMTEK = Harvest Monitoring/Traditional Ecological Knowledge and SST = Stock, Status and Trends.

PROJECT EVALUATION PROCESS

In the current climate of increasing conservation concerns and subsistence needs, it is imperative that the Monitoring Program prioritizes high quality projects that address critical subsistence questions. Several changes were implemented in the 2016 Monitoring Program to address the challenges facing Federal subsistence users across the state. These changes will enhance the Monitoring Program by increasing overall program transparency, identifying and funding high quality and high priority research projects and maximizing funding opportunities. This will allow the Monitoring Program to make substantial contributions to Federal subsistence users and to the Federal Subsistence Management Program.

Projects are selected for funding through an evaluation and review process that is designed to advance projects that are strategically important for the Federal Subsistence Program, technically sound, administratively competent, promote partnerships and capacity building, and are cost effective. Projects are evaluated by a panel called the Technical Review Committee (TRC). This committee is a standing interagency committee of senior technical experts that is foundational to the credibility and scientific integrity of the evaluation process for projects funded by the Monitoring Program. The TRC reviews, evaluates, and make recommendations about proposed projects, consistent with the mission of the Monitoring Program. Fisheries and Anthropology staff from the OSM provide support for the TRC. Recommendations from the TRC provide the basis for further comments from Councils, the public, the Interagency Staff Committee (ISC), and the Federal Subsistence Board, with final approval of the Monitoring Plan by the Assistant Regional Director of OSM.

The 2016 Monitoring Program changes involve how projects are submitted and also how they are reviewed. To be considered for funding under the Monitoring Program, a proposed project must have a linkage to Federal subsistence fishery management. This means that a proposed project must have a direct association to a Federal subsistence fishery, and that either the subsistence fishery or fish stocks in question must occur in or pass through waters within or adjacent to Federal public lands. Complete project packages need to be submitted on time and must address five specific criteria (see below) in order to be considered a high quality project. Addressing only some of the criteria will not guarantee a successful project submission. Additionally, project review has been changed to aid transparency and consistency throughout the process. Key modifications include specific guidelines for assessing how and whether a proposed project has addressed each of the five criteria, receiving a single consolidated review from each participating agency, and requiring that agencies recuse themselves from providing reviews for projects involving their agency.

Five criteria are used to evaluate project proposals:

- 1) **Strategic Priority** - Studies must be responsive to identified issues and priority information needs. All projects must have a direct linkage to Federal public lands and/or waters to be eligible for funding under the Monitoring Program. To assist in evaluation of submittals for projects previously funded under the Monitoring Program, investigators must include a synthesis of project findings in their investigation plans. This synthesis should clearly and

concisely document project performance, key findings, and uses of collected information for Federal subsistence management.

- a) *Federal linkage* – Study must have a direct association to a subsistence fishery within Federal Subsistence Management Program jurisdiction. That is, the subsistence fishery or stocks in question must occur in waters within or adjacent to Federal public lands (National Wildlife Refuges, National Forests, National Parks and Preserves, National Conservation Areas, National Wild and Scenic River Systems, National Petroleum Reserves, and National Recreation Areas).
 - b) *Conservation Mandate* – Risk to the conservation of species and populations that support subsistence fisheries and risk to public lands purposes.
 - c) *Allocation Priority* – Risk of failure to provide for Federal subsistence uses.
 - d) *Data Gaps* – Amount of information available to support Federal subsistence management. A higher priority is given where a lack of information exists.
 - e) *Management Application* – The application of proposed project data must be clearly explained and linked to current Federal management strategies and needs.
 - f) *Role of Resource* – Importance of a species or a population to a Federal subsistence harvest (e.g. number of subsistence users affected, quantity of subsistence harvest), and qualitative significance (e.g. cultural value, unique seasonal role).
 - g) *Local Concern* – Level of user concern over Federal subsistence harvests (e.g., allocation, competing uses, changes in populations).
- 2) **Technical-Scientific Merit** - Technical quality of the study design must meet accepted standards for information collection, compilation, analysis, and reporting. Studies must have clear objectives, appropriate sampling design, correct analytical procedures, and specified progress, annual and final reports.
 - 3) **Investigator Ability and Resources** - Investigators must demonstrate that they are capable of successfully completing the proposed study by providing information on the ability (training, education, and experience) and resources (technical and administrative) they possess to conduct the work. Applicants who have received funding in the past will be evaluated and ranked on their past performance, including meeting deliverable deadlines. A record of failure to submit reports or delinquent submittal of reports will be taken into account when rating investigator ability and resources.
 - 4) **Partnership-Capacity Building** - Partnerships and capacity building are priorities of the Monitoring Program. ANILCA mandates that rural residents be afforded a meaningful role

in the management of Federal subsistence fisheries, and the Monitoring Program offers opportunities for partnerships and participation to local residents in monitoring and research. Investigators are requested to include a strategy for integrating local capacity development in their investigation plans. Investigators must not only inform communities and regional organizations in the area where work is to be conducted about their project plans, but must also consult and communicate with local communities to ensure that local knowledge is utilized and concerns are addressed. Letters of support from local 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. This includes a plan to facilitate and develop partnerships so that investigators, communities, and regional organizations can pursue and achieve the most meaningful level of involvement.

Investigators are encouraged to develop the highest level of tribal, community and regional involvement that is practical. Investigators must demonstrate that capacity building has already reached the communication or partnership development stage during proposal development. Ideally, a strategy to increase capacity to higher levels will be provided in the project proposal, recognizing, however, that in some situations sustainable or higher level involvement may not be desired or feasible by the local organizations. Successful capacity building requires developing trust and dialogue among investigators, tribes, local communities, and regional organizations. Investigators need to be flexible in modifying their work plan in response to local knowledge, issues, and concerns, and must also understand that capacity building should emphasize reciprocity and sharing of knowledge and information.

5) Cost Benefit

- *Cost/Price Factors* – Applicant’s cost/price proposal will be evaluated for reasonableness. For a price to be reasonable, it must represent a price to the government that a prudent person would pay when consideration is given to prices in the market. Normally, price reasonableness is established through adequate price competition, but may also be determined through cost and price analysis techniques.
- *Selection for Award* – Applicant should be aware that the government shall perform a “best value analysis” and the selection for award shall be made to the Applicant whose proposal is most advantageous to the government, taking into consideration the technical factors listed above and the total proposed price across all agreement periods. Matching funds will be factored into the review process based on overall value to the government.

POLICY AND FUNDING GUIDELINES

Several policies have been developed to aid in implementing funding. These policies include:

1. Projects of up to four years duration may be considered in any year's monitoring plan.
2. Studies must not duplicate existing projects.
3. A majority of Monitoring Program funding will be dedicated to non-Federal agencies.
4. Long term projects will be considered on a case by case basis.
5. Activities that are not eligible for funding include:
 - a) habitat protection, mitigation, restoration, and enhancement;
 - b) hatchery propagation, restoration, enhancement, and supplementation;
 - c) contaminant assessment, evaluation, and monitoring; and
 - d) projects where the primary or only objective is outreach and education (for example, science camps, technician training, and intern programs), rather than information collection, are not eligible for funding under the Monitoring Program.

The rationale behind these policy and funding guidelines is to ensure that existing responsibilities and efforts by government agencies are not duplicated under the Monitoring Program. Land management or regulatory agencies already have direct responsibility, as well as specific programs, to address these activities. However, the Monitoring Program may fund research to determine how these activities affect Federal subsistence fisheries or fishery resources.

The Monitoring Program may fund assessments of key Federal subsistence fishery stocks in decline or that may decline due to climatological, environmental, habitat displacement, or other drivers; however applicants must show how this knowledge would contribute to Federal subsistence fisheries management. Similarly, the Monitoring Program may legitimately fund projects that assess whether migratory barriers (e.g. falls, beaver dams) significantly affect spawning success or distribution; however, it would be inappropriate to fund projects to build fish passes, remove beaver dams, or otherwise alter or enhance habitat.

2016 FISHERIES RESOURCE MONITORING PLAN

For 2016, a total of 46 investigation plans were received and 45 are considered eligible for funding (**Table 1**). One project was not eligible for funding because the project falls under habitat mitigation, restoration, and enhancement. Of the projects that are considered for funding, 33 are SST projects and 13 are HMTEK projects.

In 2016, the Department of the Interior, through the U.S. Fish and Wildlife Service, will provide up to \$2.0 million in funding and up to \$2.7 million for ongoing projects that were initially funded in 2014. The Department of Agriculture, through the U.S. Forest Service, has historically provided \$1.8 million annually, but the amount of 2016 funds available projects is uncertain. If the Department of Agriculture funding is not provided, none of the proposed projects submitted for the Southeast Region will be funded.

FISHERIES RESOURCE MONITORING PROGRAM SOUTHWEST REGION OVERVIEW

Since the inception of the Monitoring Program in 2000, 52 projects have been undertaken in the Southwest Region for a total of \$10.1 million (**Figure 1**). Of these, the State of Alaska conducted 22 projects, the Department of the Interior conducted 27 projects, an Alaska Native organization conducted one project, and other organizations conducted two projects (**Figure 2**). Of these, 38 projects were Stock, Status, and Trends (SST), and 14 projects were Harvest Monitoring and Traditional Ecological Knowledge (HMTEK).

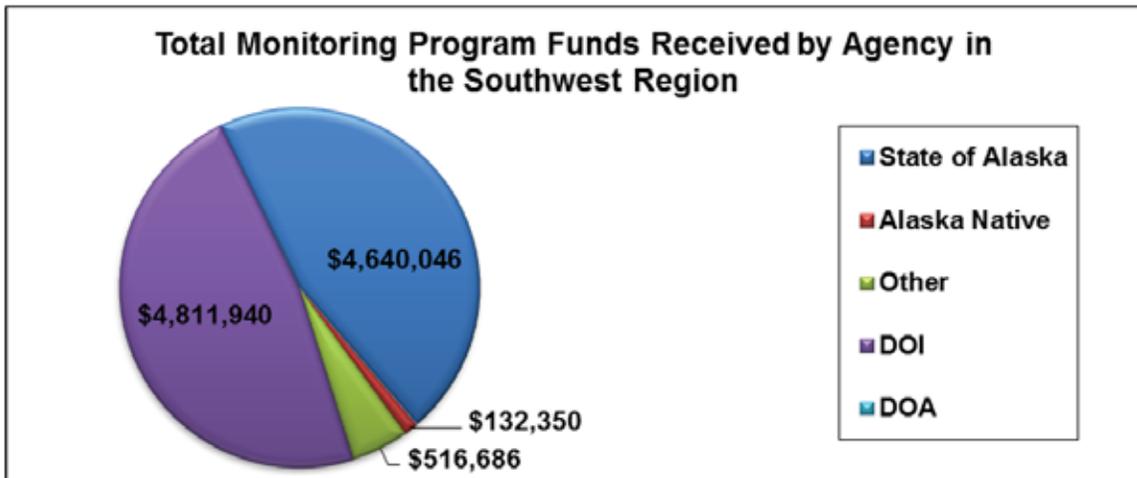


Figure 1. Monitoring Program funds received by agencies for projects in the Southwest Region. The funds listed are the total approved funds from 2000 to 2014. DOI = Department of Interior and DOA = Department of Agriculture.

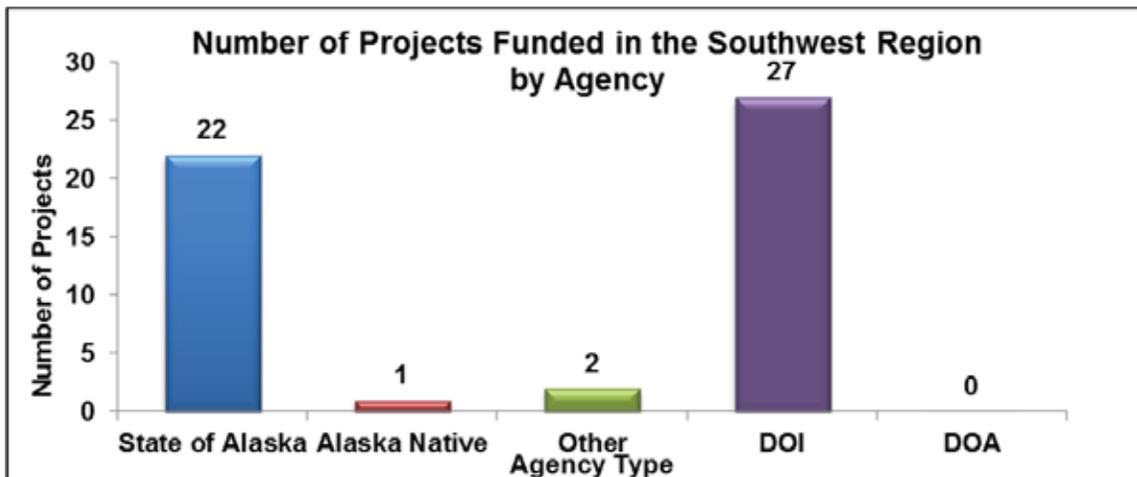


Figure 2. Total number of Monitoring Program projects funded, by agency, in the Southwest Region from 2000 to 2014. DOI = Department of Interior and DOA = Department of Agriculture.

2016 DRAFT SOUTHWEST REGION FISHERIES RESOURCE MONITORING PLAN

Priority Information Needs

The 2016 Notice of Funding Opportunity for the Southwest Region identified 11 priority information needs:

- Reliable estimates of Sockeye and Coho Salmon escapements in the Lake Clark watershed (for example, from projects utilizing a weir, sonar, tower and/or mark-recapture methods).
- Historical salmon escapement to the Lake Clark watershed using isotopic analysis of lake sediment cores.
- Document the diversity in size and age structure of sockeye salmon among spawning populations within Lake Clark National Park and Preserve.
- Identify location and extent of rearing habitat capacity for juvenile Sockeye Salmon in Lake Clark National Park and Preserve.
- Distribution and timing of spawning by Sockeye Salmon in the major Bristol Bay watersheds of Katmai National Park and Preserve.
- Reliable estimates of Chinook Salmon escapement and evaluation of “quality of escapement” measures (for example, potential egg deposition, sex and size composition of spawners, spawning habitat quality and utilization) for determining the reproductive potential of spawning stocks in the Meshik River.
- Evaluation of quality of escapement measures (for example, potential egg deposition, sex and size composition of spawners, spawning habitat quality and utilization) for determining the reproductive potential of spawning stocks in Big Creek, Naknek River, Alagnak River, Nushagak River and Chignik River.
- Reliable estimates of Chinook Salmon escapement into the Togiak River (for example, from projects utilizing a weir, sonar, tower and/or mark-recapture methods).
- Description and analysis of the social network underlying the distribution of fish harvested for subsistence by residents of the Bristol Bay Area and Chignik Area.
- Harvest of salmon for subsistence by residents of the communities of Cold Bay, King Cove, and Sand Point, including harvest methods by species and distribution practices.
- Comparative ecological evaluation of lake rearing habitats of subsistence Sockeye Salmon stocks in southwest Kodiak Island, Alaska, including Olga Lakes and Akalura Lake watersheds; assessment of (1) the decline in salmon stocks and associated subsistence harvest opportunities, and (2) the potential effects of climate change on salmon production in these lake systems.

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 final allocations. Prior commitments to the 2014 Monitoring Program are up to \$2.7 million. The anticipated funding available for the 2016 Monitoring Program is up to \$2.0 million.

Technical Review Committee Proposal Ranking

The mission of the Monitoring Program is to identify and provide information needed to sustain subsistence fisheries on Federal public lands for rural Alaskans through a multidisciplinary and collaborative program. It is the responsibility of the Technical Review Committee to develop the strongest possible Monitoring Plan for each region and across the entire state.

For the 2016 Monitoring Program, six proposals were submitted in the Southwest Region. The Technical Review Committee evaluated and scored each proposal for Strategic Priority, Technical and Scientific Merit, Investigator Ability and Resources, Partnership and Capacity Building, and Cost/Benefit. The final score determined the ranking of each proposal within the region (**Table 1**). Projects that rate higher comprise a strong Monitoring Plan for the region by addressing strategically important information needs based on sound science and promote cooperative partnerships and capacity building. The projects listed are currently being considered for Funding in the 2016 Fisheries Resource Monitoring Program. Projects which were not eligible due to the nature of the activity are not included. For more information on projects submitted to the 2016 Fisheries Resource Monitoring Program please see the Executive Summaries in **Appendix A**.

Table 1. Technical Review Committee (TRC) ranking for projects in the Southwest Region. Projects are listed by TRC ranking and include the total matching funds, total funds requested, and the average annual request for each project submitted to the 2016 Monitoring Program within the Southwest Region. The projects listed are currently being considered for Funding in the 2016 Fisheries Resource Monitoring Program. Projects which were not eligible due to the nature of the activity are not included.

TRC Ranking	Project Number	Title	Total Matching Funds	Total Project Request	Average Annual Request
1	16-451	Bristol Bay Subsistence Salmon Networks	\$72,970.0	\$302,803	\$100,934
2	16-452	Western Alaska Salmon and Other Harvests on Federal Lands and Waters	\$0	\$348,174	\$87,043.50
3	16-404	Pre-historical Salmon Abundance in the Lake Clark System	\$35,566	\$62,670	\$31,335
4	16-402	Utilization of a time lapse camera system to monitor timing and abundance of the sockeye salmon (<i>Oncorhynchus nerka</i>) return to Akalura Lake, Kodiak Island, Alaska	\$69,027	\$41,965	\$10,491
5	16-401	Southwest Kodiak Ecological Assessment	\$184,214	\$367,340	\$91,835
6	16-403	Abundance and Distribution of Togiak River Chinook Salmon, 2016-2019	\$766,644	\$1,586,598	\$396,650
**	16-453	Togiak River Chinook Salmon Subsistence Harvest Assessment	\$70,994	\$299,498	\$74,875
Total			\$1,128,421	\$2,709,550	\$718,289

**Project number 16-453 Togiak River Chinook Salmon Subsistence Harvest Assessment has not been rated by the TRC to date. An updated table with project rankings will be provided prior to the Bristol Bay and Kodiak/Aleutians Subsistence Regional Advisory Council meeting during the Fall 2015 meetings.

2016 PROJECT SUMMARY AND TRC JUSTIFICATION FOR PROJECT RANKING

TRC Ranking: 1

Project Number: 16-451

Project Title: Description and analysis of the subsistence salmon network in Bristol Bay

Project Summary: This project proposes to document subsistence salmon harvests in five communities and examine the sharing patterns that exist among harvesters and their families in neighboring communities. The goal of the proposed research is to provide data on how the social network functions in the allocation and management of subsistence resources and how it could be used by Federal subsistence managers. The proposed objectives include:

- Estimate the harvest and use of salmon by residents of Chignik Lake, Chignik Lagoon, Egegik, Perryville, and Port Heiden.
- Describe the harvest of salmon in terms of species, gear, location, timing of harvests, and distribution patterns.
- Illustrate the sharing networks both within each community, across the broader region, and throughout Alaska, using harvest surveys and key respondent interviews.

Justification: All residents of the proposed study communities are eligible to participate in Federal subsistence fisheries on Federal lands and waters. The proposed communities are in, near, or adjacent to three Federal conservation units. The Federal Subsistence Board has recognized customary and traditional uses of salmon for these rural residents, and sockeye salmon are particularly important to their way of life.

The proposed study addresses a priority information need for Southwest Alaska and would address a number of cultural practices such as harvest, processing, sharing, and barter.

The proposed study builds on previous research and could have important implications for the Alaska Peninsula and the entire Bristol Bay Region. Salmon harvested in these communities is believed to be widely distributed throughout Alaska. Documenting sharing networks would provide insight into how, when, and why salmon are distributed in the region and beyond. The results and implications would help the Federal Subsistence Board, managers, and regional advisory councils develop comprehensive management plans for salmon.

The objectives are clearly written, measurable, and achievable. The study design is well thought out and organized. The description of the methodology is detailed. The proposed methods are well established and would achieve technical results, and the strategy for data analysis is sound and achievable. The investigators should include the interview protocols with the final investigation plan.

The investigators have substantial resources, skills, and access to staff and facilities for completing the proposed study. The investigation plan outlines how and when objectives would be met and reports completed. We did recommend that the investigators clarified the roles and involvement of the lead investigator and other State personnel not listed as primary investigators.

Alaska Department of Fish and Game, Subsistence Division and Bristol Bay Native Association have a demonstrated track record of successful completion of similar projects and reporting requirements. There have been no serious problems with their progress or performance.

The investigators received two letters of support for the investigation plan from local leaders. The project would build some technical capacity and provide temporary employment. Bristol Bay Native Association would gain technical capacity. There would be some consultation with local tribes, but no formal local partnerships with residents or groups would be created above and beyond the investigators' existing relationships in the region.

The annual average cost of this project to the Office of Subsistence Management would be \$100,934. The cost of funding this project would be reasonable for the amount of work and deliverables being proposed and the potential benefits to management of subsistence fisheries.

TRC Ranking: 2

Project Number: 16-452

Project Title: Western Gulf of Alaska Salmon and Other Harvests on Federal Lands and Waters

Project Summary: This 3-year project spans 4 calendar years and proposes to document and analyze the subsistence and sport harvest of salmon and the subsistence harvest of all other species for the communities of Cold Bay (108 residents), King Cove (938 residents), and Sand Point (976 residents) on the Alaska Peninsula. Specifically, it looks to contextualize harvest data through community needs, sport harvesting activity, and the lens of changes in ecological, socioeconomic, and political environments which the investigator writes is lacking for these communities.

This proposal was submitted to the 2014 Monitoring Program Notice of Funding Opportunity and was not recommended for funding due in large part to a lack of strategic priority for that year. The Principal Investigator was encouraged to address the reviewer comments and reapply. Since 2014 the strategic priority was strengthened and many of the reviewer comments were addressed. The 2016 investigation plan and research questions have remained the same while the objectives differ only slightly from the 2014 proposal. Other differences include a decrease in project personnel and a significant decrease in project cost.

Justification: The proposal is strong in scope and moves beyond the immediate need for subsistence salmon harvest data as stated in the 2016 call to recognize the utility of a current and comprehensive baseline subsistence survey in the three study communities; the existing subsistence baseline data is old in two communities and was never conducted in Cold Bay. The social network analysis more specifically addresses the distribution practices of Federally qualified subsistence users and has direct management implications in understanding the significance of a resource beyond the standard household and the web of relationships statewide that participation and distribution enhance. Additional value is seen in the development of an independent authority with expertise (connections, trust, working relationships) in Southwest Alaska, and a dataset that could possibly contribute to the Community Subsistence Harvest

Information System (CSIS); a publically accessible database for immediate assessment of community subsistence harvests comparable across regions and over time. The database developed by the University would expand a unique genealogical dataset of the region and will provide researchers the opportunity for more detailed analysis of the social structures that support a local subsistence economy, but it is unclear how accessible the University database will be to Federal and State Management agencies or to the general public.

TRC Ranking: 3

Project Number: 16-404

Project Title: Pre-historical Salmon Abundance in the Lake Clark System

Project Summary: This proposal requests funds for two years to “*estimate pre-historical sockeye salmon abundance in the Lake Clark system.*” “*This project will address that data gap by reconstructing sockeye salmon abundance during the past ~500 years in key locations within the Lake Clark system using lake sediment cores.* The proposed project title and references thereafter may be more reflective of the project if the term historical were used in place of “*pre-historical*”. Regardless, “*Resulting data will facilitate sustainable management by defining the natural variability of sockeye salmon in the system, placing recent fluctuations of abundance into a long-term historical context*”. Similar studies were funded by the National Park Service in 2003 to fill this data gap using sediment cores and isotope analysis. At the time, the technology was new and pre-historical abundance information was not completed as part of the 2003 study. Since then the methods have been refined.

The investigation plan alludes that core samples were taken in 2003 but were not analyzed. Assuming the samples taken in 2003 were preserved and the methods of collecting the samples haven’t changed it is recommended that the PI investigate the potential use of those samples to accomplish the proposed objectives.

Justification: The proposed study requests funds for two years to “*estimate pre-historical sockeye salmon abundance in the Lake Clark system.*” “*This project will address that data gap by reconstructing sockeye salmon abundance during the past ~500 years in key locations within the Lake Clark system using lake sediment cores.* Nutrients from historical salmon runs are deposited onto lake bottoms throughout natal lakes each year within the proposed study area. The size of the salmon runs depositing the nutrients can be quantified by the amount of annual nutrient deposition.

This project has a direct linkage to Federal lands within and around the Lake Clark National Park and Preserve. Subsistence fisheries including those harvesting salmon are essential to the diet, economy, and culture of local communities in the Bristol Bay region of Alaska. This study proposal directly addresses one of the priority information needs identified in the 2016 Fisheries Resources Monitoring Program’s Notice of Available Funding for the Southwest Region “*Historical salmon escapement to the Lake Clark watershed using isotopic analysis of lake sediment cores*”. The proposed study has wide geographic implications because Sockeye Salmon returning to the Lake Clark system support subsistence fisheries throughout the Bristol Bay Region.

Information collected from this study “*will facilitate sustainable management by defining the natural variability of sockeye salmon in the system, placing recent fluctuations of abundance into a long-term historical context*”. However, the investigators do not specially address the implications to subsistence fisheries in the region nor identify any immediate or urgent subsistence concerns. The subsistence fishery in the region has never been restricted by any means, not even during the worst salmon return years. It is unclear how the proposal would be significant to any subsistence management. The proposal appears to be mostly research based and is not of the highest priority to managing subsistence fisheries. Any resulting management would likely have greater implications to commercial fisheries management because the Bristol Bay Region is the World’s largest commercial sockeye fishery which operates under intensive management.

The investigators indicate that a similar study with multiple objectives including the use of sediment coring and isotope analysis was conducted in 2003 in the same region. Objectives from that study pertaining to the isotope analysis and historical salmon abundance estimates were not completed. It is recommended that the investigators address the utility of those samples for use to achieve the proposed project objectives. The investigators also noted that the methods used to quantify historical salmon abundance have been improved and expanded on since the first attempt.

Each investigator has resources needed to accomplish the proposed objectives of this study. The National Park Service brings all the infrastructure and logistical support to conduct field studies in the Lake Clark region and the University of Washington brings the analytical and laboratory resources need to accomplish the objectives.

The cost of the project appears to be reasonable and prudent. The total project cost is \$62,670 with an annual cost of \$31,335. Costs associated with year one are to conduct the field collections and costs for year two are necessary to run the laboratory analysis.

None of the investigators represent a rural, Alaska Native, or tribal organization. However, each entity has a history working with and disseminating information to rural communities and organizations. The National Park Service’s, Lake Clark National Park and Preserve have partnered with the Bristol Bay Native Association since 2008 to hire, recruit and train local residents. This study proposal would continue collaboration between the National Park Service and the University of Washington.

TRC Ranking: 4

Project Number: 16-402

Project Title: Utilization of a time lapse camera system to monitor timing and abundance of the sockeye salmon (*Oncorhynchus nerka*) return to Akalura Lake, Kodiak Island, Alaska

Project Summary: This proposal seeks four years of funding to operate a remote time lapse camera system to estimate sockeye salmon returning to the Akalura Lake system in Southwest Kodiak Island.

The proposed project site would be located near the outlet of Akalura Lake within Akalura River. Sockeye Salmon returning to Akalura Lake system have been intermittently monitored by several entities over the last century since 1923 using varying techniques. Currently, there are no escapement goals associated with Sockeye Salmon returning to the Akalura Lake system.

Justification: This proposal marginally addresses one of the priority information needs identified in the 2016 Fishery Resource Monitoring Program Priority Information Needs for Southwest Region. The average annual cost of the project is \$10,491. The project is inexpensive because the principal investigator is supplying all the equipment and field time is minimal due to the type of proposed camera system. As written, information collected from this study would give an estimate/index of abundance with no relative confidence or scalable precision. The objective is clear; however, the methods presented may not be sufficient to achieve the objective as written. To meet the objective as written, the methodology would need to change which ultimately would increase the cost of the project during year one. Project budget for subsequent years would be substantially less. Video technology used in fisheries management has largely shifted from analog to digital and from aerial to underwater video for several reasons. Underwater video allows for complete census of multiple species simultaneously migrating, allows for fish enumeration during all water conditions, and minimizes the amount of time required to analyze video data through motion detection algorithms and digital file selection—all while maintaining a complete census of the population alleviating the need for estimates and introduction of sample bias. Some concerns that should be addressed are how poor visibility from wind, glare and turbidity would be handled in the estimates/index and how fish species would be differentiated from one another. Biases associated with the proposed method would need to be evaluated to determine the direction of the bias. To do this the project cost would likely increase substantially.

The investigator should have the resources available from the Kodiak National Wildlife Refuge to complete the proposed study; however, he did not identify those resources. Most of the data analysis will be completed in Kodiak at the Refuge headquarters using an intern from the Alaska Native Science and Engineering Program. The investigator also indicated that the collected information would be shared with the Alaska Department of Fish and Game. Although this study would provide an estimate/index of Sockeye Salmon abundance in the Akalura river/lake, it remains unclear as to how the information would be used to manage subsistence fisheries. Currently, there are no escapement goals identified for the Akalura Lake Sockeye Salmon population. The proposed study likely has localized implications and would assist commercial fisheries management more than subsistence management.

TRC Ranking: 5

Project Number: 16-401

Project Title: Southwest Kodiak Ecological Assessment

Project Summary: This proposal seeks four years of funding to conduct a comparative evaluation of lake rearing Sockeye Salmon habitats from Akalura, Olga, Red, and Horse Marine lakes in Southwest Kodiak Island region. *“This project will obtain smolt condition and lake habitat quality data over time for Akalura and Upper Olga lakes and compare them to similar systems (Red and Horse Marine lakes) that*

are in close proximity but have had relatively stable sockeye salmon production. Smolt condition and age data, when coupled with limnological data, provide the information for identifying critical linkages in sockeye salmon life histories when they are most susceptible to mortality as juveniles.”

Justification: Fisheries Resource Monitoring Proposal 16-401 directly addresses one Southwest Regional priority information need identified in the 2016 Notice of Funding Availability, “*Comparative ecological evaluation of lake rearing habitats of subsistence sockeye salmon stocks in southwest Kodiak Island, Alaska, including Olga Lakes and Akalura Lake watersheds; assessment of (1) the decline in salmon stocks and associated subsistence harvest opportunities, and (2) the potential effects of climate change on salmon production in these lake systems*”. Information collected from this project would be applied to management of Sockeye Salmon returning to Southwest Kodiak Island lake systems located in Olga Bay, including Akalura, Horse Marine, Olga, and Red lakes. The proposed project is technically sound and the objectives, with minor modifications, are clear, measureable and, achievable. Minor modifications include establishment of confidence intervals and bounds of precision for objectives that include estimates of age, weight, and length of Sockeye Salmon. All investigators appear to have the knowledge and resources available to accomplish the proposed objectives. The proposed cost of the project is reasonable and justified averaging \$91,835 annually for a total request of \$367,340. None of the investigators are rural, Alaskan Native, or from a tribal organization. However, this partnership will help develop partnerships and build collaboration between Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, Kodiak Regional Aquaculture Association, and subsistence users.

With regards to subsistence management of fishery resources, the investigation plan does not clearly address or indicate how the proposed study would affect management of subsistence resources within the region. The investigation plan also does not identify any immediate or urgent subsistence concerns within the region. It remains unclear but appears as if the proposed study would have greater implications to commercial fisheries management rather than federal subsistence fisheries because project results could be a prescription for lake fertilization and potentially future enhancement. The investigation plan indicates that Sockeye Salmon stock would be managed for optimal sustained yield. Currently, there are no escapement goals associated with Akalura Lake but biological and optimal escapement goals do exist for other nearby systems including Olga Lake system.

TRC Ranking: 6

Project Number: 16-403

Project Title: Abundance and Distribution of Togiak River Chinook Salmon, 2016-2019

Project Summary: This proposal seeks four years of funding to conduct a mark-recapture study on Chinook Salmon in the Togiak River Drainage using a combination of Spaghetti-tags, radio-tags, a float resistance board weir, and ground surveys. Additionally, this study will attempt to correlate aerial counts to escapement estimates to develop correction factors to be used in future aerial index surveys. This project would resume a recent study completed by the USFWS, Anchorage Fish and Wildlife Field Office between 2009 and 2012 (latest funding through FRMP project # 10-402). There are concerns as to whether the proposed methods can accomplish the objectives listed in the investigation plan.

Justification: This proposal addresses one of the Southwest Regional priority information needs listed in the 2016 Fisheries Resource Monitoring Program Notice of Funding Availability. This project as written essentially resurrects previous work and proposes nearly identical methodologies used by the U.S. Fish and Wildlife Service, Anchorage Fish and Wildlife Field Office from 2009 to 2012. The prior project completed was unable to provide accurate estimates of abundance due to complications in the capture and recapture of marked fish. Therefore, proposed objectives for this proposal may not be achievable. There is concern as to whether the investigators can achieve the sample goals required to meet their confidence and precision levels identified in objective one of the investigation plan and whether or not they will be able to establish estimates of Chinook salmon abundance in the Togiak River from 2016 to 2019. Effort during the mark and recapture of Chinook Salmon would need to be substantially greater in this study over prior studies which would increase the cost of the project. This was minimally addressed by the investigators but was not quantified. It is also unclear as to whether the objective to correlate the estimated escapement to aerial survey indices to develop more accurate correction factors for future aerial surveys is warranted given the aerial surveys have been discontinued since 2005 due to the inconsistent flights.

The cost to complete the study appears to be excessive and the total proposed price across all agreement periods is unreasonable. The cost of this project is not well documented and appears unjustified. In addition, it is unclear in the project budget the intent for inclusion of a request for a BBNA Partner's Program position requesting annually \$76,018 in addition to an annual request for \$36,067 by BBNA. Further explanation of the budget is warranted and could have been covered in the Budget Justification; however a Budget Justification was not included in the proposal package. In the Notice of Funding Availability and Application Instructions it specifically states that a Budget Justification is a required document. The cost/price of the proposal is not reasonable and does not represent a price to the government that a prudent persona would pay when consideration is given to the prices in the market.

The investigators did not identify or discuss the long term effects of this study and establishment of aerial survey correction factors to the management of Chinook Salmon. It is recommended that the investigators discuss the likelihood of future aerial surveys routinely taking place beyond the scope of this study. The implication to federal subsistence fisheries from this study proposal is also unclear because escapement goals pertaining to Chinook Salmon returning to the Togiak River drainage are not established and other fisheries harvesting Chinook Salmon, i.e. commercial and sport, continue persist in the area.

APPENDIX A

The following Executive Summaries were written by the Principle Investigators and submitted to the Office of Subsistence Management as part of the proposal package. The statements and information contained in the Executive Summaries were not altered and they may not reflect the opinions of the Office of Subsistence Management or the Technical Review Committee. The Executive Summaries listed are for projects that are currently being considered for Funding the 2016 Fisheries Resource Monitoring Program. Projects which were not considered for funding were not eligible due to the nature of the activity and are not included in this appendix.

Project Number: 16-401
Title: Southwest Kodiak Ecological Assessment
Geographic Region: Southwest Region / Kodiak-Aleutians Area
Data Type: Stock Status and Trends (SST)
Principal Investigator: Heather Finkle, Alaska Department of Fish and Game
Co-Investigators: Nathan Weber, Kodiak Regional Aquaculture Assoc.
 Bill Pyle, U.S. Fish and Wildlife Service

Project Cost:	2016: \$90,050	2017: \$91,493	2018: \$93,001	2019: \$92,796
Total Cost: \$367,340				

Issue: Over the last 15 years, very little to no effort has been exerted to assess declines in sockeye salmon returns to Akalura and South Olga lakes, which have negatively impacted Alitak and Olga Bay subsistence fishery opportunities, in particular for Akhiok residents. This ecological assessment will obtain smolt condition and lake habitat quality data over time for Akalura and Upper Olga lakes and compare them to climatic conditions and similar systems (Red and Horse Marine lakes) that are in close proximity but have had relatively stable sockeye salmon production. By understanding the linkages between climate, juvenile sockeye salmon health, and lake rearing conditions, this holistic approach will allow biologists to better manage for optimum sustained yield improving subsistence harvest opportunities. This project will also help identify how past management actions have affected sockeye salmon production vital to Akhiok residents and the Alitak and Olga Bay subsistence fisheries, providing management biologists a frame of reference to better assess current conditions and future actions.

Objectives:

1. Estimate the age composition and average size of juvenile sockeye salmon from Akalura, Horse Marine, Red and the South Olga lakes annually from 2016 through 2019.
2. Evaluate the effects of the water chemistry, nutrient status, and plankton (phytoplankton and zooplankton) production of each lake on the smolt production and future adult returns from 2016 through 2019.
3. Re-evaluate Akalura, Upper Olga, Red, and Horse Marine lake bathymetry, while collecting high resolution water quality data and juvenile fish distribution using an Ecomapper AUV, once in each lake over the course of the study.

4. Build the smolt age composition and condition dataset for comparison to available historical fisheries and limnological data in relation to climate change and anthropogenic (i.e. oil spill, management, etc) effects upon completion of objective 1.
5. Assess available historical fisheries and limnological data in relation to climate change effects, upon completion of objectives 1–4.

Methods: This project will directly exercise collaboration among ADF&G, KRAA, and USFWS. Juvenile sockeye salmon and limnological sampling from Akalura, Horse Marine, Red, and Upper Olga lakes will occur once every two weeks May through June and once every four weeks from July through September in each year of the project (2016-2019). Adjacent to limnological sampling stations, temperature arrays will be launched each April and retrieved and downloaded each October of the project. Each May, beach seine and limnological stations will be logged with a global positioning system (GPS); limnological stations will be marked with a buoy. For each lake, beach seining and limnological sampling will be paired events. Data collection and sample processing will adhere to the following methods:

- Dissolved Oxygen, Light, and Temperature

Water temperature (°C) and dissolved oxygen (mg/L) levels will be measured with a YSI dissolved-oxygen/temperature meter. Readings will be recorded at half-meter intervals to a depth of 5 m, and then increased to one-meter intervals. Upon reaching a depth of 20 m, the intervals will be increased to every five meters up to a depth of 50 m. A photometer will measure photosynthetically active wavelengths (kLux). Readings begin above the surface, at the surface, and proceed at half-meter intervals until reaching a depth of 5 m, going to one-meter intervals until the lake bottom or 0 kLux light penetration is reached. The depths at which a Secchi disc disappears and reappeared when lowered and raised in the water column will be averaged to measure water transparency. For temperature arrays, Hobo® U22 Water Temperature Pro v2 data loggers will be set at 5-m depth intervals for the 5-30 m depth range and at 10 m intervals where lake depth exceeds 30 m. Data loggers will be programmed to record temperature on an hourly basis.

- Water Sampling

Four to eight liters of water will be collected from each station with a Van Dorn bottle from the 1 m and from the hypolimnion (depth of ≥ 29 m depending on lake morphometry). Water samples will be refrigerated until initial processing. One-liter samples will be filtered for chlorophyll-*a* and particulate N and P analyses. Samples will be stored frozen for further processing. A pH meter and acid titration will be used to assess alkalinity and pH. Components of phosphorous, nitrogen, and silicon will be measured using a SEAL Analytical AA3 segmented flow autoanalyzer following the manufacturer's instructions and established EPA chemistries. Chlorophyll *a* and phaeophytin will be measured with a spectrophotometer.

- Zooplankton

One vertical zooplankton tow will be made at each limnology station with a 0.2-m diameter, 153-micron net from one meter above the lake bottom to the surface. Each sample will be stored in a 10% buffered formalin solution. Three subsamples will be keyed to zooplankton family or genus, counted

and averaged. Mean length (± 0.01 mm) will be measured and biomass will be calculated via species-specific linear regression equations between weight and length measurements.

- Bathymetric Mapping

A YSI Ecomapper autonomous underwater vehicle will measure each lakes' bathymetry in accordance with the manufacturer's protocol. The georeferenced depth data collected from each mission will be edited and plotted with Surfer software to estimate bathymetric statistics.

- Beach Seining of Juvenile Salmon

A single haul will be made at established sites around each lake with a beach seine net. All fish species caught will be identified and counted. A total of 40 juvenile sockeye salmon will be randomly sampled for age, weight, and length (AWL) data.

Partnerships/Capacity Building: This project will directly foster partnerships, capacity building by collaboration among ADF&G, USFWS, and KRAA. The dissemination of deliverables created by the collaboration of these three agencies will enable and establish dialogues among project investigators and the Akhiok community, its tribal leadership, and the Kodiak Island Borough Assembly. In turn, Akhiok residents and Akhiok-Kaguyak, Inc. will benefit from 1) having current robust information for understanding the changes to the local subsistence fishery and 2) having developed partnerships and developed the capacity for interacting with the agencies that manage subsistence fisheries.

Project Number: 16-402
Title: Utilization of a time lapse camera system to monitor timing and abundance of the sockeye salmon (*Oncorhynchus nerka*) return to Akalura Lake, Kodiak Island, Alaska
Geographic Region: Southwest Region / Kodiak-Aleutians Area
Data Type: Stock Status and Trends (SST)

Principle Investigator: Kevin Van Hatten, US Fish & Wildlife Service, Kodiak National Wildlife Refuge

Project Cost:	2016: \$9,810	2017: \$10,309	2018: \$10,710	2019: \$11,136
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Total Cost: \$41,965

Issue Addressed: The proposed project will partly address the *Southwest Alaska Region Priority Information Needs*. Specifically we propose to re-instate monitoring of the Akalura Lake stock of sockeye salmon as a priority component and the initial and essential first step required to evaluate the potential for restoration of the subsistence fishery resource. Monitoring of this stock needs to be reinstated for several reasons. Since the abundance of returning salmon largely determines the capacity of lakes to rear juvenile salmon (Schmidt et al 1998), management of the stock and fishery requires knowledge of stock status and trend. Although many factors may be limiting the abundance of sockeye salmon in the Akalura system, one of the likely primary causes is reduction in the capacity of lake-rearing habitat to support juvenile sockeye salmon stemming from low returns of adults and limited delivery of nutrients to the lake derived from returning salmon. Restoration of the value of this fishery as a subsistence fishery resource may require a range of management actions; however, one of the initial primary and essential steps involves re-instatement of monitoring the return of adults.

Objectives: Adults

1. Monitor the timing and abundance of returning sockeye salmon to Akalura Lake between 2016 and 2019.

Methods: To understand the variation in sockeye salmon run of Akalura River, we will use a remote video method. Managers utilize several different methods, each with their own strengths and weaknesses, to monitor variation in timing and abundance of adult salmon in natal streams. Fixed or floating weirs, counting towers, or sonar are used on many large rivers in Alaska. Although these methods collect the desired information, they are expensive and labor intensive. Data of the same quality may be collected with a remote video method in smaller river at comparatively lower cost requiring minimal field labor. This remote video method was developed and successfully tested in small streams of southwest Kodiak Island, during 2012-2014 (Deacy and Leacock 2014). The remote video method entails collection of data in the field and processing of data in the office. In the field, a weatherproof time-lapse camera and video camera will be attached to a 10m pole which can be adjusted as needed. The pole will be affixed to the top of a four-legged tower set adjacent to the stream and surrounded by an electric fence to prevent damage by brown bear. The camera system will be solar-powered with battery backup. Concurrently, contrast panels will be affixed to the streambed spanning the stream channel cross-section adjacent to the camera station. The upstream edges of the contrast panels will be secured to steel chain. The steel chain

will span the creek and be anchored on each shore with rebar or t-posts. Contrast panels will be secured to each other and the steel chain with zip ties.

The time lapse cameras will be programmed to take three rapid sequential photos per minute, 24 hours/day. Images acquired from these three photos will reveal the number, direction and species of fish across the contrast panels. To record nocturnal movement of salmon, infra-red (IR) lights will be attached to the top of the tri-pod and pointed towards the submerged panels. A light sensitive “eye” will be located on the top of the lights and is used to judge daylight. At a certain/specific natural light setting, such as dusk, the lights will be illuminated. To provide contrast of salmon movement we will use 3mm polyethylene white panels to aid the ability of the camera to capture those movements. We will service the system on a weekly basis. C and video SD cards will be exchanged and debris will be removed from panels.

Partnerships and Capacity Building: The project will employ an undergraduate intern affiliated with the University of Alaska Anchorage’s Alaska Native Science and Engineering (ANSEP) program. Students with home bases in the Kodiak area will be sought, but if not available, ANSEP-affiliated students from other regions of Alaska will be employed. The ANSEP intern will be employed at a GS-3 equivalent level between mid-May and mid-August. Approximately 50% of the ANSEP intern time will be committed to support this project, and the balance will be committed to support other Refuge projects. Consequently, we request funds in our project budget needed to support the 50% of the intern’s time dedicated to this proposed fisheries project.

The consultations described above will help develop partnerships and build the capacity of individuals such as the ANSEP intern, agencies, and organizations to meaningfully participate in the project which contributes to the management of federal subsistence fisheries.

Project Number: 16-403
Title: Abundance and Distribution of Togiak River Chinook Salmon, 2016-2019
Geographic Region: Southwest Alaska
Principle Investigator: Keggie Tubbs, Bristol Bay Science and Research Institute (BBSRI)
Co-Investigators: Courtenay Carty, Bristol Bay Native Association (BBNA)
 Mark Lisac, Togiak National Wildlife Refuge (TNWR)
 Tim Sands, Alaska Department of Fish and Game (ADFG)

Project Cost:	2016: \$414,494	2017: \$393,844	2018: \$393,844	2019: \$384,416
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Total cost: \$1,586,598

Issue Addressed: Togiak River Chinook salmon support the largest subsistence fishery with Federal nexus and jurisdiction in Bristol Bay, and are a high-value component of subsistence, recreational, and sport fisheries. Recent Chinook salmon production throughout the Southwest region and much of Alaska is in decline. Accurate assessments of Togiak River Chinook salmon escapement are no longer being conducted, however, and the escapement goal for this stock was eliminated as part of the 2012/2013 Alaska Board of Fish cycle. Estimates of escapement are needed for effective long-term management that will ensure adequate subsistence harvests into the future.

This project will resume escapement estimates discontinued after 2012, thereby addressing a priority information need identified in the Fisheries Resource Monitoring Program’s 2016 Notice of Funding Availability: to produce “Reliable estimates of Chinook salmon escapement into the Togiak River (for example, from projects utilizing weir, sonar, tower and/or mark-recapture methods).” Togiak River Chinook salmon are a resource managed through the Federal Subsistence Management Program (in the Bristol Bay Management Area section of the 2013-2015 Fish and Shellfish Regulations). Subsistence harvests for Chinook salmon in the Togiak River are within the Federal Conservation System boundaries of the Togiak National Wildlife Refuge (TNWR); providing a harvest priority to subsistence users in these waters is mandated under Title VIII of the Alaska National Interest Lands Conservation Act. Commercial harvests are in Togiak Bay and are managed by the Alaska Department of Fish and Game (ADF&G).

Objectives:

1. Estimate the annual abundance of Chinook salmon in the lower Togiak River such that the estimates will have a 90% probability of being within 25% of the true abundance;
2. Document Chinook salmon spawning locations in the Togiak River watershed;
3. Estimate the proportion of Chinook salmon that spawn in each of the tributary and mainstem index areas that are used for reporting aerial spawner survey results, including Gechiak Creek;
4. Estimate the weekly age and sex composition of Chinook salmon in Gechiak Creek, such that simultaneous confidence intervals have a maximum width of 0.20;

5. Estimate the mean length of Chinook salmon by sex and age; and
6. Use abundance and distribution results to develop a correction factor for aerial surveys.

Methods: Study Design: The study design and field methods proposed for this project will incorporate many of the successes by AFWFO and partners in their 2012 project (Sethi and Tanner 2014; Tanner and Sethi 2014). A two-sample mark-recapture experiment will be used to estimate adult Chinook salmon abundance in the lower Togiak River. In the first sample event, fish will be captured using drift gillnets, tagged with spaghetti and radio tags, and released in the mainstem of the Togiak River within 5 river kilometers (rkm) of the mouth. The tagging site will be located upstream of the majority of harvest effort, but downstream of the majority of spawning areas. For the second sample event, fish will be captured and inspected for marks at a floating picket weir located on Gechiak Creek (2 km upstream from the Togiak River confluence). Additional second-event samples will be obtained from spawning ground (carcass) surveys, conducted throughout the spawning period (mid-August to early September). Based on an inriver abundance of 10,000 Chinook salmon, a feasible scenario to achieve the statistical criteria is deploying 450 tags (150 radio + 300 spaghetti) in the first sample event and inspecting 886 fish in the second sample event. Age, sex, and length data will be collected from Chinook salmon at the Gechiak Creek weir using a temporally stratified sampling design.

Radio-tagged fish will be tracked throughout the Togiak River drainage using a combination of eight fixed-station receiver sites and mobile-tracking surveys. Fixed stations will be operated from late June to early September each year. Receivers at each site will be checked and downloaded approximately every 7-10 days while in operation. Boat-tracking surveys will be conducted from early July to early September (likely every 7-10 days if paired with visits to the fixed stations). From early July to mid-September, an aerial tracking survey will be flown approximately once every two weeks.

Aerial spawner surveys will be conducted by ADF&G to count Chinook salmon. Each year an expansion factor will be calculated from the ratio of the escapement count (mark-recapture estimate) to the index count (aerial spawner surveys). The long-term goal of the expansion factor is to generate ongoing estimates of escapement using aerial surveys.

Partnerships and Capacity Building:

- The BBSRI will be responsible for the project and provide the necessary biological expertise and training to ensure that all project objectives are achieved.
- The BBSRI will provide field crews responsible for the day-to-day operations at the tagging site and Gechiak Creek weir, as well as the spawning ground and mobile-tracking surveys. BBNA will provide an additional technician and Alaska Native Science and Engineering Program intern for the field crew.
- BBNA will work with local villages to provide outreach and education; the outreach plan will include project updates at annual meetings of local tribal councils, Togiak Fish and Game Advisory Committee (AC) and the Bristol Bay Subsistence Regional Advisory Committee (RAC).

- The Togiak NWR will provide equipment and personnel for aerial surveys, as well as camp gear, and logistical support.
- ADFG, divisions of Commercial Fisheries and Sport Fish, will provide experienced aerial survey biologists and play a key role in the development of aerial survey correction factors.
- Wherever possible, all investigators will transfer knowledge and skills to local technicians.
- This project will enhance the existing partnerships among many of these groups including the tribal councils in the Togiak Bay area, the Togiak AC, and the Bristol Bay RAC.

Project Number: 16-404
Title: Pre-Historical Salmon Abundance in the Lake Clark System
Geographic Area: Southwest Region
Information Type: Stock Status and Trends (SST)
Principal Investigator: Krista Bartz National Park Service – Inventory and Monitoring Program – Southwest Alaska Network
Co-Investigators: Daniel Schindler, University of Washington – School of Aquatic and Fishery Sciences.
 Dan Young, National Park Service – Lake Clark National Park and Preserve

Project Cost:	2016: \$7,797	2017: \$54,873	2018: \$0	2019: \$0
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Total Cost: \$62,670

Issue: The world’s largest sockeye salmon fishery occurs in Bristol Bay, Alaska. The fishery is divisible into nine stocks, each of which contains multiple populations. Asynchronous, population-specific variation in adult abundance characterizes sockeye salmon in the region. This variation is apparent at short and long time scales, and is considered key to the resilience of the Bristol Bay stock complex as a whole. The fact that abundance varies asynchronously among populations means that annual returns of nearby populations are not necessarily correlated, and data gaps cannot be filled using simple numerical models. One such data gap involves pre-historical returns to the Lake Clark system. This project will address that data gap by reconstructing sockeye salmon abundance during the past ~500 years in key locations within the Lake Clark system using lake sediment cores. Resulting data will facilitate sustainable management by defining the natural variability of sockeye salmon in the system, placing recent fluctuations in abundance into a long-term historical context. These data will fill the second priority information need identified in the Notice of Funding Availability for the Southwest Alaska Region.

Objectives: The overarching goal of this study is to estimate pre-historical sockeye salmon abundance in the Lake Clark system. Four specific objectives must be met in order to reach this goal:

1. Collect sediment cores
2. Establish sediment core age chronologies
3. Determine sediment core N isotope ratios
4. Infer pre-historical salmon abundance from N isotope ratios

Methods:

- Objective 1 – Collect sediment cores
 Sediment cores will be obtained from six lakes in the Lake Clark system, including four salmon-bearing lakes and two reference lakes. One site per lake will be cored at all lakes except Lake Clark, where three sites will be cored, summing to eight sites total. At each site, three cores will be collected, but only one core per site will be used for subsequent analyses. Cores will be collected using a gravity corer and sectioned in the field into samples <1 cm in thickness (n ≈ 150 samples per core, depending on core length).

- Objective 2 – Establish sediment core age chronologies
 ^{210}Pb dating techniques will be the primary method for estimating ages of sediments. ^{14}C dating techniques will be used as a secondary method to validate the ^{210}Pb results. Approximately 15 samples from each core will be thawed, sub-sampled, and analyzed at an offsite lab for ^{210}Pb activity via α -spectrometric analysis. A similar process will be used to analyze approximately 2 samples per core for ^{14}C .
- Objective 3 – Determine sediment core N isotope ratios
Stable N isotopic analysis will be conducted on all core samples. Samples will be thawed, sub sampled, and analyzed at the University of Washington via continuous flow isotope ratio mass spectrometry. Results of stable N isotopic analysis will be expressed in terms of N isotope ratios ($^{15}\text{N}/^{14}\text{N}$), which can be converted easily to $\delta^{15}\text{N}$ values using a simple equation.
- Objective 4 – Infer pre-historical salmon abundance from N isotope ratios
A two-member mixing model will be used to convert sediment core $\delta^{15}\text{N}$ values to adult salmon abundance, as described in Schindler et al. 2005. Sediment core $\delta^{15}\text{N}$ values will be used to estimate pre-historical salmon escapement densities through time. Monte Carlo analyses of the mixing model will produce confidence intervals of these estimates based on measured variability in sediment $\delta^{15}\text{N}$, and other components of the mixing model (Schindler et al. 2005).

Partnerships and Capacity Building: The LACL Natural Resources Program has an established history of partnerships and capacity building. Please review FIS files from past projects for the history of communications and collaborations. Our program is dedicated to improving management of subsistence fisheries by providing data on status and trends of sockeye salmon to subsistence users and managers in the region. Our capacity building efforts have focused on education and job opportunities related to sockeye salmon and dissemination of acquired information to all stakeholders. Since 2008, we have partnered with Bristol Bay Native Association to assist with the hiring, recruitment, and training of local residents on our projects.

Project Number: 16-451
Title: Description and Analysis of the Subsistence Salmon Network in Bristol Bay
Geographic Region: Southwest Alaska
Data Type: Harvest Monitoring Traditional Ecological Knowledge (HMTEK)
Principal Investigator: Davin Holen, Subsistence Program Manager, Division of Subsistence, Alaska Department of Fish and Game
Co-Investigators: Courtenay Gomez, Director of Natural Resources, Bristol Bay Native Association
 Dr. Drew Gerkey, Assistant Professor, Department of Anthropology, Oregon State University

Project Costs:	2016: \$0	2017: \$150,613	2018: \$98,302	2019: \$53,888
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Total Cost: \$302,803

Issue: The 2015 Fisheries Resource Monitoring Program has identified an information need for a “description and analysis of social networks underlying the allocation and management of subsistence salmon fisheries in villages in the Bristol Bay-Chignik Area,” within the priority information needs for Southwest Alaska. This project will focus on 5 communities, Chignik Lake, Chignik Lagoon, Perryville, Egegik, and Port Heiden, each of which has a unique regional sharing pattern as identified during previous studies carried out by project researchers. The goal of this project is to provide information on how the social network “functions in the allocation and management of subsistence resources... and how such a model might be applied and utilized in Federal subsistence management.”

Customary trade – the exchange of subsistence harvest salmon for cash – is a recognized subsistence use under ANILCA (and state law), along with sharing and bartering, and is part of long-standing subsistence traditions throughout Alaska (Langdon and Worl 1981; Wolfe and Magdanz 1993). Krieg et al. (2007; FIS 04-454) described the sharing, bartering, and cash trade of subsistence resources in the Bristol Bay region. The proposed research will expand upon Krieg’s study by identifying and analyzing the social networks underlying the exchange of salmon not only within a community, but within the larger Bristol Bay–Chignik area. Furthermore, the proposed communities of Chignik Lake, Chignik Lagoon, Perryville, Egegik, and Port Heiden exhibit an extensive range of sharing patterns which could help researchers and managers understand how salmon from this region are shared throughout Alaska and elsewhere.

This project will investigate the social networks of shared subsistence salmon resources in Bristol Bay and Chignik communities and how these networks could be understood within the federal subsistence management system. All residents of the Bristol Bay Management Area qualify for participation in Federal subsistence fisheries. Because of the number of communities in Bristol Bay and the depth of knowledge this project seeks to gather, a sample of communities representative of different areas were chosen based upon researchers’ prior experiences with sharing networks. In addition these communities represent different and sometimes overlapping Federal nexus within the Bristol Bay – Chignik area.

These communities include:

- Chignik Lake, Chignik Lagoon, and Perryville - *Alaska Peninsula National Wildlife Refuge*
- Egegik - *Becharof National Wildlife Refuge*
- Port Heiden - *Aniakchak National Monument and Preserve*

Objectives:

1. Estimate the harvest and use of salmon by residents of Chignik Lake (pop. 70), Chignik Lagoon (pop. 72), Egegik (pop. 106), Perryville (pop. 101), and Port Heiden (pop. 114).
2. Describe the harvest of salmon in terms of species, gear, location, timing of harvests, and distribution patterns.
3. Through harvest surveys and key respondent interviews illustrate the sharing networks both within each community, across the broader region, and throughout Alaska.

Methods: The research will employ two integrated social science data gathering methods which will be discussed in detail below. These are 1) systematic household surveys, and 2) key respondent interviews.

1. Household harvest survey. The subsistence household harvest survey is useful to meet Objective 1 which is to estimate the harvest of salmon by residents of Chignik Lake, Chignik Lagoon, Egegik, Perryville, and Port Heiden and Objective 2 which is to describe the harvest of salmon in terms of species, gear, location, and timing of harvests.

The harvest surveys will inquire about the harvest and use of all salmon species during the study year 2016. Specifically the survey will document household demographics, harvest of salmon, and location of harvests. In addition a network module will be added to ask question about who residents share salmon within the community and these will be documented using a household survey list. From this a network can be created for community harvest. If the household shared outside the community the community name will be noted and the researchers will document the amount of harvest that is shared outside the community.

2. Key Respondent Interviews. Key respondent interviews will provide information on sharing networks within each of the study communities, the broader Bristol Bay – Chignik area, and the entirety of Alaska. Key respondent interviews will be open-ended and semi-structured and their foci will build on previous interviews conducted in these communities by Hutchinson-Scarborough and Krieg in Egegik for a comprehensive harvest assessment survey and by Hutchinson-Scarborough and Marchioni in Chignik Lake and Chignik Lagoon for an AKSSF funded salmon ethnography (Fall et al. 2013, Hutchinson-Scarborough and Marchioni in press). Key respondent interviews will follow an interview protocol developed to understand sharing networks and distribution of salmon to meet Objective 3.

Partnerships/Capacity Building: ADF&G and BBNA will share the responsibilities for conducting field investigations in this project, including identifying study communities, obtaining community

approvals, administering the survey, interviewing key respondents, and distributing follow-up materials in the study communities.

Tribal councils in study communities will be consulted about the project, and project approvals will be obtained prior to conducting fieldwork. Temporary field assistants will be hired by BBNA in each study community to assist with administration of the survey instrument and to help coordinate local logistical support and participation.

Number: 14-452
Title: Western Gulf of Alaska Salmon and Other Harvests on Federal Lands and Waters
Geographic Region: Southwest Region, Alaska Peninsula Area.
Data Type: Harvest Monitoring and Cultural Knowledge/Traditional Ecological Knowledge
Principal Investigator: Dr. Katherine Reedy Department of Anthropology

Project Cost:	2016: \$67,170	2017: \$108,048	2018: \$114,318	2019: \$58,638
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Total Cost: \$331,126

Issue: This proposal fully addresses the priority information need identified in the Southwest Alaska section of the 2016 Request for Proposals and in the Strategic Plan on the harvest of salmon for subsistence by residents of the communities of Cold Bay, King Cove, and Sand Point, including harvest methods by species and distribution practices. This project will address the harvest of salmon and all species in these three communities in the context of community needs, sport harvesting activity, economic impacts to harvesting, environmental and wildlife observations, and changing access to subsistence resources. This project also addresses the lack of information on subsistence and sport harvesting identified by the Kodiak Aleutians Regional Advisory Council and addresses all concerns and suggestions arising from RAC meetings in January 2014 and the TRC. Federal subsistence uses in these three communities is under-documented but they have been engaged in many natural resource issues for which current data would have assisted the decision-making process, making information of strategic importance. Basic subsistence harvest data from these communities are decades old or have never been collected (Cold Bay), and harvest numbers contextualized in the broader changing ecological, socioeconomic, and political environments are lacking. Current detailed information on all subsistence harvests is needed for management of fish and other species in federal public lands. This work will also analyze social networks underlying subsistence practices, and demonstrate the value of these models to the management of fish. Findings from this study will be linked to one previous and one nearly completed study involving the collection of similar data eight regional communities. These data will be presented and analyzed by species, season, community, characteristics of harvesters, permit authority, harvest methods, in layers of aggregation, and using social networks that will provide Federal subsistence fisheries management with analytical options and multiple scales of evaluation. The study will also collect information on changes to subsistence harvests so managers can better understand factors that have shaped current practices, for example lost or increased access, food security, regulations, predator issues, sport harvesting, and socioeconomic influences.

Objectives: The overarching research questions are, what is the current role of subsistence fisheries to Alaska Peninsula Area residents and to other users of the region? What is the social map of food harvesting and distribution, and how is it shaped by socioeconomic and political circumstances? How can this social map be useful to subsistence managers?

The objectives are:

- Estimate the harvest levels, methods, and locations of all subsistence and sport species in and around the study communities for calendar year 2016, especially salmon.
- Characterize sharing and distribution patterns of species and products between individuals, households, and communities.
- Use social networks of wild food exchange to model sustainability and resilience of households and communities.
- Determine changes in harvesting, access, and uses over time.
- Contextualize subsistence fisheries in the broader regional economy.
- Compare survey data with harvests reported in the State's permit system, communicate with the State to identify reporting issues, and make recommendations for improvements.
- Discover community subsistence concerns, observed changes in abundances and locations, predator issues, and observed environmental changes.
- Project environmental scenarios and demographic conditions to forecast potential strength and weaknesses of human communities.
- Provide Federal subsistence managers with a description and analysis of the social map of harvesting and demonstrate how models can support subsistence allocations and management.
- Link and compare harvests by communities to eight other Bering Sea communities, providing a regional quantitative and qualitative assessment.
- Contribute all data to the state databases.

Methods:

Connect with Alaska Peninsula communities and National Wildlife Refuges, give presentations on the goals and methods of the project, and create opportunities for local involvement.

Conduct key informant interviews to determine harvest access, methods, frequency and use, village socioeconomics, local politics, demographics, and cultural factors. Perform a literature review.

Conduct household surveys for the three study communities (100% of Cold Bay, 50% of King Cove and Sand Point) that capture harvest numbers of salmon, other marine fish, freshwater fish, land mammals, birds and eggs, and plant species for all household members; sharing and distribution of whole species and products between individuals; household economics; harvest locations; and species health/abundance observations. Participants shall be remunerated for their time and effort.

Integrate these data into a database from one recent and another ongoing study containing similar harvest and network data on eight other communities in the region.

Compare survey data with harvest numbers reported to the State to address data gaps.

Analyze survey field data, perform social network analysis, and use qualitative data to guide interpretation.

Prepare reports to the OSM and to the communities. Products: Annual reports that will include a review of previous literature and subsistence studies, the survey instrument, and ethnographic fieldwork on subsistence and sharing behaviors to obtain local perspectives that will aid in interpreting survey results; performance reports; a draft report and technical summary reviewed by the study communities a final report and technical summary which will contain survey and other household data, and thoroughly address all objectives. At least one peer-reviewed journal article and conference papers will also result. Project data will be publicly available on the CSIS.

Investigator Ability and Resources: Dr. Reedy will serve as PI and administrator. She has a Ph.D. in Social Anthropology from the University of Cambridge, has worked in ten Aleut communities for two decades, and is an Associate Professor of Anthropology at ISU. She will be responsible for human subjects approval, building community interest and involvement, interviews, survey development and implementation, supervising data entry, data analysis, and all report writing and delivery. Resources at ISU include an Ethnographic Laboratory managed by Dr. Reedy employing students who will enter data entry, transcribe interview, and perform GIS analysis. A research assistant and local participants will assist in surveying and mapping. ISU has a Financial Technician who manages grants and spending. **Partnerships and Capacity Building:** This project actively solicits local research assistants who will be trained in administering the surveys. Assistants and survey respondents will be compensated for their time and efforts. A protocol for facilitating community partnership will be established. The project also actively seeks analytical input from local communities and refugees in interpreting survey results.

Project Number: 16-453
Title: Subsistence Harvest Assessment and Biological Sampling of Chinook Salmon in the Togiak River Drainage
Geographic Region: Southwest Region
Date Type: Harvest monitoring and traditional ecological knowledge (HMTEK)
Principal Investigator: Sarah Hazell, Subsistence Resource Specialist III, Alaska Department of Fish and Game (Division of Subsistence)
Co-Investigators: Courtenay Carty, Director of Natural Resources, Bristol Bay Native Association (BBNA)

Project Cost:	2016: \$49,771	2017: \$107,384	2018: \$97,456	2019: \$44,887
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Total Cost: 299,498

Issue: This project responds to an information need identified in the “Priority Information Needs” document prepared by the USFWS Office of Subsistence Management after consultation with the Bristol Bay Regional Subsistence Advisory Council by conducting research that will contribute to “reliable estimates of Chinook salmon escapement into the Togiak River.” Additionally, this project proposes to collect subsistence harvest information, biological samples and information to assess Togiak River Chinook salmon stock composition and health, conduct participant observation in-season to better understand how subsistence users are reporting their harvests, and gather Traditional Ecological Knowledge (TEK) about potential causes for the decline in harvests of Chinook salmon by Togiak River subsistence users.

Togiak River Chinook salmon support the largest subsistence fishery with Federal nexus and jurisdiction in Bristol Bay. Since 1983, a permitting system documenting the subsistence harvests of Chinook salmon by Alaska residents has been administered by the ADF&G Division of Subsistence. In 2013, the estimated harvest of Chinook salmon by subsistence users of the Togiak River was 691 fish (Togiak and Twin Hills combined) which is the lowest documented harvest since 1997. In general, subsistence harvests of Togiak River Chinook salmon exhibit a downward trend beginning in 2009. Based on available data, it is difficult to determine causal factors (i.e. abundance, disease, competition) and it is not clear if this decline is linked to poor Chinook salmon returns that have affected other watersheds in the state. The stock does not currently have an escapement goal or an in-river monitoring program. To gain a better understanding of Chinook salmon population and health profile and identify factors that are affecting the subsistence harvest of Chinook salmon in the Togiak River watershed, this project proposes to conduct in-season participant observation, post-season harvest surveys, and stock composition and health assessments over a two year period.

Objectives:

1. Through participant observation in-season, learn how residents are recording and reporting their harvest of Chinook salmon.
2. Conduct interviews with local subsistence users to document their knowledge of Chinook salmon of the Togiak River and potential factors affecting the decline of reported subsistence harvests (e.g. Chinook salmon health, competition, trends, lack of reporting).
3. Collect age, sex, length (ASL) information to determine Chinook salmon stock composition.
4. Collection and analysis of Chinook salmon hearts to determine the prevalence of fish infected by Ichthyophonous in the fishery.

5. Conduct post-season harvest surveys to obtain amount and locations of household harvests to estimate the subsistence harvests (which contribute to total run estimates).
6. Compare harvest estimates with permit data and historical harvests to provide recommendations for a revised harvest monitoring program based on the study findings.

Methods: This research will employ three integrated social science data gathering methods and two biological methods to assess Chinook salmon composition, health, and subsistence harvests. These are: 1) participant observation, 2) key respondent interviews (TEK), 3) systematic households surveys, 4) ASL measurements, and 5) Ichthyophonus testing.

In June of both study years, ADF&G and BBNA staff will travel to the study communities when the Togiak River Chinook salmon run begins to conduct in-season participant observation and assist processing of Chinook salmon to document how subsistence users are recording their harvests (Objective 1 and 6). During this fieldwork, researchers will also conduct TEK interviews concerning local knowledge of the general health of Chinook salmon, in addition to questions about potential factors affecting subsistence harvests with knowledgeable subsistence harvesters (Objective 2). Furthermore, biological samples will also be collected at salmon harvesting and processing locations, specifically the collection of age, sex, length data and Ichthyophonus samples of Chinook salmon (Objectives 3 and 4). Subsistence harvest surveys will be administered post-season which will be compared with permit and historical harvest data to determine factors affecting the harvest and issues related to harvest reporting (Objective 5). Surveys will be conducted in January when community members are less involved in subsistence activities and more likely to be home.

Partnerships and Capacity Building: Tribal governments in the study communities have been and will continue to be consulted about the project and project approvals will be obtained prior to conducting fieldwork. The project will work with the tribal councils to identify potential LRA's who would be interested in developing their interview, communication, and observation skills. Researchers will work closely with selected LRA's to provide technical training and experience. The TCT has expressed interest in having ADF&G and BBNA staff work with the council and/or the local school to develop activities and presentations for students about subsistence issues/resources. These activities will be coordinated through the BBNA Partners for Fisheries Monitoring Program. Researchers will work with TCT over the study period to identify appropriate topics and activities to teach students, including for instance TEK, Chinook salmon biology, or resource management.

APPENDIX B

Table B.1. Fisheries Resource Monitoring Program projects funded in the Southwest Region from 2000 to 2014.

Project Number	Project Title	Investigators
<i>Bristol Bay Salmon</i>		
00-010	Togiak River Salmon Weir	USFWS
00-031	Alagnak River Sockeye Salmon Escapement	ADF&G, NPS, BBNA
00-033	Alagnak River Angler Effort Index	ADF&G, NPS, BBNA
00-042	Lake Clark Sockeye Salmon Assessment	USGS
01-047	Togiak River Subsistence Harvest Monitoring	BBNA, ADF&G, USFWS
01-075	Nondalton Sockeye Salmon and Freshwater Fish TEK	NPS, NTC, USGS
01-095	Lake Clark Sockeye Salmon Escapement	USGS, NTC
01-109	Traditional Ecological Knowledge of AkPeninsula/Becharolf NWR	ADF&G, BBNA
01-173	Alagnak River Harvest Salmon Assessment of Recreational Fishery	ADF&G
01-204	Ugashik Lakes Coho Salmon Escapement Estimation	USFWS
03-046	Fisheries Biotechnician Training Program	NPS
04-411	Lake Clark Sockeye Salmon Run Timing	USFWS, BBNA
04-454	Bristol Bay Sharing, Bartering, and Trade of Subsistence Resources	ADF&G, BBNA
05-402	Lake Clark Sockeye Salmon Escapement	NPS, USGS
08-402	Togiak River Chinook Salmon Radio Telemetry	USFWS, BBNA
08-405	Lake Clark Sockeye Salmon Assessment	NPS, USS&E, BBNA
10-402	Togiak River Chinook Salmon Adult Assessment	USFWS, BBNA, ADF&G,
<i>Chignik Salmon</i>		
02-098	Kametlook River Coho Salmon Escapement & Carrying Capacity	USFWS, BBNA
02-099	Clark River Estimation of Sockeye and Coho Salmon Escapement	USFWS, BBNA
03-043	Perryville Coho Salmon Escapement	USFWS
05-405	Perryville-Chignik Coho and Sockeye Salmon Aerial Surveys	USFWS
07-404	Perryville-Clark River Coho and Sockeye Salmon Aerial Surveys	USFWS
<i>Bristol Bay-Chignik Freshwater Species</i>		
00-011	Togiak River Dolly Varden Genetic Baseline Development	USFWS
00-012	Bristol Bay Traditional Knowledge of Fish	ADF&G
02-034	Kvichak River Resident Species Subsistence Fisheries Assessment	ADF&G, BBNA
04-401	Ungalikthlik and Negukthlik Rivers Rainbow Trout Assessment	USFWS

Continued on next page

Table B.1 continued

Project Number	Project Title	Investigators
<i>Bristol Bay-Chignik Freshwater Species</i>		
04-415	Tazimina Rainbow Trout Assessment	ADF&G
05-403	Lake Clark Whitefish Assessment	ADF&G
07-408	Togiak River Rainbow Smelt Assessment	USFWS, BBNA
07-452	Kvichak Watershed Subsistence Fishing Ethnography	ADF&G, BBNA, NPS
<i>Kodiak-Aleutians</i>		
00-032	Buskin River Sockeye Salmon Stock Assessment	ADF&G
01-059	McLees Lake Sockeye Salmon Escapement	USFWS
01-206	Mortenson Creek Sockeye and Coho Salmon Escapement	USFWS
02-032	Lower AK Peninsula/Aleutians Subsistence Fish Harvest Assessment	ADF&G, APIA, ISU
03-047	Afognak Lake Sockeye Smolt Enumeration Feasibility	ADF&G
04-402	Mortenson Creek Sockeye and Coho Escapement	USFWS
04-403	McLees Lake Sockeye Salmon Escapement	USFWS
04-412	Afognak Lake Sockeye Salmon Stock Assessment	ADF&G
04-414	Buskin River Sockeye Salmon Stock Assessment	ADF&G
04-457	Kodiak Subsistence Fisheries Harvest and TEK	ADF&G, KANA
07-401	Afognak Lake Sockeye Salmon Smolt Assessment	ADF&G
07-402	Buskin River Sockeye Salmon Weir	ADF&G
07-405	McLees Lake Sockeye Salmon Weir	USFWS, ADF&G, QT
10-401	Afognak Lake Sockeye Salmon Smolt and Adult Assessment ^a	ADF&G
10-403	Buskin River Sockeye Salmon Adult Assessment	ADF&G
10-404	Buskin River Sockeye Salmon Smolt Assessment Feasibility ^a	ADF&G
10-406	McLees Lake Sockeye Salmon Weir	USFWS, ADF&G, QT
12-453 ^a	Kodiak Salmon Fishery Changing Patterns	ADF&G
14-401 ^b	Buskin R Sockeye	ADF&G
14-402 ^b	Afognak L Sockeye	ADF&G

^a = Final Report in Preparation.

^b = On-going projects during 2016.

Abbreviations used for investigators are: **ADF&G** = Alaska Department of Fish and Game, **APIA** = Aleutian-Pribilof Islands Association, **BBNA** = Bristol Bay Native Association, **ISU** = Idaho State University, **KANA** = Kodiak Area Native Association, **NTC** = Nondalton Tribal Council, **NPS** = National Park Service, **QT** = Qawalangin Tribe, **USFWS** = U.S. Fish and Wildlife Service, **USGS** = U.S. Geological Survey, **USS&E** = US Science and Education, and **UW** = University of Washington.

AERIAL SURVEY OF EMPEROR GEESE AND OTHER WATERBIRDS
IN SOUTHWESTERN ALASKA, SPRING 2015

By

Christian P. Dau
and
Heather M. Wilson

Key Words: Aerial survey, emperor geese, waterbirds, southwest Alaska.

July 2015

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AERIAL SURVEY OF EMPEROR GEESE AND OTHER WATERBIRDS IN
SOUTHWESTERN ALASKA, SPRING 2015

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Abstract: We conducted the 33rd annual spring aerial emperor goose survey during 25–28 April 2015. This survey has been completed every year since 1981, except 2013. The survey includes coastline and estuarine habitats from the mouth of the Kuskokwim River to Wide Bay, including the north and south sides of the Alaska Peninsula. We counted a total of 98,155 emperor geese, which was 22.9% above the 2014 count of 79,883 geese, and 48.8% above the long-term average (65,923 geese, 1981–2014). The recent 3-year average (2012, 2014, and 2015) count was 81,875 geese (10.8% above the previous 3-year average of 73,879 geese). The recent 3-year average count is the highest on record since 1984 and is above the threshold for consideration of an open hunting season on emperor geese, as specified in the Yukon Delta Goose Management Plan and the Pacific Flyway Council Management Plan for Emperor Geese. Pacific brant and Steller's eider counts were 74,015 and 59,713, respectively.

INTRODUCTION

The distribution, abundance, and population trends of emperor geese and other waterbirds have been monitored since 1981 in spring at migratory staging areas throughout southwestern Alaska. The survey area includes the coastline and estuarine habitats from Kuskokwim Bay south and west along the north side of the Alaska Peninsula to Bechevin Bay, as well as the south side of the Alaska Peninsula east to Wide Bay. The survey focuses on a series of primary emperor goose use areas. A 3-year moving average of annual emperor geese counts is used as the population index for management purposes (Pacific Flyway Council Emperor Goose Management Plan 2006). The survey also provides data to calculate long-term population trends and variation in seasonal migratory phenology, distribution, and habitat use for emperor geese and associated species.

METHODS

We conducted the 2015 survey from 25–28 April within core use areas divided among 143 shoreline or estuarine segments (Mallek and Dau 2000; Figs. 1 and 2). We used electronic map displays along with 1:500,000 aeronautical and 1:63,360 topographical maps for navigation. We recorded habitat and survey conditions during the survey including wind, temperature, sky condition, visibility, sea and fresh-water ice conditions and tide stage.

We used an amphibious Cessna 206 (N9623R) as the survey platform. The aircraft was flown at a ground speed of approximately 175 km/hr (95 kts) and an altitude of 45 m (150 feet) above sea

level. Survey timing was determined based on reported and observed phenological indices of ice conditions and migration. Survey timing is intended to precede the arrival of emperor geese on the Yukon-Kuskokwim Delta and follows goose departures from the eastern Aleutian Islands and Kodiak Island (R. MacIntosh, S. Golodoff, S. Berns, B. Pyle, R. Corcoran and T. Lee, personal communications). We began the 2015 survey on 25 April at the mouth of the Kuskokwim River (Segment 12) and completed the survey on 28 April, ending at Segment 137 along the South side of the Alaska Peninsula. Daily itineraries and associated survey area conditions are presented below. We used laptop computers to receive input from the aircraft Global Positioning System (GPS), which saved coordinates for each input of voice recorded observations. Record and transcribe programs were used to process data (J. Hodges, USFWS R7 MBM).

SURVEY CONDITIONS

Climatic and habitat conditions (ice and snow on the landscape) were mild during the 2015. Ice break-up was very early in 2015 (Table 1). In southwest Alaska, sea and estuarine ice was absent and snow cover was light, only the largest lakes in northern Bristol and Kuskokwim bays (Segments 11–22) had remnant ice. Snow cover was absent below 300 feet above mean sea level from the Kuskokwim south to Nanvak Bay (Segment 22) and absent at ground level elsewhere in the survey area.

Survey Day 1 (April 25, Segments 12-36, Southwest Alaska and Bristol Bay, Mouth of Kuskokwim River to Egegik Bay): The Kuskokwim River was ice covered with melt water on top of the ice. There was no sea ice or estuarine ice in these segments and larger lakes near Cape Pierce had ≤ 40 percent ice cover. Larger lakes near Egegik Bay were ice free, as were smaller lakes between Bethel and Egegik Bay. Estuarine tides were low. Survey conditions were good except for moderate sun glare seaward of Segments 32 and 33. Winds were easterly at 5–15 knots and ceilings were scattered to overcast at 2,000–3,500 feet. Air temperatures were 35–50° F.

Survey Day 2 (April 26, Segments 35, 37-39, North side of the Alaska Peninsula, King Salmon to Cold Bay): Survey conditions were fair, but significant glare was encountered in Ugashik Bay, Herendeen Bay and the Nelson Lagoon complex. Winds were northerly at 15–20 knots turning northwesterly from Nelson Lagoon south. Mostly clear skies persisted until Cape Seniavin (Segment 49) and were 400–600 feet overcast from there south to Cold Bay. Estuarine tides were high throughout the survey. Air temperatures increased from 40 to 45°F during the day.

Survey Day 3 (April 27, Segments 60-68, 80-81, and 84–85, Izembek Lagoon Complex, including Bechevin and Morzhovoi Bays): Survey conditions were good with low tides along the Bering Sea side of the Alaska Peninsula and mid-high tides along the Pacific side. Ceiling was 2,000 feet scattered to overcast with calm to variable wind < 5 knots. Air temperature was near 40°F.

Survey Day 4 (April 28, Segments 86-137, South side of the Alaska Peninsula, Cold Bay to Wide Bay): Survey conditions were initially characterized by ceilings of 1,000 feet overcast with light rain and visibility of 5 miles. Precipitation stopped near Canoe Bay (Segment 93) and winds increased to 10–15 knots southeast to Aniakchak Bay (Segment 128). Winds became 15–

20 knots southeast eastward to Wide Bay (Segment 137). Air temperatures increased from 40 to 50°F during the day.

RESULTS

Historical emperor goose totals and details of annual surveys are provided in Table 2. Counts for all species by survey segment are provided in Appendix A.

Emperor Goose

The 2015 spring emperor goose count was 98,155; 22.9% above the 2014 count of 79,883 geese (Table 2) and 48.8% above the long-term average (1981–2014) of 65,923 geese. The recent 3-yr (2012, 2014, 2015, no data are available for 2013) average of emperor geese is 81,875, 10.8% above the previous 3-year (2011, 2012, 2014) average count of 73,879 geese (;Table 3).

Emperor geese were most concentrated at staging sites on the north side of the Alaska Peninsula (Segments 26-65) from Egegik Bay to Izembek Lagoon (94.2% of birds observed in 2015), versus the long-term (1981–2014) average of 89.8%. The largest aggregations of emperor geese were observed from Ugashik Bay to Port Moller-Nelson Lagoon (Segments 38–57). Fewer emperor geese were counted in 2015 compared to the long-term (1981–2014) average north of the Alaska Peninsula (545 versus the average of 3,629) and west of Izembek Lagoon (0 versus the average of 459), but more than average were observed along the south side of the Alaska Peninsula. In 2015, a total of 5,254 geese (5.4% of the total) were observed along the south side of the Alaska Peninsula (Segments 88–137) versus the historical (1981–2014) average of 3,306 (4.1% of the total).

Elevated numbers of emperor geese along the south side of the Alaska Peninsula in 2015 may have been the result of a slightly delayed migration relative to other years. However, overall observations of departures of emperor geese from Unalaska and Kodiak Island suggested that most geese were likely in the survey area during the survey. Observers at Unalaska, in the eastern Aleutian Islands, reported that most emperor geese departed over a week early in 2015 (1 April) with a flock of ten remaining until about 8 April (S. Golodoff, personal communication). At Womens Bay on Kodiak Island, half the wintering population of about 655 departed on 24 April (R. MacIntosh and S. Berns, personal communications) and all were gone before 27 April (T. Lee, Kodiak NWR, personal communication).

Pacific Brant

We observed a total of 74,015 brant during the 2015 survey (Appendix A), which is 3.8% above the long-term (1981–2014) average (mean = 71,275 brant). We counted 53,408 brant (72.2% of the 2015 brant total) in Izembek Lagoon and adjacent areas (Segments 60–68, 80–85). The long-term (1981–2014) average brant count in Izembek Lagoon and adjacent areas was 78.1% of the total (mean = 54,112 brant, Segments 60–68, 80–85). Also, we observed 15,635 brant in Chagvan and Nanvak bays (Segments 20, 22) which was 23.4% above the long-term average of 12,667 brant for those segments.

Steller's Eider

We counted 59,713 Steller's eiders during the 2015 survey (Appendix A). The 2015 count was 23.7% above the long-term average (1981–2014) of 48,283. A total of 6,227 Steller's eiders were counted from Kuskokwim Bay south to Cape Pierce (Segments 12–22). As in previous years, most Steller's eiders (53,428 birds, 89.5%) were observed from Port Heiden to Izembek Lagoon (Segments 44–68, 80–85). Steller's eider flock composition, recorded by the right seat observer, showed that all 74 flock (i.e., ≥ 5 birds) observations were of equal apparent sex ratios (i.e., adult males versus brown-plumaged birds).

DISCUSSION AND MANAGEMENT IMPLICATIONS

The spring emperor goose population indices (annual and 3-year averages) have remained essentially flat since surveys began in 1981 (<1% growth rate; Figure 3, Table 2), but more recent surveys (2007–2015) indicate an increasing population growth rate. The recent 3-year average count is the highest reported since 1984 and is above the threshold (80,000) for consideration of an open hunting season on emperor geese, as specified in the Yukon Delta Goose Management Plan and the Pacific Flyway Council's Management Plan for Emperor Geese (Pacific Flyway Council 2006).

While the population appears to be recovering, reasons for the historically slow growth of emperor geese are still not fully understood. However, additional mortality associated with increased harvest (especially if additive), could undermine population gains that may have led to recovery. Better harvest data and continued long-term aerial surveys will be required to quantify the effects of harvest on the population.

We believe careful consideration of harvest management is required for emperor geese, including a greater commitment to comprehensive harvest surveys in Alaska (and Russia) and expanded logistical and analytical support for such surveys. In addition to measuring take, harvest surveys should provide data to assess temporal and spatial distribution, and age composition within the harvest. A better understanding of additive losses from harvest is critical (Wolfe and Paige 2002, Naves 2015). Finally, we suggest that increased compliance with regulations should also be sought, through improved outreach, co-management, and cooperative enforcement.

The findings and conclusions in this article are those of the author(s) and do not necessarily represent the views of the U.S. Fish and Wildlife Service.

ACKNOWLEDGMENTS

On 24 April 2015, the U. S. Fish and Wildlife Service, Migratory Bird Management Program, sent out a request for emperor geese observations to select rural residents located within and outside the spring staging survey area (E. Taylor, personal communications). Observations of emperor geese at Kodiak Island were provided by Richard MacIntosh, Shirley Berns, Bill Pyle, Pat Holmes, Robin Corcoran and Tonya Lee, and at Unalaska by Suzi Golodoff. We appreciate

the continued lodging and vehicle support provided by Yukon Delta, Alaska Peninsula/Becharof and Izembek NWRs. We also thank Alaska Peninsula/Becharof NWR for logistical assistance with fuel to Port Heiden. Bob Platte (MBM-R7) prepared Figures 1 and 2.

REFERENCES

- Mallek, E. J. and C. P. Dau. 2000. Aerial survey of emperor geese and other waterbirds in southwestern Alaska, fall 1999. Unpublished Report, USFWS, MBM, Fairbanks. 19 pp.
- Naves, L. C. 2015. Alaska Subsistence Harvest of Birds and Eggs, 2013. Tech. Paper No. 409. Alaska Migratory Bird Co-Management Council/Alaska Dept. Fish and Game. Unpublished Report, April 2015.
- Pacific Flyway Council. 2006. Pacific Flyway Management Plan for Emperor Geese. Emperor Goose Subcommittee, Pacific Flyway Subcommittee [c/o USFWS], Portland, OR. Unpublished Report 24 pp + appendices.
- Platte, R. M. 2012. Conversion of spring and fall emperor goose surveys on the coastal Alaska Peninsula to ArcMap file geodatabase. Unpublished Report, USFWS, Anchorage. 6p.
- Wolfe, R. J. and A. W. Paige. 2002. The subsistence harvest of black brant, emperor geese and eider ducks in Alaska. Alaska Department of Fish and Game, Division of Subsistence, Technical Paper No. 234, Juneau, AK. 112 pp.

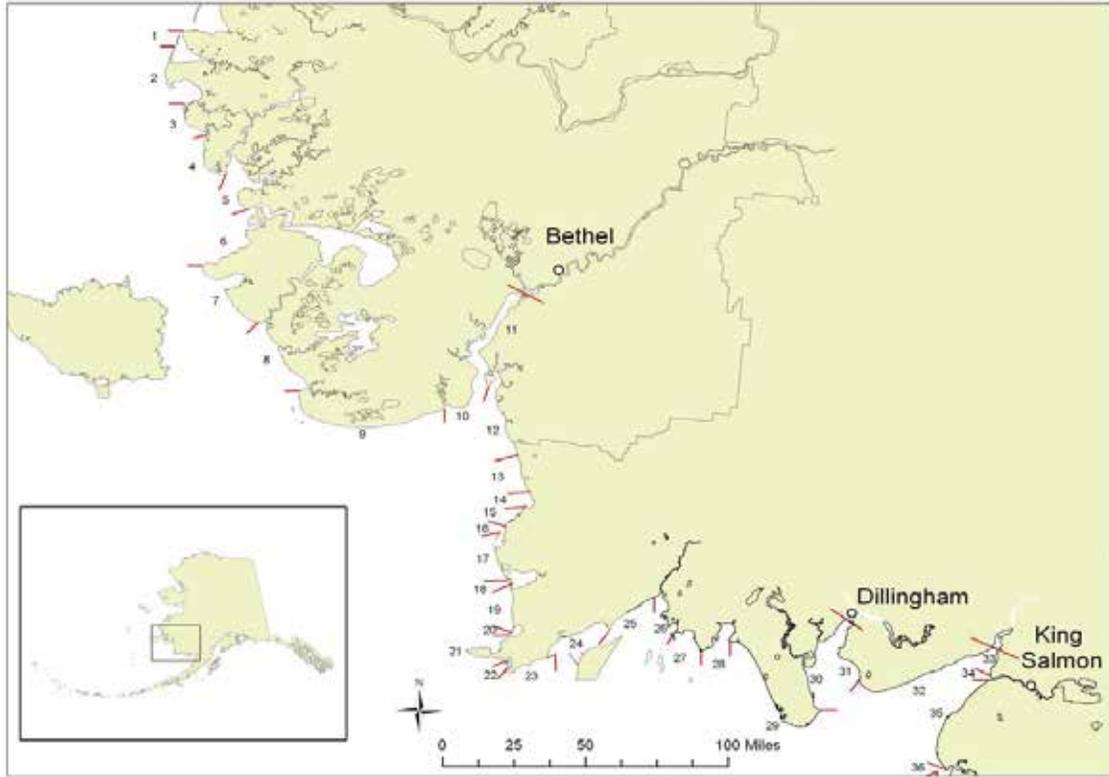


Figure 1. Emperor goose aerial survey segments 1–35, southwest Alaska.

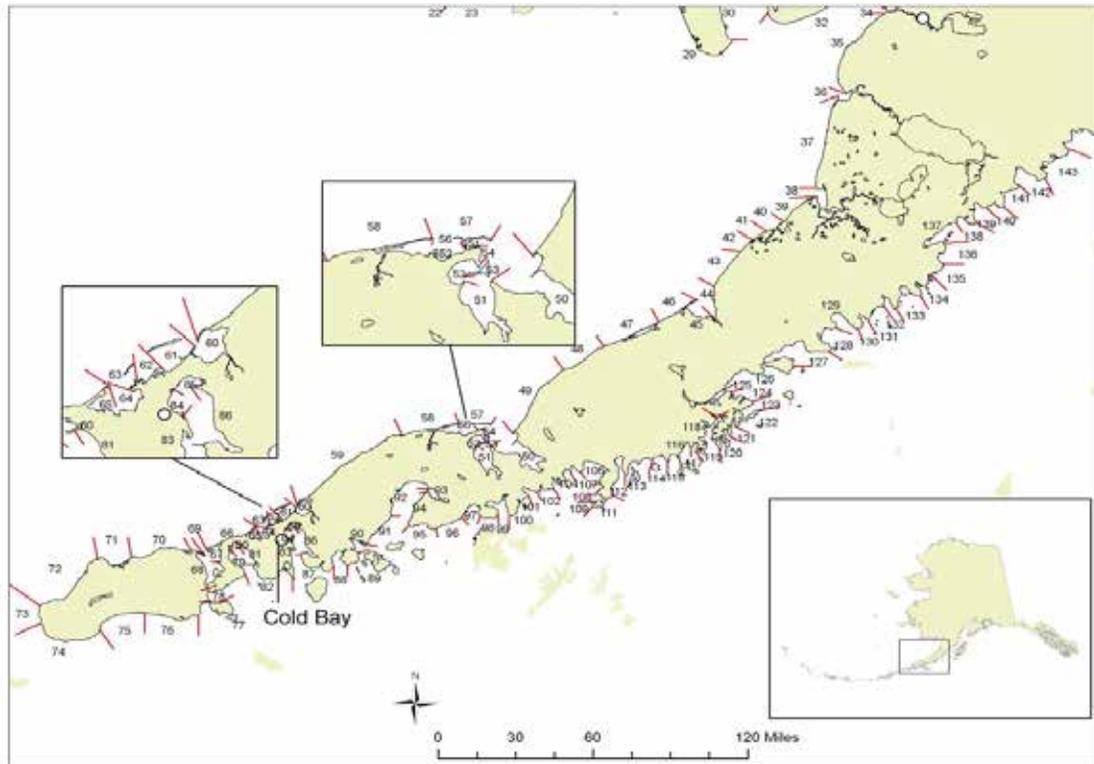


Figure 2. Emperor goose aerial survey segments 35–143, southwest Alaska.

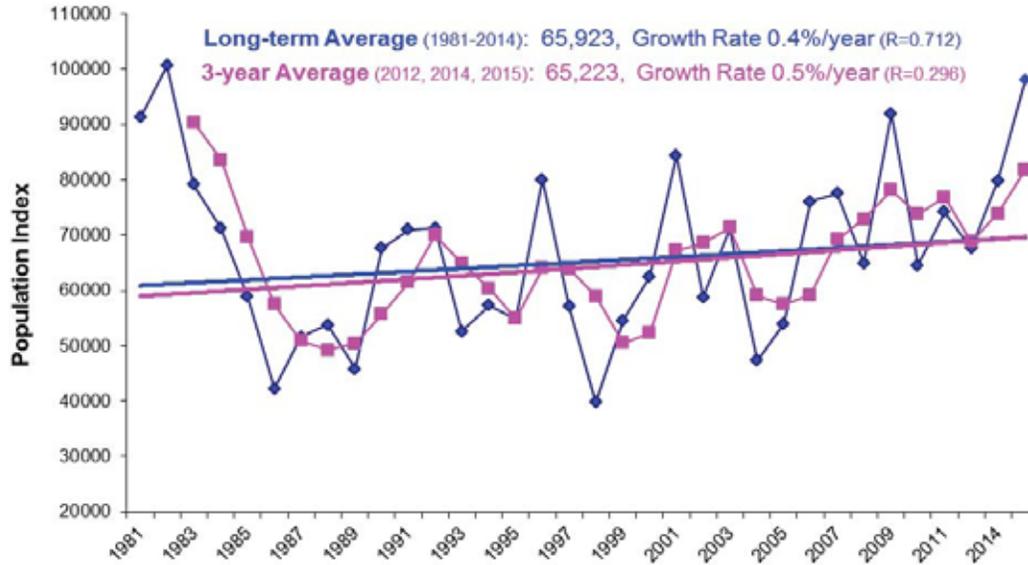


Figure 3. Spring emperor goose annual and 3-year average population indices, 1981-2015. No survey was conducted in 2013. Blue indicates data and trend for annual population counts. Pink indicates data and trend for 3-year averages.

Table 1. Snow and ice conditions during spring emperor goose survey in southwest Alaska, 25–28 April 2015. Overall relative phenology was very early based on ice and snow cover.

Area	Snow Cover¹	Marine Ice Cover²
Kokechik Bay	Not Surveyed	Not Surveyed
Hooper Bay	Not Surveyed	Not Surveyed
Hazen Bay	Not Surveyed	Not Surveyed
Carter Bay	Trace <300' AGL	0
Goodnews Bay	Trace <300' AGL	0
Chagvan Bay	Trace <300' AGL	0
Nanvak Bay	Trace <300' AGL	0

¹ Percent snow cover on near-shore freshwater marshes. NS = not surveyed.

² Percent of marine ice cover in estuary.

Table 2. Spring emperor goose survey results, southwest Alaska, 1981- 2015.

Year	Total	% Change Total	3-yr ave.	% Change 3-yr ave.	Dates	Observers	Survey Area
1981	91267				4/23-4/27	R.King/R.Gill/J.Sarvis/ C.Dau	Y-K Delta to Wide Bay
1982	100643	0.093			5/2-5/4	R.King/C.Dau/M.Reardon/ B. Reiswig	Kuskokwim Bay to Wide Bay
1983	79155	-0.271	90355		4/25-4/29	R.King/C.Dau/V.Berns/ J.Solberg	Kuskokwim Bay to Wide Bay
1984	71217	-0.111	83672	-0.074	4/26-5/4	R.King/C.Dau/V.Berns/ R.Arment	Kuskokwim Bay to Cape Douglas
1985	58833	-0.210	69735	-0.167	5/12-5/16	R.King/C.Dau	Kuskokwim Bay to Cape Chiniak
1986	42231	-0.393	57427	-0.176	5/4-5/7	"	Nelson Island to Cape Atushagvik
1987	51633	0.182	50899	-0.114	4/30-5/4	"	Hooper Bay to Puale Bay
1988	53784	0.040	49216	-0.033	5/2-5/6	"	Hooper Bay to Cape Chiniak
1989	45800	-0.174	50406	0.024	5/3-5/6	"	Hooper Bay to Portage Bay
1990	67581	0.322	55722	0.105	4/28-5/4	"	Hooper Bay to Portage Bay
1991	70972	0.048	61451	0.103	5/2-5/7	"	Hooper Bay to Puale Bay
1992	71319	0.005	69957	0.138	4/30-5/5	"	Hooper Bay to Cape Kubugakli
1993	52546	-0.357	64946	-0.072	4/30-5/5	"	Hooper Bay to Wide Bay
1994	57267	0.082	60377	-0.070	4/29, 5/2-6	"	Hooper Bay to Wide Bay
1995	54852	-0.044	54888	-0.091	5/3-5/6	"	Hooper Bay to Chignik Lagoon
1996	80034	0.315	64051	0.167	4/27-4/30	"	Hooper Bay to Puale Bay
1997	57059	-0.403	63982	-0.001	4/25-4/28	"	Hooper Bay to Wide Bay
1998	39749	-0.435	58947	-0.079	5/4-5/7	"	Hooper Bay to Wide Bay
1999	54600	0.272	50469	-0.144	4/27-5/1	"	Hooper Bay to Wide Bay
2000	62565	0.127	52305	0.036	4/28-5/3	E.Mallek/C.Dau	Hooper Bay to Chignik Lagoon
2001	84396	0.259	67187	0.285	4/29-5/4	"	Hooper Bay to Puale Bay
2002	58743	-0.437	68568	0.021	5/3-5/6	"	Kuskokwim Bay to Wide Bay
2003	71160	0.174	71433	0.042	4/29-5/3	"	Hooper Bay to Wide Bay
2004	47352	-0.503	59085	-0.173	4/30-5/3	"	Hooper Bay to Wide Bay
2005	53965	0.123	57492	-0.027	4/20-4/23	"	Kuskokwim Bay to Wide Bay
2006	76108	0.291	59142	0.029	4/27-5/2	"	Kuskokwim Bay to Wide Bay
2007	77541	0.018	69205	0.170	4/24-4/29	"	Kuskokwim Bay to Kuiukta Bay
2008	64944	-0.194	72864	0.053	4/29-4/30	"	Naknek to Bechevin Bay
2009	91948	0.294	78144	0.072	5/1-5/3	"	Kuskokwim Bay to Wide Bay
2010	64562	-0.424	73818	-0.055	4/27,5/1-5/2	"	Kuskokwim Bay to Canoe Bay
2011	74166	0.129	76892	0.042	4/27, 4/29-5/1	"	Kuskokwim Bay to Canoe Bay
2012	67588	-0.097	68772	-0.106	4/25-4/27	"	Kuskokwim Bay to Wide Bay
2013						No Survey	
2014	79883	0.182	73879	0.074	4/23-25,4/29	H.Wilson/C.Dau	Kuskokwim Bay to Wide Bay
2015	98155	0.186	81875	0.098	4/25-4/28	"	Kuskokwim Bay to Wide Bay

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PRESS RELEASE

For Immediate Release: August 21, 2015

CONTACT: Dan Rosenberg
Statewide Waterfowl Coordinator
(907) 267-2453

Upcoming Waterfowl Hunting Seasons Feature Federal Stamp Changes, New Regulations

(Juneau) – Waterfowl hunting seasons open September 1 over much of Alaska, and as duck and goose hunters prepare to step into the marshes there are a few things they need to know – including some important regulations changes.

Who Needs a Federal or State Duck Stamps?

Alaska waterfowl hunters will be affected this season by recent amendments to the federal Migratory Bird Hunting and Conservation Stamp Act. The amendments raise the price of federal waterfowl stamps from \$15 to \$25 and redefine which hunters must have a federal stamp to hunt waterfowl in Alaska.

Under the amendments, the following Alaska residents are not required to purchase federal waterfowl stamps:

- 1) Permanent rural residents of an “included area.”
- 2) Permanent rural residents who are eligible for subsistence under the Alaska National Interest Lands Conservation Act (ANILCA).

“Included areas” are those areas where spring/summer migratory bird subsistence harvest is currently legal.

Included areas and subsistence harvest regulations can be found at:

<http://www.fws.gov/alaska/ambcc/Regulations.htm>.

For questions or clarifications, please contact the USFWS Office of Law Enforcement at (907) 786-3311.

The federal amendments have no bearing on the Alaska state waterfowl stamp or hunting license requirements. Waterfowl hunters in Alaska must have a signed \$5 Alaska state waterfowl stamp in possession while hunting waterfowl anywhere in the state unless you are an Alaska resident who qualifies for exemption based on age, income, or veteran’s disability. Details can be found in the state waterfowl hunting regulations online or the regulations booklet.

State Regulations Changes

In state regulations news, bag limits for white-fronted geese in Game Management Unit 18 (the Yukon-Kuskokwim region) will increase to 10 birds per day, 30 in possession. Pacific white-fronted goose numbers are almost twice the Pacific Flyway management objective of 300,000 birds. Most of the population nests in Game Management Unit 18.

Possession limits for Canada geese in all of Game Management Unit 6 (except Middleton Island) are now three times the daily bag. This includes the Copper River Delta and Prince William Sound. The bag limit for Canada geese remains four birds per day. Middleton Island regulations remain unchanged. Breeding surveys indicate the region's total population of dusky Canada geese has increased to 17,699 birds. This is the highest population estimate since 1986.

Palmer Hay Flats Hunters Take Note

Southcentral Alaska hunters who plan to visit the popular Palmer Hay Flats State Game Refuge near Wasilla should be aware of a regional restriction to ATV use on the Cottonwood Creek ATV trail. All but the first mile of the ATV trail will remain closed to motorized vehicles through the fall season as the Alaska Department of Fish and Game works to protect wetlands and mitigate damage caused by expanding tidal guts and ATVs. The closure will affect waterfowl hunters and other recreationists who use ATVs to access remote portions of the refuge via the 6.5-mile-long trail.

Hunters, Keep it Clean!

In addition to these regulations changes, waterfowl hunters are reminded that several strains of avian influenza have been detected this year in waterfowl in the Lower 48. None of these strains has been transmitted to people. Although highly pathogenic avian flu has not been detected in Alaska, hunters should be aware that wildlife can carry pathogens of many kinds. As always, waterfowl hunters are advised to practice routine hygiene when handling, cleaning and cooking wild game. The Department of Fish and Game recommends the following:

- Do not handle or eat obviously sick game.
- Wear rubber or disposable latex gloves while handling and cleaning game.
- Wash hands and thoroughly clean knives, equipment and surfaces that come into contact with game.
- Do not eat, drink or smoke while handling animals.
- All game should be thoroughly cooked (meat internal temperature of 165 °F).

Monitoring for avian flu is ongoing in Alaska and early-season waterfowl hunters in the Cook Inlet region may encounter field technicians seeking samples. For more information, contact ADF&G Wildlife Health and Disease Surveillance Program, phone: (907) 328-8354, or email: dfg.dwc.vet@alaska.gov

The Alaska 2015-2016 Migratory Bird Hunting Regulations Summary is scheduled to be available online August 25 at <http://www.adfg.alaska.gov/static/regulations/wildliferegulations/pdfs/waterfowl.pdf>

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IN REPLY REFER TO:

United States Department of the Interior

U.S. FISH AND WILDLIFE SERVICE
1011 East Tudor Road
Anchorage, Alaska 99503-6199



REGIONAL DIRECTOR'S ORDER NO. 2015-001

Date: APR 04 2015

Subject: Strategy for Enforcing the 2014 Amendments to the Migratory Bird Hunting and Conservation Stamp Act (Duck Stamp Act)

Sec. 1 What is the purpose of this Order? This Order provides the Regional Director's (RD) policy on the implementation and enforcement of the Alaska specific provision of the 2014 Amendments to the Duck Stamp Act. This Order will serve as guidance to our law enforcement officers when advising and conducting compliance checks of migratory waterfowl hunters in the field.

Sec. 2 What is the scope of this Order? This Order applies to Service Law Enforcement Officers assigned or detailed to Region 7.

Sec. 3 What is the authority of this Order? The Migratory Bird Hunting and Conservation Stamp Act; 16 U.S.C. §718(a)(2) as amended. The Migratory Bird Treaty Act; 16 U.S.C. §703-712 and regulations promulgated thereof in 50 C.F.R. Part 92. The Alaska National Interest Lands Conservation Act; 16 U.S.C. §3113, Section 803.

Sec. 4 What is the Regional Director's policy for implementing the Alaska specific provision of the 2014 Duck Stamp Act Amendment? Service Law Enforcement Officers will consider the following guidelines when enforcing the Duck Stamp Act in Alaska with respect to: 1) who is qualified for this exemption; 2) where they may hunt waterfowl for subsistence uses; and 3) when (or during what seasons) this exemption applies:

1) WHO IS ELIGIBLE TO HUNT WITHOUT A DUCK STAMP? A *permanent resident*, as defined in 50 CFR Part 92.4, of rural Alaska qualified either through the rural determination process of ANILCA or an *eligible person* of an *included area* as those terms are described in 50 CFR Part 92.4 and 92.5, respectively.

2) WHERE CAN QUALIFIED PARTICIPANTS HUNT WITHOUT A DUCK STAMP? A *permanent resident* of rural Alaska may hunt migratory waterfowl without a Federal duck stamp anywhere in Alaska.

3) WHEN MAY QUALIFIED PARTICIPANTS HUNT WITHOUT A DUCK STAMP? A *permanent resident* of rural Alaska may hunt migratory waterfowl without a Federal duck stamp during any legal season in Alaska for which they are qualified to hunt. *Permanent residents* of rural Alaska may hunt waterfowl without a Federal duck stamp in Alaska during the spring/summer subsistence season and the fall season if they are *eligible persons* living in an *included area* described in 50 CFR Part 92.4 and 92.5, respectively. *Permanent residents* of rural Alaska who are not *eligible persons* living in an *included area* may only hunt waterfowl without a stamp in Alaska during the fall season.

Sec. 5 What is the effective date of this Order? This order is effective immediately and will expire on June 1, 2017, unless amended, superseded, or otherwise revoked by the Regional Director.

Karen P. Clark

4/4/15

Acting

Regional Director
Alaska Region

Date

ANNUAL REPORTS

Background

ANILCA established the Annual Reports as the way to bring regional subsistence uses and needs to the Secretaries' attention. The Secretaries delegated this responsibility to the Board. Section 805(c) deference includes matters brought forward in the Annual Report.

The Annual Report provides the Councils an opportunity to address the directors of each of the four Department of Interior agencies and the Department of Agriculture Forest Service in their capacity as members of the Federal Subsistence Board. The Board is required to discuss and reply to each issue in every Annual Report and to take action when within the Board's authority. In many cases, if the issue is outside of the Board's authority, the Board will provide information to the Council on how to contact personnel at the correct agency. As agency directors, the Board members have authority to implement most of the actions which would effect the changes recommended by the Councils, even those not covered in Section 805(c). The Councils are strongly encouraged to take advantage of this opportunity.

Report Content

Both Title VIII Section 805 and 50 CFR §100.11 (Subpart B of the regulations) describe what may be contained in an Annual Report from the councils to the Board. This description includes issues that are not generally addressed by the normal regulatory process:

- an identification of current and anticipated subsistence uses of fish and wildlife populations within the region;
- an evaluation of current and anticipated subsistence needs for fish and wildlife populations from the public lands within the region;
- a recommended strategy for the management of fish and wildlife populations within the region to accommodate such subsistence uses and needs related to the public lands; and
- recommendations concerning policies, standards, guidelines, and regulations to implement the strategy.

Please avoid filler or fluff language that does not specifically raise an issue of concern or information to the Board.

Report Clarity

In order for the Board to adequately respond to each Council's annual report, it is important for the annual report itself to state issues clearly.

- If addressing an existing Board policy, Councils should please state whether there is something unclear about the policy, if there is uncertainty about the reason for the policy, or if the Council needs information on how the policy is applied.
- Council members should discuss in detail at Council meetings the issues for the annual report and assist the Council Coordinator in understanding and stating the issues clearly.

- Council Coordinators and OSM staff should assist the Council members during the meeting in ensuring that the issue is stated clearly.

Thus, if the Councils can be clear about their issues of concern and ensure that the Council Coordinator is relaying them sufficiently, then the Board and OSM staff will endeavor to provide as concise and responsive of a reply as is possible.

Report Format

While no particular format is necessary for the Annual Reports, the report must clearly state the following for each item the Council wants the Board to address:

1. Numbering of the issues,
2. A description of each issue,
3. Whether the Council seeks Board action on the matter and, if so, what action the Council recommends, and
4. As much evidence or explanation as necessary to support the Council's request or statements relating to the item of interest.



Federal Subsistence Board

1011 East Tudor Road, MS121
Anchorage, Alaska 99503



FISH and WILDLIFE SERVICE
BUREAU of LAND MANAGEMENT
NATIONAL PARK SERVICE
BUREAU of INDIAN AFFAIRS

FOREST SERVICE

SEP 08 2015

FWS/OSM 15043.CJ

Molly Chythlook, Chair
Bristol Bay Subsistence
Regional Advisory Council
U.S. Fish and Wildlife Service
Office of Subsistence Management
1011 East Tudor Road, MS 121
Anchorage, Alaska 99503

Dear Chairwoman Chythlook:

This letter responds to the Bristol Bay Subsistence Regional Advisory Council's (Council) fiscal year 2014 Annual Report. The Secretaries of the Interior and Agriculture have delegated to the Federal Subsistence Board (Board) the responsibility to respond to these reports. The Board appreciates your effort in developing the Annual Report. Annual Reports allow the Board to become aware of the issues outside of the regulatory process that affect subsistence users in your region. We value this opportunity to review the issues concerning your region.

1. Meshik River

The Meshik River, located on the Alaska Peninsula identified as the Northern District, and used primarily by residents of Port Heiden, for fishing, hunting, and gathering local resources within its corridor; the Meshik River also produces Sockeye, Chinook and Coho Salmon used by the local residents and allows for recreational opportunities.

The Council discussed comments from Port Heiden residents who have expressed concerns that they are not meeting their subsistence needs for Chinook Salmon. The concern expressed by local residents of Port Heiden, not meeting their subsistence needs for Chinook, is attributed to the commercial fishery affecting the run into the spawning streams. In addition, recreational fishers are also affected by the commercial fishery occurring outside of Port Heiden, harvesting Chinook bound for the Meshik River, where recreational fisheries are allowed.

Chairwoman Chythlook

2

***Recommendation:** The Council suggests more management tools such as a fish weir or counting towers be provided on the Meshik River. These would assist managers in determining that escapement goals are met, help ensure the fishery can sustain multiple harvests, and provide the needs of other user groups.*

Response:

The commercial and subsistence fisheries near the Meshik River occur in State waters and are managed by the Alaska Department of Fish and Game. The majority of the Meshik River runs through State and Bristol Bay Native Corporation land and a small portion of the river runs through Federal public lands.

If residents from Port Heiden wish to address the commercial and subsistence harvest regulations of Chinook Salmon in State managed waters, they may submit a proposal to the Alaska Board of Fisheries. The Alaska Board of Fisheries reviews proposals for changes in subsistence, personal use, sport, guided sport, and commercial fishing regulations. The Alaska Board of Fisheries call for proposals, for proposed changes in the subsistence, personal use, sport, guided sport, and commercial fishing regulations for the Alaska Peninsula, Bering Sea-Aleutian Islands, and Chignik areas closed on April 10, 2015. The next cycle for proposed changes in regulations regarding Chinook Salmon in this area will be in 2018.

During each cycle of the Fisheries Resource Monitoring Program (FRMP), Regional Advisory Councils identify Priority Information Needs for their region. Investigators may use these priority information needs to guide their research and proposal development. In the 2016 FRMP Notice of Funding Opportunity (formerly known as Request for Proposals), the Bristol Bay Subsistence Regional Advisory Councils identified the following priority information need:

Reliable estimates of Chinook salmon escapement and evaluation of “quality of escapement” measures (for example, potential egg deposition, sex and size composition of spawners, spawning habitat quality and utilization) for determining the reproductive potential of spawning stocks in the Meshik River.

Unfortunately, no FRMP proposals related to the Meshik River were submitted for the 2016 funding cycle. The Council can continue to identify Meshik River Chinook Salmon escapement and subsistence harvest information as a priority information need for the 2018 Fisheries FRMP Notice of Funding Opportunity. It should be noted that, under the FRMP, it is not the role of the Office of Subsistence Management (OSM), the Interagency Staff Committee and the Technical Review Committee to develop studies. However, OSM staff work closely with the ten Federal Subsistence Regional Advisory Councils to identify subsistence fisheries priority information needs specific to each of the ten regions.

Chairwoman Chythlook

3

2. Chignik Lake Salmon Returns

The communities of Chignik Lagoon, Chignik Bay, Chignik Lake, Perryville, and Ivanof Bay expressed its concerns to the Federal Subsistence Board of their subsistence priorities not being met. Their communities are witnessing weaker sockeye returns to Chignik Lake drainage, which the communities depend on, as part of their subsistence resource. Particularly, the communities depend on the late sockeye run (fall) for their subsistence needs. The Alaska Department of Fish and Game has managed the fishery on the lower end of the escapement goal, allowing more commercial harvest in the Chignik Bay area, and has resulted in less subsistence harvest opportunity for the communities. The current management strategy affects the subsistence users who depend on the sockeye. Community efforts and requests were made to area managers to manage the fishery on upper end of the escapement goal to allow more sockeye passage to help meet subsistence needs of those communities.

Recommendation: The Council requests the Board begin a dialogue to review the escapement goals of the Chignik Management Area Commercial Salmon Fishery Harvest Strategy. Managing the fishery on the upper escapement goal will allow for more fish passage and allow for the opportunity for the communities to harvest fall sockeye to meet their subsistence needs. The Chignik Lake drainage is within Federal management jurisdiction.

Response:

On March 12, 2015, in response to this issue the Office of Subsistence Management held a teleconference with Chignik Lagoon Village Council. Community representatives from the Chignik area voiced their concern over the decline in numbers of the late run Sockeye Salmon and that harvests of their “red fish” (spawned out Sockeye Salmon) were poor and required greater effort. Commenters noted multiple trips to the lakes for harvest and population assessment. At the lakes and tributaries, the numbers red fish are not like what they once were. Some residents went to the mouth of Clarks River two or three times, and still did not get enough salmon. Participants shared that red fish usually linger with the milder, warmer fall weather, and that did not happen last year. Another person stated there used to be red fish in the lakes into February, now they are gone by December. Perryville representatives stated they receive their red fish through barter with the Chignik communities, and with the poor harvests, that trade has been low and fall salmon are not coming into their community as they have in the past.

Other comments were related to the history of the resource prior to and post Exxon Valdez oil spill and management decisions since that time. Teleconference participants observed that prior to the spill, by August 5th, usually 50,000 fish passed by the weir, and by August 8th, the weir was removed for the season. Now the weir is kept in longer, and that 50,000 fish escapement is divided between August and September. In the past the run was stronger. Before the extension of the weir season, one participant recalls a time when they had a 3-day fishery in August, and more fish went up river and there was not a subsistence problem then. Most teleconference

Chairwoman Chythlook

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participants wanted to see the escapement goals for the Sockeye Salmon late run increased. Even those participants who are commercial fishermen wanted to see the late-run escapement goals increased, even if it meant limiting their commercial harvest.

Some participants asked if anyone was documenting the fall red fish harvest. Office of Subsistence Management staff suggested community members collect traditional ecological knowledge (TEK) on how numbers were in the past and whether such low populations were experienced before. Staff asked if there was any local knowledge on what might be causing such low numbers for the late run Sockeye Salmon.

Participants expressed frustration with their past attempts at working with local State management and wished to bring about a quick resolution to their concerns.

During the teleconference, the following possible actions were discussed:

- Direct communications and meeting with the State
- Tribal Consultation with the Federal Subsistence Board
- Submission of a Special Action

On April 9, 2015, the Federal Subsistence Board conducted a Tribal consultation, via teleconference, with members of the Chignik Lake Tribe, the Chignik Bay Tribe, the Chignik Lagoon Village Council, the Meshik Port Heiden Tribe and the Bristol Bay Native Association (BBNA). Many of the same concerns and comments were the same as those expressed at the March 2015 teleconference. During this teleconference, it was determined that the concerns expressed were outside of the jurisdiction of the Board (increasing the amount of fish into the system). It was then determined that the best course of action would be to submit a proposal to the Alaska Board of Fisheries. BBNA staff worked with the Tribes, the Alaska Department of Fish and Game Division of Subsistence, and OSM staff to develop a proposal.

A proposal was submitted to the Alaska Board of Fisheries by the Tribes of Chignik Bay, Chignik Lagoon, Chignik Lake, Perryville and Port Heiden (Proposal A172). That proposal will be considered at the Board of Fisheries' meeting scheduled for February 23- March 1, 2016 at the Sheraton Hotel in Anchorage. OSM and Bristol Bay Native Association staff assisted the tribes in writing the proposal. The proposal requests that the Alaska Board of Fisheries increase the additional late-run Sockeye Salmon escapement goal for August and September 1-15 by adding 50,000 Sockeye Salmon to the August goal and 50,000 Sockeye Salmon to the September 1-15 goal above what is currently in regulation.

Chairwoman Chythlook

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In closing, I want to thank you and your Council for their continued involvement and diligence in matters regarding the Federal Subsistence Management Program. I speak for the entire Board in expressing our appreciation for your efforts and our confidence that the subsistence users of the Bristol Bay Region are well represented through your work.

Sincerely,

A handwritten signature in black ink, appearing to read "Tim Towarak". The signature is fluid and cursive, with the first name "Tim" being more prominent than the last name "Towarak".

Tim Towarak
Chair

cc: Bristol Bay Subsistence Regional Advisory Council
Federal Subsistence Board
Eugene R. Peltola, Jr., Assistant Regional Director, OSM
Chuck Ardizzone, Deputy Assistant Regional Director, OSM
Carl Johnson, Council Coordination Division Chief, OSM
Donald Mike, Subsistence Council Coordinator, OSM
Interagency Staff Committee
Administrative Record



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Togiak National Wildlife Refuge
P.O. Box 270
Dillingham, Alaska 99576
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INFORMATION BULLETIN - August 2015

Cooperative Salmon Escapement Monitoring Projects. Contact: Mark Lisac

In 2014 the Federal Subsistence Board cancelled the funding for the salmon escapement monitoring projects (weirs) on the Kanektok (KRW) and Middle Fork Goodnews (MFGRW) Rivers. ADF&G and Coastal Villages Seafood provided the bulk of the funding to operate both projects although counting for the coho salmon spawning season was cancelled due to the lack of Federal funding.

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 funds the project operation. Togiak Refuge provided staff support; one intern from the Careers Discovery Internship Program (CDIP) for the MFGRW. The MFGRW began operation June 25.

On the Kanektok River, ADF&G, Native Village of Kwinhagak, Coastal Villages and Togiak Refuge have worked cooperatively to monitor salmon and Dolly Varden runs since 2001. This project is currently funded by Coastal Villages Region Fund and ADF&G. 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 June 25.

Preliminary escapement counts (<http://www.adfg.alaska.gov/sf/FishCounts>) for the MFGRW and KRW thru August 11, 2015 are:

	Chinook	Sockeye	Chum	Coho	Pink	Dolly V.
MFGRW	1,376	53,837	10,373	76	na	na
KRW	10,100	105,240	14,548	1,643	na	na

na=not available

Arctic Char Population Inventory Contact: Mark Lisac

Togiak Refuge has developed 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. In 2014 we visited eleven lakes and documented Arctic char in 9. We collected size and genetic information from 254 fish and provided the UAF museum with voucher specimens. A similar effort for 2015 is ongoing. 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.

Mulchatna Caribou Contact: Andy Aderman

Togiak Refuge assisted ADF&G with telemetry monitoring flights, radiocollar deployment, satellite data acquisition, data entry and database management. Results of a photocensus conducted June 25, 2015 are forthcoming. A composition survey is planned for October 2015.

Nushagak Peninsula Caribou Contact: Andy Aderman

A photocensus on June 29, 2015 found a minimum of 1,313 caribou on the Nushagak Peninsula. The June 2014 photocensus found a minimum of 1,018 caribou. For the 2015 fall hunt, 328 permits were made available and hunters reported harvesting 15 caribou (14 bulls and 1 cow) as of Aug 12. Permits issued for the fall hunt (Aug 1-Sep 30) are also valid for the winter hunt (Dec 1-Mar 31). Additional permits will be available in November for the winter hunt. A composition survey is planned to occur in October.

Moose Contact: Andy Aderman

During the January 1-February 28, 2015 winter hunt in Unit 17A, 17 moose (12 cows, 4 bulls, and 1 unknown sex) were reported harvested (Neil Barten, ADF&G, personal communication). A teleconference was held in June to discuss how Togiak Refuge and others might incorporate changes to moose survey protocols during winters with low, incomplete, or no snow cover. Participants included staff from the Alaska Department of Fish, U. S. Fish and Wildlife Service, Bureau of Land Management, and University of Alaska-Fairbanks. In October, we plan to deploy radiocollars on 20 bulls spread out over the refuge. These collared bulls, along with previously collared cows, will be used in developing sightability correction factors during moose population surveys. Population surveys in the Unit 18 portions of Togiak Refuge are planned for October 2015 and for the Unit 17 portions in February-March 2016.

The relationships of wolf and brown bear predation with moose population density and growth at Togiak National Wildlife Refuge and BLM Goodnews Block, Alaska Contact: Pat Walsh

In summer 2014, Togiak Refuge, the USFWS Conservation Genetics Lab, ADF&G, and BLM initiated a study to understand the effects of wolf and brown bear predation in regulating the population dynamics of moose on Togiak Refuge, BLM Goodnews Block, and adjacent areas. The study relies on radio telemetry and stable isotope analysis. Our approach will be to relate the predation impact by wolves and bears on moose at varying levels of moose population density. We will use existing population estimates for brown bears, and through the use of radio telemetry, we will estimate the number and composition of wolf packs on the Refuge. We will model wolf and bear predation on moose based on the quantity of wolves and bears and diet composition of both species determined through analysis of carbon and nitrogen stable isotopes

occurring in bear and wolf hair. Hair will be collected from wolves when captured during radio collaring operations, and will be collected from brown bears using break-away hair snares. We captured and radioed four wolves from two packs in March 2015. During July-August 2014, we deployed approximately 200 snares, and collected approximately 100 hair samples. A similar hair snare effort is ongoing for 2015.

Walrus Contact: Pat Walsh

The Togiak Refuge has annually monitored the number of Pacific walrus at haul-outs since 1985, using ground counts (1985-2008), aerial surveys (2003-2011) and time lapse photography (2010-2015). The objectives of the surveys are to monitor the number and timing of haul-outs and to estimate the peak haul-out at Cape Peirce, Hagemeister Island and Cape Newenham. The use of Reconyx remote cameras has improved the understanding of haul-out timing, capturing an image every hour during the day, throughout the year. Using these survey methods, the number of walrus hauling out at Cape Peirce has declined from 1985 through 2011, while no significant trend was detected at Hagemeister Island from 2005 through 2011. Walrus using haul-outs in Bristol Bay are typically recorded from late spring to late fall but have been observed at Cape Newenham every month since cameras were deployed in fall of 2014.

Seabirds Contact: Pat Walsh

The abundance and reproductive success of black-legged kittiwakes, common murre, and pelagic cormorants was monitored annually at Cape Peirce from 1990-2014, and intermittently at Cape Newenham from 1990-2009. During this period, the estimated number of kittiwakes and murre at Cape Peirce decreased, while the number of pelagic cormorants remained relatively constant. From 1991-2009, the number of kittiwakes counted at Cape Newenham averaged 2,132 birds (range 1,676-2,424), the mean number of murre was 5,815 (range 4,964-6,790), and the mean number of cormorants was 15 birds (range = 5-30). The long-term productivity of kittiwakes, murre, and cormorants at Cape Peirce averaged 24%, 42%, and 53% respectively between 1990 and 2014. No seabird monitoring was conducted in 2015.

Water Temperature Monitoring Contact: Pat Walsh

Stream temperature was monitored at 18 sites on 14 rivers in Togiak Refuge between 2001 and 2015. Temperature was recorded on an hourly basis using Onset TidbiT dataloggers and the data were successfully recovered from the field ~75% of the time. Over 1.8 million hourly temperature records have been collected, quality-graded, and entered into a relational database. Maximum daily mean temperature readings varied from 11.5—19.6° C between sites, with the Kukaktlim Lake outlet site being the warmest and the Weary River the coldest.

Quantifying River Discharge Contact: Mark Lisac

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. Discharge measurements are

made in the field 3 to 6 times a year. In 2014 satellite transmitters were added to the stream gages that allow remote monitoring of the equipment.

Education and Outreach Contact: Terry Fuller

Togiak Refuge has an active education and outreach program including the Migratory Bird Calendar; National Wildlife Refuge Week; career fairs; production of Bristol Bay Field Notes (a new episode airs several times a week on KDLG); 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 2013-2014 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 has a very active Facebook page which disseminates information on a daily basis to a rapidly growing global audience. Also, the refuge partners with others to conduct three environmental education camps described below:

Cape Peirce Marine Science and Yup'ik Culture Camp Contact: Terry Fuller

July 2015 saw an enthusiastic group of eight area junior high students representing three villages travel to Cape Peirce for this camp. Students at this camp were able to observe seabirds, marine mammals and learn how field studies are conducted, as well as learning about food webs and ecological relationships. Students and agency staff also learned about traditional Yup'ik uses of animals and plants and about Native survival skills. This camp is designed to help students gain a better understanding of the biological diversity of a marine ecosystem. It also strengthens their sense of stewardship for local natural resources. Other topics at this camp included tide pools, wilderness survival skills, archery, bear safety, Leave No Trace camping practices and careers with USFWS. Traditional councils and school districts from throughout western Bristol Bay are cooperators with this camp.

Southwest Alaska Science Academy Contact: Terry Fuller

This past July (2015), Togiak Refuge helped with the 14th 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. This year Togiak Staff were able to share with camp students about the following: identifying the different species of Pacific salmon at various stages in their development, the salmon life cycle, jobs associated with the fishing industry, salmon in art (fish taxidermy) and archery.

Summer Outdoor Skills and River Ecology Float Camp Contact: Terry Fuller

The 2015 Float Camp took place on the Pungokepuk River. At this camp, students learned about river ecosystems and how to enjoy them safely and responsibly while taking part in a float trip conducted on a refuge river. Students observed and learned about the many fish, wildlife and plant species found on the Pungokepuk. Rafting skills, water safety, different angling practices (Catch and Release), Leave No Trace camping practices and bear safety were topics during the

trip. Students also participated in other outdoor activities such as animal tracking (plaster casting tracks, with several nice bear tracks cast) and wilderness survival skills. This camp helps 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 throughout western Bristol Bay are cooperators with 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 weir 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. Quinhagak Resident Charlie Roberts was hired for summer 2015 to work as a River Ranger on the Kanektok River with Refuge Information Technician (RIT) John Mark. Togiak Resident Keemuel Kenrud was hired as well (last year he worked with the refuge as an intern through the Bristol Bay Economic Development Corporation) and was assigned to the Togiak River to work with RIT Pete Abraham.

Staff Changes

In March, Pilot/Law Enforcement Officer Jeff Hicks was hired. In July, Wildlife Biologist Michael Swaim accepted a promotion with the Migratory Bird Management office in Anchorage. During 2015, Togiak Refuge hosted Directorate Fellow Chelsea Collins, Career Discovery Interns Perry Miller and Mirsaiades Raber-Dunning, and Bristol Bay Economic Development Corporation Interns Cody Miller, Hayden Johansen, and Connor Ito. In addition, two Pathways students, Jennifer Gregory and Dustin Carl, assisted with the biological program. Their project work on Togiak NWR will provide each of them research that they can use toward obtaining Master of Science degrees, and we expect both of them to return next summer. Long-time Service volunteer Jim Robbins helped for a month at Togiak, in June and July assisting with the maintenance program.

Katmai National Park and Preserve
Aniakchak National Monument and Preserve
Alagnak Wild River

National Park Service
U.S. Department of the Interior



Resource Management 2015



NPS R. Peterson

In September 2014, NPS staff and Student Conservation Association interns consolidated marine debris at Swikshak Bay, in preparation for the 2015 cleanup. Thanks in part to the Alaska SeaLife Center, Gulf of Alaska Keeper and Waste Management, this debris will be taken to Washington State for recycling and disposal this summer.

Marine debris is a common sight along coastlines around the world, even in places as remote as the Katmai Coast. In 2013, Katmai National Park partnered with the Alaska SeaLife Center's GYRE project to remove marine debris from Hallo Bay. Nearly 4,400 pounds of debris were removed. Fishing-related debris (buoys, floats, rope, line and netting) accounted for over 60% of the total debris weight. Beverage containers, foamed plastic, and other plastic material made up the majority of the remaining 1,400 pounds of debris. This summer, Katmai will conduct an intensive marine debris cleanup of five beaches (including Hallo Bay), as part of a multi-park project.

Katmai, along with Kenai Fjords National Park, Wrangell St. Elias National Park and Preserve, Cape Krusenstern National Monument and Bering Land Bridge National Preserve, will clean up NPS beaches and engage local schools and communities in the issues of marine debris. At Katmai, crews will be out at Sukoi Bay, Swikshak Bay, Kaguyak Bay, and north and south Hallo Bay during the

second and third week of June to consolidate debris. The collected materials will then be removed by marine vessel and fed into a larger marine debris removal effort taking place throughout the Gulf of Alaska, Southeast Alaska and coastal British Columbia.

The NPS is partnering with the Alaska SeaLife Center, Gulf of Alaska Keeper, US Fish and Wildlife Service, Waste Management and local boroughs and school districts in this effort. Katmai's debris will be combined with collected materials gathered by the Gulf of Alaska Keeper and transported on a Waste Management barge. The barge will collect debris from other sites along the route until it reaches Seattle, Washington. Where possible, debris will be recycled.

Project activities and updates will be shared on the park website and facebook page. Keep a look out for more information and finding on this project throughout the summer at www.nps.gov/katm.

Resource Management News: Volume 5

Forest Disturbance in Katmai and Lake Clark National Parks and Preserves

White spruce forests in Katmai National Park and Preserve and southern Lake Clark National Park and Preserve have been hard hit by the spruce beetle (*Dendroctonus rufipennis*) over the past several decades. In 2014, the Southwest Alaska Network (SWAN; part of the NPS Inventory and Monitoring Program) revisited many existing forest monitoring plots in forests heavily impacted by the beetle and established a number of new sites in undisturbed forest stands. The objective of the monitoring is to document changes in forest structure (the number and size of trees standing) and composition (the species present). These changes could include an increase in grass cover and downed wood on the forest floor in areas of beetle-kill, which would increase ground fuels over the long-term. A collaborative study between the SWAN and Humboldt State University, Nipissing University, and the University of Arizona is using tree-ring data to better understand the interaction between climate and beetle outbreaks. Results of this work suggest that warm temperatures in the



Spruce beetle-related mortality in the Bay of Islands in Katmai National Park and Preserve.

spring can leave trees drought-stressed and susceptible to beetle attack, particularly in low snow years. Further north, in the black spruce ecosystem of Lake Clark NP&P, fire is another important disturbance. In June 2014, a team of fire ecologists from the regional office and SWAN biological

technicians sampled a number of plots in the Currant Creek burn (2013) to assess fire severity. The resulting fire severity map may be used to examine the effects of the fire, and to predict where changes in vegetation and wildlife habitat could occur.

Mercury Levels in Resident Lake Fish Tissue



A NPS Technician uses hook and line to reel in a lake trout, later processed and analyzed for mercury concentration in its muscle tissue.

Monitoring since 2005 has built a solid baseline of tissue samples from more than 300 fish, representing nine species from 13 lakes in Katmai and Lake Clark National Parks and Preserves. These samples indicate that some resident fish species in southwest Alaska lakes have acquired elevated concentrations of mercury (Hg), the majority of which is methylmercury (MeHg), a toxic and readily biomagnified form. Why do fish from Katmai and Lake Clark, which inhabit some of the most pristine and remote waters in North America, have such elevated Hg concentrations? The Southwest Alaska Network (SWAN; part of the NPS Inventory and Monitoring Program) will be partnering with toxicologists at the US Geological Survey's Mercury Research Laboratory to answer this question through additional chemical and statistical analyses of lake trout (*Salvelinus namaycush*). Given the importance of resident lake fish, both as long-lived predators and as food sources for humans, understanding their contaminant levels is crucial.

Changing Tides: Intertidal Invertebrates, Bears and People

This spring, the National Park Service will embark on a new study to investigate the unique link between the terrestrial and nearshore environments, specifically coastal brown bears and intertidal invertebrates. At Katmai, three unique field research activities will take place throughout the summer to help us better understand this link: marine intertidal surveys, bear movement study using GPS collars, and field observations of foraging brown bears.

The marine intertidal

Clams and other intertidal invertebrates are known to be important early season forage for coastal brown bears along the Alaska Peninsula, and are key components of the nearshore food web. They provide food for a multitude of animals including sea stars, sea ducks, shorebirds, sea otters, wolves and bears.

This summer, researchers from the NPS and USGS will map the extent of clam and mussel beds and measure species diversity, composition, and density along the Katmai Coast. Laboratory work at the Alaska SeaLife Center will measure the effects of anticipated changes in ocean conditions and potential disturbances to these invertebrates. Natural and human-related pressures can impact the health of these nearshore invertebrate communities, which in turn can affect those species that rely on them. Although remote, the Katmai Coast is still vulnerable to a multitude of changing conditions and disturbances, such as ocean acidification, sea level changes, and oil spills.



A USGS technician excavates clams within a plot on the Katmai Coast. Clams will be collected, identified to species and measured.

Brown bear movement within Katmai's coastal habitats

Coastal brown bears on the Alaska Peninsula are some of the largest in the world, thanks in part to abundant seasonal food resources. Access to and abundance of food can vary throughout the season. Spring forage, including clams, mussels and sedges, is important after a winter of denning. During the summer and fall, packing on weight for the winter ahead can mean all the difference in survival.

To better understand bear use and movement within coastal habitats and to measure the relative importance of seasonal forage on long-term health and survival, 12 female bears will be fitted with GPS collars in May. NPS, USGS and Washington State University researchers will evaluate body condition of the collared animals in the spring, summer, and fall to compare overall health throughout the season. Blood and hair samples will be collected to measure the relative amounts of marine-derived proteins within the bears' diets over the entire season. Collaring and recapture of bears for habitat use and health assessments will provide new information on coastal brown bear ecology.



Clam beds provide important early season food for bears on the Alaska Peninsula Coast.

Brown bear foraging throughout the season

From June to September, a graduate student from Washington State University will spend two weeks a month observing foraging bears at Hallo Bay. She will be recording foraging effort and overall return. Feeding observations of bears clamming in the intertidal, fishing in streams and grazing in sedge meadows will be conducted and relative caloric value determined for these efforts. The extent to which bears rely on marine-influenced food resources will provide unique insight into the link between the marine and terrestrial ecosystems.

Katmai will be actively communicating the activities and findings of these studies throughout the three-year life of this project. Look for updates on the park website (www.nps.gov/katm) and facebook page. We look forward to connecting with you as this unique story unfolds. Through this project, we will gain valuable insight for long-term preservation of this dynamic nearshore connection and the species that rely on it.

Sea Star Wasting Disease

Sea stars play a vital role in shaping the marine communities in which they live. Many sea stars are considered top level predators, and have earned the title of being a keystone species. Keystone species are species that have a dramatic impact on community diversity.

Since 2013, sea stars in the Pacific Ocean have been dying in large numbers because of a mysterious sea star wasting disease. This disease first causes lesions to appear on sea star bodies, and within days the sea stars begin to die and decompose. Sea star wasting disease can move through sea star populations like a wildfire moves through a forest, and can kill many different species of sea stars at the same time. This disease has been observed as far south as Baja, Mexico and as far north as Sitka, Alaska. Scientists have recently identified the cause of this widespread disease to be a virus, named sea star associated densovirus (SSaDV). Though the culprit of this disease has been identified, scientists do not know what is causing this disease to spread so rapidly.

In the summer of 2014, the Gulf Watch Alaska (GWA) team searched for sea star wasting disease in the northern Gulf of Alaska. GWA surveyed almost 2,000 sea stars at 24 different sites and found no diseased sea stars. Survey sites were located in Prince William Sound, Kenai Fjords National Park, Kachemak Bay, and Katmai National Park and Preserve. Additionally, a GWA team member conducted research dives at multiple sites in the central and western Aleutian Islands, and found no signs of wasting disease.

There have been anecdotal reports of diseased sea stars in Prince William Sound and Kachemak Bay, though these reports have not yet been confirmed to be wasting disease. Future GWA summer surveys are planned for the northern Gulf of Alaska. The GWA program is monitoring for the disease across a large geographic area and will be able to detect large-scale outbreaks if the disease spreads to this region.



Sea star wasting disease has become an issue along the Pacific Coast of North America. This disease has not yet been observed in the northern Gulf of Alaska, which includes the Katmai Coast.

Archeological Survey and Evaluation of Amalik Bay National Historic Landmark



Archeological investigation of eroding coastal settlement. A cultural deposit capped by 1912 Katmai Tephra is exposed in the wall of the excavation.

This year archeologists from the University of Alaska Museum of the North (UAMN) will continue artifact and sample analysis, and writing while planning to conduct the final field season of archeological research at early Ocean Bay sites at the Amalik Bay National Historic Landmark. In 2014, work at three eroding coastal sites provided rich assemblages of artifacts and faunal remains that provide information concerning seasonality and subsistence practices about Ocean Bay Culture, the most ancient archeological sites on Kodiak Island and the Katmai Coast. Archeological deposits at a site in inner Amalik Bay investigated in 2014 were unusually deep and contained multiple ocher-covered surfaces with hearths and charcoal deposits that may indicate multiple house floors. In 2016, UAMN archeologists will complete investigation of this site and determine the age of the earliest occupations there.

Brooks Camp Ground Penetrating Radar Survey

Brooks Camp occupies a terrace north of the mouth of Brooks River that overlooks lower Brooks River and the adjacent shore of Naknek Lake. In the past, major Alaska Native settlements occupied this prime location. When Brooks Lodge began in 1950 the area was deserted and the outlines of ancient houses obscured by a thick layer of tephra (volcanic ash) deposited by the 1912 Novarupta Eruption. As the lodge grew, the landscape was leveled to accommodate lodge facilities further reducing the visibility of and accessibility to the archeological remains.

In order to evaluate and protect this earlier settlement, Katmai archeologists will direct a geophysical survey including a ground penetrating radar (GPR) investigation of Brooks Camp. GPR will locate house floors, occupation surfaces, graves and other feature with precise depths. This information will allow archeologists to investigate archeological features without requiring the excavation of large areas. With knowledge of the location of significant resources, archeologists can help the park plan projects that avoid harming archeological sites and conduct archeological research at minimum cost and ground disturbance.



Brooks Lodge and office are built atop the ruins of past Alaska Native settlement.

River and Sedge Meadow Surveys of Brown Bears

The longest record of bear activity at Katmai is from surveys flown along salmon spawning streams. These surveys take advantage of the natural ecosystem dynamics, concentrating bear activity in areas where food is available. Stream survey records go back to 1976, and the park continues to fly them annually so long as weather allows.

These stream surveys are limited in utility due to the inability to estimate the proportion of overall bears that are seen during a survey. Nevertheless, they provide a snapshot of bear activity levels, and the observed patterns also appear to mirror the experience of people in the region, suggesting more bear activity during times when more bears are also reported around villages and more bears are documented at locations with detailed records such as Brooks Camp.

In addition to general indications of bear activity levels, the surveys

provide an opportunity to document demographics of the bears that are seen. Bear population demography can be an important consideration in harvest management, but also provide insight into natural populations processes. These surveys, due to the long time period, are our best way to evaluate demographic changes such as the proportion of family groups.

On the Katmai Coast, a similar opportunity to use natural ecosystem dynamics to facilitate some basic, repeated documentation of bear activity levels has recently been started by the park. Bears congregate in coastal meadows to feed on sedges in the early summer, and are highly visible from the air. Due to the locations of the major salmon spawning streams, the stream surveys document bear activity levels only for the Bristol Bay side of the park. While the streams on the Pacific Coast also support salmon, the nature of the landscape is less accomodating for stream surveys, and the meadow

survey procedure was determined to be safer and more effective in facilitating many observations with fewer flights.

Meadow surveys were conducted in 2013 and 2014 for Swikshak, Katmai Bay, and Hallo Bay sedge meadows. In order to learn how to make sure these surveys are most effective, the NPS will be conducting the surveys at different times of day and multiple points during the summer to identify patterns of bear activity that allow the surveys to be conducted in a manner that generates the most consistent data possible.

An initial summary of stream survey data over the past forty years indicates a 20 year cycle of bear activity, with current activity levels along the counted streams near a low point of the cycle.



Sedges are high in protein and provide important early season food for coastal brown bears. Katmai's coastal sedge meadows provide opportunities for visitors to view bears, such as these two cubs.

American Dipper Survey in the Katmai Preserve



Biological Science Technicians inflate rafts on Kukaklek Lake in preparation for Nanuktuk Creek surveys. One American Dipper was recorded on the creek during the June 6, 2014 survey.

The American Dipper (*Cinclus mexicanus*) is one of a few avian species that is a year-round resident of southwest Alaska. Dippers use clear, fast moving streams and rivers during their breeding season and migrate to open water areas in the streams during the winter. Very little time is spent away from the water and this species does not make long distance flights over land. The American dipper's diet consists of a wide variety of aquatic invertebrates and fish. Salmon presence in streams benefits dippers in two ways. First, dippers are known to feed directly on salmon and their eggs. Secondly, salmon carcasses have been shown to increase the number of macro invertebrates, important food for dippers.

Dipper dependence on aquatic food sources and the fact that they do not migrate makes them excellent indicators of stream habitat condition. Dippers are also vulnerable to land management practices such as pollution, road building, deforestation and mining. Factors that compromise the health of a stream have been shown to destroy dipper habitat, decrease dipper population, and can directly kill the birds.

The Bristol Bay watershed supports the largest sockeye salmon fishery in the world. Six major river basins flow into Bristol Bay. Mining development has been proposed in some of these watersheds.

This study provided vital baseline data on the American Dipper in Katmai Preserve. If mining operations begin, this

study will provide a baseline to document any effects with subsequent surveys in the future. Seven rivers and streams were surveyed and locations of dippers were recorded and mapped. A total of 27 dippers were recorded on five of the seven rivers. If mining operations begin, similar surveys will be performed on the same seven rivers to record any changes to the dipper populations. With dippers being an indicator species of stream habitat, this survey will help future resource managers determine effects on the environment from mining operations.



American Dippers feed primarily on aquatic invertebrates in fast-moving rivers and streams, and therefore are good indicators of stream health.



National Park Service
U.S. Department of the Interior

Katmai National Park & Preserve
Aniakchak National Monument & Preserve
Alagnak Wild River
P.O. Box 7
King Salmon, AK 99613

EXPERIENCE YOUR AMERICA



National Park Service
U.S. Department of the Interior

This is the fifth issue of Resource Management News produced by the Division of Resource Management.

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The National Park Service cares for the special places saved by the American people so that all may experience our heritage.

Katmai National Park & Preserve, Aniakchak National Monument & Preserve, and Alagnak Wild River

Katmai National Park was originally established as a monument in 1918 to preserve the Valley of Ten Thousand Smokes, created by the 1912 eruption of Novarupta. Since its creation, Katmai has undergone many expansions to preserve and protect the resources within this region. In 1931, the monument was expanded to protect brown bear, moose and other wildlife. In 1942, islands within five miles of the shoreline in the Shelikof Strait were added to protect marine mammals resting on the islands. The boundary was expanded in 1969 to include all of Naknek Lake. Another 1.4 million acres were added in 1978 to protect brown bear habitat and watersheds vital to red salmon spawning. In 1980, the Alaska National Interest Lands Conservation Act (ANILCA) redesignated 3.7 million acres as Katmai National Park and an additional 308,000 acres as Katmai National Preserve.

Aniakchak National Monument was established in 1978 to preserve the Aniakchak caldera and its associated landscape, including the Aniakchak River and other lakes and streams, in their natural state. It was also created to assure continuation of the natural process of biological succession; and to protect brown bears, moose, caribou, sea lions, seals, and other marine mammals, geese, swans, and other waterfowl. It was redesignated as a Monument and Preserve in 1980 under ANILCA. The area is one of the least visited areas in the National Park System because of poor weather conditions typically hindering access.

Alagnak Wild River was established in 1980 through ANILCA to preserve the free-flowing condition of the river.

8 Resource Management News

Office of Subsistence Management

Fall 2015 Regional Advisory Council Report

Staffing Update

Robbin La Vine joined the Office of Subsistence Management (OSM) in October 2014. She is an anthropologist with extensive experience conducting subsistence research and building collaborative partnerships with Alaska Tribal, State, and Federal entities since 2002. Before joining OSM, she worked as a researcher for the Togiak National Wildlife Refuge, served as Social Scientist for the Bristol Bay Native Association Partners Program in Dillingham, and was a Subsistence Resource Specialist for the Alaska Department of Fish and Game, Division of Subsistence. Robbin is delighted to serve rural Alaskans while strengthening partnerships to ensure the continuation of the subsistence way of life.

Amee Howard joined OSM as the new Subsistence Policy Coordinator in July 2015. Prior to OSM, she worked as an Environmental Protection Specialist for the Pacific West Region of the National Park Service in Boulder City, Nevada. Previously, she worked for the Alaska Department of Fish and Game, Division of Commercial Fisheries, as a Fish and Game Program Technician in Sitka. Amee also spent time working as the Coastal Monitoring Coordinator for the Sitka Tribe of Alaska. She earned her Bachelors of Science in Natural Sciences, with minors in Environmental Studies and Geology, from the University of Alaska, Anchorage. Amee possesses a well-rounded background gained from previous work experience and is a valuable addition to the OSM team.

Efforts are currently underway to hire the following positions: Council Coordinator, Anthropologist, Anthropologist (Pathways), Fisheries Biometrician, Fisheries Biologist (2), Fisheries (Pathways) Grants Management Specialist, IT Specialist, and Administrative Assistant.

The North Pacific Fishery Management Council adopts measures to reduce Chinook Salmon bycatch in the Bering Sea Pollock fishery

At its April 2015 meeting in Anchorage, the North Pacific Fishery Management Council (NPFMC) took action to reduce bycatch of both Chinook and Chum Salmon in the Bering Sea commercial Pollock fishery. Recognizing the precarious state of Western Alaska's Chinook Salmon stocks, the NPFMC took a combination of actions which lower the caps in times of low abundance, combine Chinook and Chum Salmon bycatch management, place additional requirements on industry incentive plans and reapportion the Pollock catch between seasons. Taken together, these actions are anticipated to reduce bycatch of both Chinook and Chum Salmon, and ensure that additional measures, including lower caps, are in place in years of low Chinook Salmon abundance.

Much of the attention from stakeholders from both Western Alaska and the Pollock fishery focused on the option of lowering the Chinook Salmon bycatch hard cap and the performance standard, currently 60,000 and 47,591 fish, respectively. Western Alaskan stakeholders asked for a 60% reduction in both the hard cap and performance standard during testimony at the meeting and in several hundred letters and resolutions submitted prior to the meeting. The

Pollock industry advocated that no reductions be enacted. The State of Alaska led the effort to provide protections for Western Alaska Salmon stocks. Newly-appointed Alaska Department of Fish and Game Commissioner Sam Cotten introduced a motion calling for a 35% reduction in the performance standard and a 33% reduction in the hard cap. Commissioner Cotten's motion was amended by the Bill Tweit, NPFMC representative from Washington State, to a 25% reduction in the hard cap and a 30% reduction in the performance standard. This lesser reduction was passed by the NPFMC unanimously (10-0).

The results of the NPFMC action are as follows: In years of low Chinook Salmon abundance (defined as years in which the cumulative total Chinook Salmon runs of the Kuskokwim, Upper Yukon and Unalakleet Rivers is at or below 250,000 fish), the hard cap will be 45,000 and the performance standard will be 33,318 Chinook Salmon. The Pollock fishery manages to the performance standard, so the reduction in this number is important. The Council also made it very clear that they expect bycatch to remain well below the caps, and would take additional action if warranted. It should be noted that, in recent years, bycatch has averaged around 15,000 Chinook Salmon.

In addition to the reductions in the cap levels, the NPFMC's action contains several other, important measures. The other pieces of the motion apply in all years – not just when Salmon abundance is low. Alternative 2 combines Chinook and Chum Salmon bycatch management programs, ensuring a coordinated approach. It also requires information sharing with Western Alaska groups. Alternative 3 adds five new requirements for the industry Incentive Plan Agreements (IPA) to meet, including requiring Salmon excluders, restrictions on bycatch rates in October (a time of historically high bycatch) and significant penalties (no fishing) for boats with repeatedly bad bycatch performance. The options the Council selected under Alternative 4 provide the Pollock fishery with the flexibility to catch more of its harvest in the late A season, potentially shifting harvest effort away from the high bycatch times later in the year.

In summary, the NPFMC's action puts in place measures to further reduce bycatch in all times of abundance, and to ensure that in periods of low Chinook Salmon abundance the Pollock fishery would be limited to a lower level of bycatch.

Bridging the Gap between Native Communities, Conservation, and Natural Resource Management: Grant Update

The U.S. Fish and Wildlife Service and the Alaska Native Science and Engineering Program (ANSEP) were awarded a National Fish and Wildlife Foundation grant to help re-establish a lost connection between Federal resource managers and rural communities in the Yukon-Kuskokwim and Doyon Regions. Members of these communities rely on subsistence resources within six National Wildlife Refuges for both cultural and nutritional needs. Continued resource declines in both the Yukon and Kuskokwim River drainages have led to immense hardships for local residents as well as numerous challenges for resource managers to provide sufficient subsistence harvest opportunities, while ensuring adequate conservation efforts.

Funds from this grant are used to increase outreach opportunities and foster collaborative solutions by expanding the Refuge Information Technician (RIT) Program. Outreach and education contribute significantly to the overall success of resource management. Language barriers and cultural obstacles often stand in the way of achieving effective communication. The RIT program employs Alaska Native residents to serve as liaisons between the Yukon Delta National Wildlife Refuge and local communities. The RITs' regional experience, traditional ecological knowledge, Yup'ik language skills, and cultural sensitivity enhance their role as intermediaries. Expanding the capabilities of the RIT program will significantly increase and improve important connections between the Yukon Delta National Wildlife Refuge and local communities. These relationships are fundamental for local residents to become more involved in the management and conservation of the resources on which they depend.

Funds from this grant are also supporting ANSEP students participating in biological internships within the Yukon-Kuskokwim and Doyon Regions. ANSEP strives to increase the number of Alaska Natives employed in the fields of science, technology, engineering and mathematics (STEM) by increasing the number of individuals on a career path to leadership in STEM fields. The U.S. Fish and Wildlife Service is partnering with ANSEP to provide meaningful summer internships that expose students to careers in resources management. These internships provide an opportunity for students to experience resource monitoring and management while developing knowledge and skills allowing them to succeed in professional resource management positions.

Changes to Council Member Appointment Process

The Office of Subsistence Management has submitted requests to the Secretary of the Interior to make the following changes to the Council member appointment process: shift from 3-year to 4-year appointment terms, allow for appointment of alternates, and provide for a 120-day carryover term for incumbents in the event that appointment letters are not timely issued. Dan Ashe, Director, U.S. Fish and Wildlife Service, has provided his support of these changes. As of the writing of this report, OSM is waiting to hear back from the Secretary's office to initiate the direct final rule making that would be necessary to change the appointment terms to 4 years. The new Senior Advisor for Alaska Affairs, Michael Johnson, will be assisting in moving this through the Secretary's office. OSM is moving ahead with plans to implement all changes for the current appointment cycle.

In order to switch from 3-year to 4-year appointment terms, as well as switch from having one-third of Council seats up for appointment each year to one-fourth of the seats being up for appointment, appointment terms will be staggered in order to complete the transition by the 2019 appointment cycle. This means that some Council members, even incumbents, may receive 2, 3 or 4-year appointments in the next few years. By 2019, however, all Council appointments will be for 4-year terms. If you have any questions, contact Carl Johnson, Council Coordination Division Chief, at (907) 786-3676 or carl_johnson@fws.gov.

All-Council Meeting
Anchorage, Alaska – Location TBD
March 7-11, 2016

Meeting Committee: RAC Chairs, Council Coordinators, Orville Lind (Native Liaison), Deborah Coble (Subsistence Outreach Specialist)

Joint Session

Monday, March 7, 2015

Invocation

Keynote Speaker:

Joint Agenda Items: Common issues from annual reports (i.e., bycatch, budget, other agency actions that impact subsistence, food security, climate change)

Concurrent Sessions

One full day for each of the Councils to address their regional issues

Tuesday – three Councils

Wednesday – three Councils

Thursday – three Councils

Friday – one Council

Training

Sessions repeat throughout the week to allow all Council members opportunity to attend.

- Title VIII of ANILCA
- Robert's Rules of Order
- Federal Indian Law (with ANCSA implications)
- Cross-Cultural communication
- C&T versus 804
- Regulatory Process (State and Federal)

Reports and Panels

- Western Arctic Caribou Herd
- Yukon River salmon
- Kuskokwim River salmon
- Public Processes for Fish & Wildlife Management (RAC, SRC, AC, AMBCC)
- Holistic management – discussion and explanation of how agencies manage resources (BLM, USFWS, NPS, USFS)
- Tribal Consultation
- Different Federal Subsistence Programs (Migratory Birds, Marine Mammals, Halibut)
- Understanding Dual Management

Important to note: this one meeting will encompass the entire meeting cycle for winter 2016

JOINT FEDERAL SUBSISTENCE REGIONAL ADVISORY COUNCILS

Venue TBD
Anchorage, Alaska
March 7, 2016
8:30 a.m.

TELECONFERENCE: call the toll free number: 1-866-[number], then when prompted enter the passcode: [number]

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

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

AGENDA

*Asterisk identifies action item.

- 1. Invocation**
- 2. Keynote Address**
- 3. Roll Call and Establish Quorum** *(Council Coordination Division Chief)*.....
- 4. Call to Order** *(Chair)*
- 5. Welcome and Introductions** *(Chair)*
- 6. Review and Adopt Agenda*** *(Chair)*
- 7. Regional Reports**
- 8. Business** *(Chair)*
 - a. Climate Change
 - b. Food Security
 - c. Federal Subsistence Budget.....
 - d. Revisions to FRMP
 - e. Hunter Education.....
 - f. Youth Engagement.....
- 9. Agency Reports**

- a. **NPFMC** – Pollock Bycatch Update.....
- b. Status on Magnuson-Stevens Act Renewal.....
- c. Fisheries Management Overview
- d. **OSM** – Processes

Closing Comments

10. Adjourn (Chair)

To teleconference into the meeting, call the toll free number: 1-866-[number], then when prompted enter the passcode: [number]

Reasonable Accommodations

The Federal Subsistence Board is committed to providing access to this meeting for all participants. Please direct all requests for sign language interpreting services, closed captioning, or other accommodation needs to [name], 907-786-XXXX, [email], or 800-877-8339 (TTY), by close of business on [date].



All-Council Meeting Schedule

	Monday 3/7	Tuesday 3/8	Wednesday 3/9	Thursday 3/10	Friday 3/11
Main Room	<u>All day</u> Joint Session of the Councils	<u>Morning</u> Training: Title VIII of ANILCA <u>Afternoon</u> Training: Cross-cultural communication	<u>Morning</u> Training: Regulatory Process <u>Afternoon:</u> Training: Federal Indian Law	<u>Morning</u> Report: Yukon River Salmon <u>Afternoon</u> Panel: Tribal Consultation	<u>Morning</u> Training: Robert's Rules of Order <u>Afternoon</u> Panel: Understanding Dual Management
Small Room 1	All day RAC 1 – Concurrent Session YKDRAC	All day RAC 4 – Concurrent Session EIRAC	All day RAC 7 – Concurrent Session SEFRAC	All day RAC 10 – Concurrent Session KARAC	All day RAC 10 – Concurrent Session KARAC
Small Room 2	All day RAC 2 – Concurrent Session WIRAC	All day RAC 5 – Concurrent Session SCRAC	All day RAC 8 – Concurrent Session BBRAC	<u>Morning</u> RAC 8 – Concurrent Session BBRAC	<u>Morning</u> RAC 8 – Concurrent Session BBRAC
Small Room 3	All day RAC 3 – Concurrent Session SPRAC	All day RAC 6 – Concurrent Session NWARAC	All day RAC 9 – Concurrent Session NSRAC	All day RAC 9 – Concurrent Session NSRAC	All day SERAC Day 2 (if needed)
Small Room 4	<u>Morning</u> Training: Robert's Rules of Order <u>Afternoon</u> Panel: Public Processes for Fish & Wildlife Management	<u>Morning</u> Training: C&T versus Section 804 <u>Afternoon</u> Training: Cross-Cultural Communication	<u>Morning</u> Panel: Understanding Dual Management <u>Afternoon</u> Training: C&T versus Section 804	<u>Morning</u> Panel: Understanding Dual Management <u>Afternoon</u> Training: C&T versus Section 804	<u>Morning</u> Training: C&T versus Section 804 <u>Afternoon</u> Panel: Public Processes for Fish & Wildlife Management
Small Room 5	<u>Morning</u> Panel: Holistic management	<u>Morning</u> Training: Title VIII of ANILCA <u>Afternoon</u> Panel: Public Processes for Fish & Wildlife Management	<u>Morning</u> Training: Title VIII of ANILCA <u>Afternoon</u> Panel: Public Processes for Fish & Wildlife Management	<u>Morning</u> Training: Cross-Cultural Communication <u>Afternoon</u> Panel: Holistic management	<u>Morning</u> Report: WACH <u>Afternoon</u> Training: Title VIII of ANILCA
Small Room 6	<u>Morning</u> Training: Regulatory Process <u>Afternoon</u> Panel: Different Federal Subsistence Programs	<u>Morning</u> Training: Robert's Rules of Order <u>Afternoon</u> Panel: Different Federal Subsistence Programs	<u>Morning</u> Training: Robert's Rules of Order <u>Afternoon</u> Panel: Different Federal Subsistence Programs	<u>Morning</u> Training: Federal Indian Law <u>Afternoon</u> Report: Kuskokwim Salmon	<u>Morning</u> Training: Regulatory Process <u>Afternoon</u> Panel: Different Federal Subsistence Programs

TRAINING	PANELS	REPORTS (ONCE EACH)
<p>Title VIII of ANILCA (x3) Provide an overview of Title VIII and key provisions that govern Federal subsistence management.</p>	<p>Public Process for Fish & Wildlife Management (AC, RAC, SRC, AMBCC) (x3) Panel consisting of one member of an AC, RAC, SRC and AMBCC to explain how each of their processes work and how public can participate.</p>	<p>Western Arctic Caribou Herd Report from State and Federal managers on status of herd and current management objectives and approaches.</p>
<p>Cross-Cultural Communication (x3) Training to help State and Federal staff improve communication with Alaska Natives.</p>	<p>Holistic Management (x2) Conceptual panel to discuss how fish and wildlife among various agencies can be managed in a more holistic way.</p>	<p>Yukon Salmon Report from State and Federal managers on status of salmon stocks and current management objectives and approaches.</p>
<p>Robert's Rules of Order (x3) Training to benefit RAC members in the conduct of their meetings under Robert's Rules.</p>	<p>Tribal Consultation (x2) Panel consisting of Native Liaisons from R7 and OSM and Tribal leaders to discuss current consultation process and how it should work. Emphasis on what consultation means from Tribal perspective.</p>	<p>Kuskokwim Salmon Report from State and Federal managers on status of salmon stocks and current management objectives and approaches.</p>
<p>Regulatory Process (x3) Explain the regulatory process under both State and Federal systems and provide information on how to submit proposals.</p>	<p>Different Federal Subsistence Programs (Halibut, Marine Mammals, Mig Birds, OSM) (x2) Panel consisting of representatives from the various Federal programs that regulate certain subsistence activities to discuss their jurisdiction, legal authority, and approach to management.</p>	
<p>Federal Indian Law (x2) Basic principles of Federal Indian law including how it is affected by the Alaska Native Claims Settlement Act and related case law in State and Federal courts.</p>	<p>Understanding Dual Management (x2) State and Federal managers explain their jurisdictional role in managing fish and wildlife resources, how the two sometimes work together and sometimes separately.</p>	
<p>C&T versus Section 804 (x3) Provide instruction on how C&T determinations and Section 804 determinations are made, how applied, where they differ.</p>		

Winter 2016 Regional Advisory Council Meeting Calendar

March 2016 current as of 3/24/2015

Meeting dates and locations are subject to change.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<i>Feb. 7</i>	<i>Feb. 8</i> <i>Window Opens</i>	<i>Feb. 9</i>	<i>Feb. 10</i>	<i>Feb. 11</i>	<i>Feb. 12</i>	<i>Feb. 13</i>
<i>Feb. 14</i>	<i>Feb. 15</i> PRESIDENT'S DAY HOLIDAY	<i>Feb. 16</i>	<i>Feb. 17</i>	<i>Feb. 18</i>	<i>Feb. 19</i>	<i>Feb. 20</i>
<i>Feb. 21</i>	<i>Feb. 22</i>	<i>Feb. 23</i>	<i>Feb. 24</i>	<i>Feb. 25</i>	<i>Feb. 26</i>	<i>Feb. 27</i>
<i>Feb. 28</i>	<i>Feb. 29</i>	<i>Mar. 1</i>	<i>Mar. 2</i>	<i>Mar. 3</i>	<i>Mar. 4</i>	<i>Mar. 5</i>
<i>Mar. 6</i>	<i>Mar. 7</i>	<i>Mar. 8</i>	<i>Mar. 9</i>	<i>Mar. 10</i>	<i>Mar. 11</i>	<i>Mar. 12</i>
	All Council Meeting - Anchorage					
<i>Mar. 13</i>	<i>Mar. 14</i>	<i>Mar. 15</i>	<i>Mar. 16</i>	<i>Mar. 17</i>	<i>Mar. 18</i> <i>Window Closes</i>	<i>Mar. 20</i>

Fall 2016 Regional Advisory Council Meeting Calendar August–November 2016

Meeting dates and locations are subject to change.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<i>Aug. 21</i>	<i>Aug. 22</i> WINDOW OPENS	<i>Aug. 23</i>	<i>Aug. 24</i>	<i>Aug. 25</i>	<i>Aug. 26</i>	<i>Aug. 27</i>
<i>Aug. 28</i>	<i>Aug. 29</i>	<i>Aug. 30</i>	<i>Aug. 31</i>	<i>Sept. 1</i>	<i>Sept. 2</i>	<i>Sept. 3</i>
<i>Sept. 4</i>	<i>Sept. 5</i> HOLIDAY	<i>Sept. 6</i>	<i>Sept. 7</i>	<i>Sept. 8</i>	<i>Sept. 9</i>	<i>Sept. 10</i>
<i>Sept. 11</i>	<i>Sept. 12</i>	<i>Sept. 13</i>	<i>Sept. 14</i>	<i>Sept. 15</i>	<i>Sept. 16</i>	<i>Sept. 17</i>
<i>Sept. 18</i>	<i>Sept. 19</i>	<i>Sept. 20</i>	<i>Sept. 21</i>	<i>Sept. 22</i>	<i>Sept. 23</i>	<i>Sept. 24</i>
<i>Sept. 25</i>	<i>Sept. 26</i>	<i>Sept. 27</i>	<i>Sept. 28</i>	<i>Sept. 29</i>	<i>Sept. 30</i>	<i>Oct. 1</i>
<i>Oct. 2</i>	<i>Oct. 3</i>	<i>Oct. 4</i>	<i>Oct. 5</i>	<i>Oct. 6</i>	<i>Oct. 7</i>	<i>Oct. 8</i>
<i>Oct. 9</i>	<i>Oct. 10</i>	<i>Oct. 11</i>	<i>Oct. 12</i>	<i>Oct. 13</i>	<i>Oct. 14</i>	<i>Oct. 15</i>
<i>Oct. 16</i>	<i>Oct. 17</i>	<i>Oct. 18</i>	<i>Oct. 19</i>	<i>Oct. 20</i>	<i>Oct. 21</i>	<i>Oct. 22</i>
<i>Oct. 23</i>	<i>Oct. 24</i>	<i>Oct. 25</i>	<i>Oct. 26</i>	<i>Oct. 27</i>	<i>Oct. 28</i>	<i>Oct. 29</i>
<i>Oct. 30</i>	<i>Oct. 31</i>	<i>Nov. 1</i>	<i>Nov. 2</i>	<i>Nov. 3</i>	<i>Nov. 4</i> WINDOW CLOSSES	<i>Nov. 5</i>

**Department of the Interior
U. S. Fish and Wildlife Service**

Bristol Bay Subsistence Regional Advisory Council

CHARTER

- 1. Committee's Official Designation.** The Council's official designation is the Bristol Bay Subsistence Regional Advisory Council (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 decisionmaking process affecting the taking of fish and wildlife on the public lands within the Region for subsistence uses.
 - d. Prepare an annual report to the Secretary containing the following:
 - (1) An identification of current and anticipated subsistence uses of fish and wildlife populations within the Region.
 - (2) An evaluation of current and anticipated subsistence needs for fish and wildlife populations within the Region.

- (3) A recommended strategy for the management of fish and wildlife populations within the Region to accommodate such subsistence uses and needs; and
 - (4) Recommendations concerning policies, standards, guidelines, and regulations to implement the strategy.
 - e. Appoint three members to the Lake Clark National Park and three members to the Aniakchak National Monument Subsistence Resource Commissions, in accordance with Section 808 of the Alaska National Interest Lands Conservation Act (ANILCA).
 - f. Make recommendations on determinations of customary and traditional use of subsistence resources.
 - g. Make recommendations on determinations of rural status.
 - h. Provide recommendations on the establishment and membership of Federal local advisory committees.
- 5. Agency or Official to Whom the Council Reports.** The Council reports to the Federal Subsistence Board Chair, who is appointed by the Secretary of the Interior with the concurrence of the Secretary of Agriculture.
- 6. Support.** The U.S. Fish and Wildlife Service will provide administrative support for the activities of the Council through the Office of Subsistence Management.
- 7. Estimated Annual Operating Costs and Staff Years.** The annual operating costs associated with supporting the Council's functions are estimated to be \$135,000, including all direct and indirect expenses and 1.0 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 Council and subcommittee meetings,
 - Prepare and approve all meeting agendas,
 - Attend all Council 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 is subject to biennial review and will terminate 2 years from the date the charter is filed, unless prior to that date, the Charter is renewed in accordance with the provisions of Section 14 of the FACA. The Council will not meet or take any action without a valid current charter.

12. Membership and Designation. The Council's membership is composed of representative members as follows:

Ten members who are knowledgeable and experienced in matters relating to subsistence uses of fish and wildlife and who are residents of the Region represented by the Council. To ensure that each Council represents a diversity of interests, the Federal Subsistence Board in their nomination recommendations to the Secretary will strive to ensure that seven of the members (70 percent) represent subsistence interests within the Region and three of the members (30 percent) represent commercial and sport interests within the Region. The portion of membership representing commercial and sport interests must include, where possible, at least one representative from the sport community and one representative from the commercial community.

The Secretary of the Interior will appoint members based on the recommendations from the Federal Subsistence Board and with the concurrence of the Secretary of Agriculture.

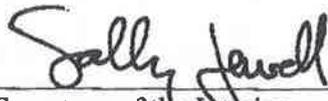
Members will be appointed for 3-year terms. A vacancy on the Council will be filled in the same manner in which the original appointment was made. Members serve at the discretion of the Secretary.

Council members will elect a Chair, 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 will participate in any specific party matter in which the member has a direct financial interest in a lease, license, permit, contract, claim, agreement, or related litigation with the Department.

14. **Subcommittees.** Subject to the DFO's approval, subcommittees may be formed for the purpose of compiling information and conducting research. However, such subcommittees must act only under the direction of the DFO and must report their recommendations to the full Council for consideration. Subcommittees must not provide advice or work products directly to the Agency. The Council Chair, with the approval of the DFO, will appoint subcommittee members. Subcommittees will meet as necessary to accomplish their assignments, subject to the approval of the DFO and the availability of resources.
15. **Recordkeeping.** Records of the Council, and formally and informally established subcommittees of the Council, shall be handled in accordance with General Records Schedule 26, Item 2, and other approved Agency records disposition schedule. These records shall be available for public inspection and copying, subject to the Freedom of Information Act, 5 U.S.C. 552.


Secretary of the Interior

NOV 22 2013

Date Signed

DEC 03 2013

Date Filed



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