

NORTHWEST ARCTIC Subsistence Regional Advisory Council



USFWS

Selawik National Wildlife Refuge.

Fisheries Meeting Materials

October 8, 2010

Kotzebue

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**NORTHWEST ARCTIC SUBSISTENCE REGIONAL ADVISORY COUNCIL
NPS MULTIPURPOSE ROOM-KOTZEBUE, ALASKA
October 8, 2010; 9A.M.-5P.M.**

DRAFT AGENDA

- **PUBLIC COMMENTS:** Public comments are welcomed for each agenda item. Please fill out a comment form or be recognized by the Chair. Testimony time limits may be given to provide opportunity for all to testify and to keep on schedule.
- **PLEASE NOTE:** These are estimated times and topic order are subject to change. Contact staff at the meeting for the current schedule.
- **AREA CONCERNS:** The Regional Council arranges its meetings to hear and understand the subsistence concerns of the area where they meet. Please share your subsistence concerns and knowledge. The agenda is an outline and is open to the area’s subsistence concerns, listed or not.

1. **Call to Order** (*Walter Sampson, Chair*)
2. **Moment of Silence**
3. **Roll Call and Establishment of Quorum** (*Austin Swan, Secretary*) 3
4. **Welcome and Introductions** (*Walter Sampson, Chair*)
5. **Review and Approve Agenda** (*Add new items under 14*) 1
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11. **Next Meeting** (*Barb Atoruk*)
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12. **Draft 2010 Annual Report** (*Barb Atoruk*)
13. **Agency Reports**
 - A. Office of Subsistence Management
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 2. Briefing on the New Federal Subsistence Permit System (*Tom Kron*)..... 24
 - B. National Park Service (*Lois DalleMolle*)
 - C. Bureau of Land Management (*Tim Hammond*)
 - D. Alaska Department of Fish and Game (*Staff*)

E. Selawik Refuge (*LeeAnne Ayres*)

14. New Business

15. Adjourn

- The U.S. Fish and Wildlife is committed to providing access to this meeting for all participants. Please direct all requests for sign language interpreting, Computer Aided Real-time Translation (CART) or other accommodation needs to Barbara Atoruk at (907)786-3885, via email at Barbara_Atoruk@fws.gov, or toll free 1-800-478-1456 no later than September 27, 2010.
- If you need alternative formats or services because of a disability, please contact the Diversity and Civil Rights Manager at (907)786-3328(voice), via email at douglas_mills@fws.gov, or via Alaska Relay (dial 7-1-1 from anywhere in Alaska or 1-800-770-8255 from out-of-state) for hearing impaired individuals with your request by close of business September 27, 2010.
- If you have a question regarding this agenda or need more information, please call Barb Atoruk, Regional Coordinator, toll free at 1-800-478-1456 or 1-907-786-3885; fax 907-786-3898, Barbara_Atoruk@fws.gov.

**REGION 8
NORTHWEST ARCTIC**

<u>SEAT 1</u> 2011 2008	Percy C. Ballot, Sr.	Buckland	
<u>SEAT 2</u> 2012 2009	Leslie D. Burns	Noatak	
<u>SEAT 3</u> 2010 2004	Victor Karmun	Kotzebue	VChair
<u>SEAT 4</u> 2010 2009	Jon P. Gregg	Kotzebue	
<u>SEAT 5</u> 2010 2009	Pierre A. Lonewolf	Kotzebue	
<u>SEAT 6</u>	VACANT		
<u>SEAT 7</u> 2011 2006	Walter G. Sampson	Kotzebue	Chair
<u>SEAT 8</u> 2012 1999	Enoch Shiedt, Sr.	Kotzebue	
<u>SEAT 9</u>	VACANT		
<u>SEAT 10</u> 2012 2006	Austin Swan, Sr.	Kivalina	Secretary

**NORTHWEST ARCTIC SUBSISTENCE REGIONAL ADVISORY COUNCIL
NPS Multipurpose Room, Kotzebue, Alaska
February 19, 2010, 9:00 a.m. to 6:30 p.m.**

MINUTES

Members Present:

Mr Walter Sampson, Kotzebue, Chair
Mr. Victor Karmun, Kotzebue, V.Chair
Mr. Leslie D. Burns, Noatak
Mr. Pierre Lonewolf, Kotzebue
Mr. Jon P. Gregg, Kotzebue
Mr. Enoch Shiedt, Kotzebue

Excused:

Austin Swan, Sr., Kivalina
Percy Ballot, Sr., Buckland

Federal/Agency Personnel

FWS/OSM

Karen Hyer, Anchorage
Chuck Ardizzone, Anchorage
Barb Armstrong, Anchorage

ADFG

Jim Magdanz, Kotzebue
Jim Dau, Kotzebue
George Pappas, Anchorage
Nancy Hendrickson, Anchorage

FWS, Selawik Refuge

LeeAnne Ayres, Kotzebue
Susan Georgette, Kotzebue
Patrick Snow, Kotzebue

NPS

Sandy Rabinowitch, Anchorage
Ken Adkisson, Nome
George Helfrich, Kotzebue
Willie Goodwin, Kotzebue
Dan Stevenson, Kotzebue
Kevin Deon, Kotzebue
Alfred R. Orness, Kotzebue

BLM

Dave Parker, Fairbanks

Bering Sea Fisherman's Assoc.

Dave Cannon

NOAA Fisheries/Juneau

Gretchen Harrington, Juneau

North Pacific Fisheries Mgmt

Dianna Stram
Duncan Fields
Gerry Merrigan

Court Reporter: Nate Hile

Call to Order

Victor Karmun, Chair, called the meeting to order at 9:00 A.M. in Kotzebue.

Roll Call/Confirmation of Quorum

Barb Armstrong, Council Coordinator, called roll. Quorum was not established. Members excused: Mr. Raymond Stoney, Kiana informed the Coordinator that he no longer wishes to be on the Council. Mr. Virgil Adams and Mr. Austin Swan were not able to attend, due to cancellation of the airlines that they were to travel with, weather deteriorated. Mr. Walter Sampson was mandated by NANA to attend the oil spill meetings in Anchorage.

Welcome and Introductions

The Chair welcomed everyone to the meeting and asked each to introduce themselves.

Review and Approve Agenda

The agenda was not approved, quorum was not established. It was used for discussion purposes only.

Review and Adopt Minutes

The minutes were not approved, quorum was not established.

VILLAGE CONCERNS

Kotzebue: Mr. Shiedt reported that the caribou came in early this year but they still are hearing that the herd is being diverted. They were healthy. He previously testified about the sores on the fish in the Aggie River. The rainbow trout are bigger but they still have sores on both sides of their bodies. He suggested that a study should be done on them before whatever disease that they have spreads. He hates to see that the rainbow trout spreads the disease to the other trout. He said that he will return this fall after freeze up to check if they do winter in those lakes above his camp on Aggie River. He felt that this year was normal as far as the plants and insects in his camp area, but thinks global warming causing changes. The hunters are happy. The hunters of Noatak reported that the caribou were still far up there yet. The Red Dog road was closed for four hours and he wished that it was longer, possibly up to 12 hours so a lot more caribou could cross. The caribou they harvested were healthy. The hunters from the upper Kobuk villages of Kobuk and Shungnak reported that the caribou did not cross at their usual migratory routes. Some hunters put gas together and traveled down below Ambler to Onion Portage to harvest caribou.

CHAIR'S REPORT

The coordinator referred the Council to page 12 of the meeting book to read the **805c Letter**. This pertains to the actions taken by the Federal Subsistence Board at its April/May 2008 meeting.

FISHERIES RESOURCE MONITORING PROGRAM

Ms. Karen Hyer from USFWS Office of Subsistence Management gave a brief overview of the 2010 Fisheries Resource Monitoring Program. Approximately six million dollars will be available to fund monitoring and research projects that provide information needed to manage subsistence fisheries in rural Alaska on Federal lands. The 2010 request for proposals is focused on high priority information needs developed either by strategic planning efforts or by expert opinion. The priority information needs for 2010 are summarized for six regions: Southeast, Southcentral (excluding Cook Inlet Area), Southwest, Northern (Seward Peninsula, Northwest and North Slope), Yukon and Kuskokwim. An additional inter-regional category is included in the priority information needs. The priority information need for inter-regional addresses climate change. Office of Subsistence Management is asking all investigators to consider examining or discussing climate change effects as part of their project. Proposals that are submitted and focused on affected resources due to climate change must include a clear description of how the project would measure or assess climate change impacts to subsistence resources and subsistence uses.

Mr. Dave Cannon, a representative from the **Bering Sea Fisherman's Association**, introduced their website-www.bsfaak.org and distributed their newsletter-the *Fisheries Awareness Information and Responsibility (FAIR) Advocate*. They have discussion forums where they talk about everything. He stated their website www.bsfaak.org is an exceptional tool to go and post some pictures of the sores on the trout. This is a good tool for the researchers and biologists can update the public on anything. They mainly focus on the Bering Sea region and highlight any things of interest. This site heightens people's awareness by sharing information amongst commercial fishers, subsistence fishers, agency people and biologists. Unusual sightings can be posted; if more people concur with same sightings and observations,

it could then highlight the need for a research to find out exactly what is causing those concerns. They would like the public to use the site more.

AGENCY REPORTS

The Council Coordinator referred the Council to the briefing on the Rural/Nonrural Request for Reconsideration (RFR) on page 31 of the meeting book. The Federal Subsistence Board reviews an RFR for a staff threshold analysis for consideration. The regulations identify the following criteria for acceptance of an RFR:

“The Board will accept a request for reconsideration only if it is based upon information not previously considered by the Board, demonstrates that the existing information used by the Board is incorrect, or demonstrates that the Board’s interpretation of information, applicable law, or regulation is in error or contrary to existing law.” (36 CFR Part and 50 CFR Part 100, at _____ .20(d))

The requests, analyses, and recommendations used by the Board in reaching its decisions can be found under the “Issues in Depth” section of the Federal Subsistence Management Program Website, <http://alaska.fws.gov/asm/home.html>.

Mr. George Helfrich, Superintendent of **Western Arctic National Parklands**, asked Willie Goodwin to give a briefing on the subsistence resource commission representative appointment process. Mr. Goodwin stated that the Council has three applicants to consider for Cape Krusenstern SRC. The applicants are Enoch Mitchell from Noatak, Austin Swan, Sr. from Kivalina, and Raymond Hawley from Kivalina. The Council will consider all applicants at their next meeting. Mr. Adkisson added that the subsistence resource commissions were created under ANILCA to advise the Park Service on subsistence matters in National Park and Monument units. Each SRC has nine members, who are subsistence users of the park or monument area. The applicants must also be a member of either the Federal subsistence regional advisory council or a local State fish and game advisory committee. There will be two vacancies on Cape Krusenstern SRC: those seats expire in November but the members are allowed to continue membership until the Council makes a decision.

Mr. Adkisson reported on the Arctic Network and Inventory and Monitoring Program. It is reaching its protocol development stage. The Arctic Network and Inventory and Monitoring Program will actually finalize it and set up to monitor key wildlife species that will be indicators for the parks’ health. They have been testing, experimenting and trying out different protocol processes on the Brooks Range sheep survey; the weather did not cooperate, so they will try again in 2009. A final report will come later. A planned muskoxen census was not conducted due to poor weather.

Mr. Helfrich gave a brief report on the Park Service’s §810 evaluation; the issuing of permits to transporters is still in draft. The Park Service has not made any changes to the analysis and conclusion since the Council’s last meeting but added the Council’s resolution to the administrative record. The Council had passed a resolution recommending how the analysis should read. That resolution is now included in the administrative record. The Cape Krusenstern and Kobuk Valley SRCs made similar resolutions, which were also included in the administrative record. He emphasized that the National Park Service found that there are negative impacts on subsistence use from big game transportation services. There are moderate to major season-specific and location-specific impacts to subsistence caribou hunters, and the Park Service is committed to addressing those impacts.

Mr. Helfrich stated that the Park Service took two very important actions this year. It established a moratorium on the issuance of additional big game transportation service permits. Only eight permits were issued. There will be a maximum of eight companies operating inside Noatak National Preserve in 2008 and 2009. It also informed the permittees that their clientele would be capped at 357 individuals. These actions have been taken to help minimize the impacts that big game transportation service providers and their clients have on the subsistence users. These are interim measures. The Park Service has a lot of confidence in the working group of Unit 23. The working group is made up members from the subsistence community, the agencies, big game transportation service providers, the guide industry, and local communities. The Park Service is financially supporting the working group, which will meet in Kotzebue on October 29-31, 2008 at the borough chambers.

Mr. Dan Stevenson from the **Protection Division of NPS** gave a short report. Protection officers visited 52 camps throughout the Noatak Preserve this fall; all were non-local hunters. The Park Service has a standard procedure to check hunting licenses, permits, and all harvested game to make sure that it is salvaged properly with no wanton waste. Officers also work the same in the Cape Krusenstern and Kobuk Valley areas to check the local subsistence hunters. Officers checked approximately 130 hunters this year, 80 percent were non-locals and 20 percent were locals, and handed out brochures that the State produced to these hunters. The officers issue several warnings yearly—for not signing a hunting license, not validating harvest tickets, and excess trash. Depending on the case, oral or written citations are issued. Officers have observed fairly good compliance, with the hunters salvaging the edible meat and using more canvas meat bags than plastic. Cleaner camps were also recognized. Officers primarily patrolled the Aggie, Eli, Kugururok, Kelly, and Nimiuktuk (*NinNuqtuuq*) rivers. They do occasionally check the Kobuk Valley and Krusenstern since they are closed to non-local hunters. They also patrol the Bering Land Bridge. Following this presentation the Council asked questions for clarification.

Mr. Helfrich noted that a resident of Noatak, Ricky Ashby, requested to build a cabin in a place where he has historically fished to support his subsistence fishing. NPS is evaluating the environmental consequences of building a cabin. Mr. Helfrich also provided information about one of his employees and her spouse sharing a business; they rent equipment, kayaks, rafts, tents and camping gear. He said that his best reading of both the Federal ethics guidelines and also the National Park Service housing management policies is that there aren't any violations of any regulations or policies.

Mr. Sandy Rabinowitch provided information that NPS does not allow anyone to pick up either shed or discarded horns and antlers from their lands. The Eastern Interior Alaska Subsistence Regional Advisory Council has asked NPS to change that regulation to allow that practice. The scoping letter explains the purpose and need, some potential alternatives, and the possible outcome. It is the NEPA process. NPS will do an environmental assessment, this is the beginning stage.

Mr. Dave Parker, fish biologist, from **Bureau of Land Management** provided an update on the final steps of the Kobuk/Seward Peninsula Resource Management Plan Environmental Impact Statement. The Record of Decision was signed in late August 2008. The Plan directed BLM to require all transporters, guides, and air taxis to hold permits if they use BLM managed public lands in the Squirrel River area. The BLM was not able to implement this during 2008, but will enforce this rule in 2009. As directed by the plan, BLM will start the Squirrel River Recreation Implementation Plan in 2009; hopefully, it will be completed by 2010. This will be an environmental assessment. The public will be involved and the Council's input concerning this issue is important. The meetings will be scheduled and the Council will be informed.

BLM was active on three programs this past summer:

1. Recreation Program. BLM staff did some permit compliance checks; they stopped four of the eight guides authorized to conduct guiding operations in the Squirrel River area. Staff flew over the Kauk, Mangoak, and Tagagawik rivers since three guides are permitted to be on those rivers. They found only one camp off the Mangoak River; none were on the other rivers. There were only eight permittees this year versus 11 last year on the Squirrel River. NPS informed BLM that once a guide does not guide in the area for a year, they lose their permit. They will not renew those until the new recreation plan is passed and addresses all guides.

2. Archaeology and fisheries studies are being conducted on the Kivalina River. Mr. Bill Hedman, an archaeologist, headed that crew and program. The Central Yukon Field Office conducted archaeological surveys and site investigations for the last two seasons in the Kivalina River drainage. Helicopter support was provided and numerous sites have been identified on the BLM-managed public lands. This research indicates that people have been hunting big game in the shadows of the Delong Mountains for at least 10,000 years. The 10,000 year age came from some arrow tips that were collected in that area. Collections have been kept at a minimum to insure these sites remain intact. The final first phase of this project will be during 2009. They hope that they can begin working the Native Village of Kivalina to include lands on the lower Kivalina River in the 2010 survey work.

3. The fisheries studies were initiated by ADF&G biologist, Ken Altz, and continued by Fred DiCicco. The State biologists are essentially known to study the population and BLM are known to study the habitat. They are studying very closely the habitat being used by the Dolly varden on the Kivalina River. BLM has collected some habitat variables, spawning area habitat samples and make sure that they are protected. The low water does affect the distribution; they are hoping for higher water level so they have a better idea of the distribution. The water was extremely low in the fall and some of these post-spawn Dolly varden were stuck in the pools or eddys. There was intergravel flow coming through so the fish were getting oxygenated water. Fin clips from Dolly varden were collected to compare with others to see if they do come from separate populations of fish or are related.

Mr. Daniel Sharp, subsistence coordinator for BLM, gave a briefing on a draft subsistence use of timber policy. Noncommercial harvest of up to 15 cords or standing green timber for house logs would not need a permit. For more than 15 cords, you must get a permit from BLM if the harvesting is going to be on the BLM lands. Mr. Sharp reported that they are asking for comments to determine if the 15 cords is an appropriate amount of firewood or if the number should be larger or smaller, prior to the policy becoming final. The issue surrounding the harvest of house logs and firewood from BLM lands was initiated by the Western Interior Alaska Subsistence Regional Advisory Council. The NWASRAC Chair stated that the public needs to be educated on this issue because they are going to be impacted by this policy. Mr. Shiedt commented that 15 cords is not enough to last through the winter especially during the cold months.

Mr. Jim Dau, caribou biologist from the **Alaska Department of Fish and Game**, provided a short report. He introduced Charlotte Westing, the new assistant area biologist in Kotzebue. The official 2007 count for Western Arctic Caribou Herd census was 377,000 animals. It's down from the 2003 census of 490,000 animals. This is a six percent annual decline. The reason for the decline appears to be that the adult mortality rate has gone up in the recent years. Mr. Dau does not think the herd is steadily declining. All the other herds, statewide, are also declining. ADF&G is planning another census in July 2009 and should have an estimate of the herd size by spring of 2010. The ADF&G, NPS, BLM, and FWS are planning to do a moose census in the upper Noatak during the spring of 2009.

Mr. Jim Magdanz from **ADF&G Division of Subsistence** gave a brief report. He announced that Mr. Craig Fleener, an Athabascan and lifelong Alaskan from Fort Yukon, is the new Director of Subsistence Division.

ADF&G has received calls during the summer from locals about assorted fish with gray patches on their sides. From the description given of the symptoms, they believe that the fish are infected by a fungal disease commonly called the cotton wool. If conditions are good, infected fish do survive and heal. This may be related to the low water that they are seeing. He stated that green algae bloom appeared in Kobuk Lake this fall. A collected specimen was tested by DEC and it was all negative for hydrocarbons, industrial chemicals, or pollutants to have caused this.

Mr. Magdanz was funded by the OSM Fisheries Information Service; one planning project was started by Susan Georgette and Enoch Shiedt and called exploring approaches. The summary of the findings were presented at the Council's last meeting. A report is now final and that project is complete. The patterns and trends in subsistence harvest in Northwest Alaska are in midstream now. For this project, the Kobuk villages and Noatak were surveyed on fish harvest information from 1994 to 2003. They could not afford to survey all the villages each year. They noted that the overall salmon harvest declined when the harvest of whitefish increased. In some villages, overall harvest increased, some were flat. But, he said, that there definite changes in the mix of species that they harvest. They were approached by Mr. Steven Braund to do an environmental assessment on subsistence impacts by Red Dog. Red Dog wants to open a new pit. The Environmental Protection Agency requested the current subsistence harvest information before a supplemental environmental impact statement was filed. Mr. Magdanz gave an overview of how a comprehensive survey is done, the team, the harvests, no contact, not available, the income, local population, the changes, the comparison, the results and the chart. He was happy with this survey.

Ms Susan Bucknell, coordinator for **State fish and game advisory committees** in the Northwest Arctic Region, reported that she is the bridge between the public, agencies and the committees. She encouraged that names be submitted for consideration for a seat on the Board of Game since Mr. Fleener vacated his seat when he accepted the position of Director of Subsistence Division.

Ms. LeeAnne Ayres, Refuge Manager from the **USFWS, Selawik Refuge**, introduced the topics that she presented and her staff, Susan Georgette on the refuge management plan and Mr. Patrick Snow, Assistant Refuge Manager, on fall 2008 hunting activity.

Monitoring birds for Avian influenza in Northwest Arctic last summer, a team captured tundra swans, molting swans in the Noatak Flats, Kobuk River delta areas and the mouth of Buckland River. Two-hundred swans were captured and tested; the results were negative for any of the active H5N1 virus. The Alaska Science Center has a web which includes updates on birds. The Refuge put five satellite transmitters in the swans this year and the swans' locations are posted on the web. Tundra swans and pintails were the top priority for the avian flu influenza monitoring. The region does not have much pintails but will be giving updates on the swans for a few years.

The Refuge staff continues to work jointly with NPS, ADF&G and FWS on the same project on sheefish telemetry and monitoring on both the Selawik and Kobuk rivers. The objectives are to determine the timing and migration and spawning frequency of sheefish in that drainage. This year 150 sheefish were radio tagged. Refuge staff found that the major concentrations of spawning sheefish are upstream of the Maniilaq River and downstream from Reed River. They found that most of the sheefish spawned by October 1st. They plan to radio tag some more sheefish next year. Mr. Ray Hander from FWS fisheries office in Fairbanks worked a pilot study on the sheefish on the Selawik with the the Refuge this year. Mr. Chris Zimmerman of USGS has joined the Refuge in looking at the effect of that slump on the upper Selawik and how it may have affected the spawning sheefish right below it. They are interested to see what that sedimentation or silting of the river would do to the eggs, the viability of the spawned eggs, or the spawning fish in those conditions.

Ms. Susan Georgette provided an update on the Refuge's Comprehensive Conservation Plan. The plan must be updated every 15 years; all refuges, nationwide are updating their management plans. Refuge staff will solicit input from the whole region to gather concerns that the Refuge should address in its plan. Most of the villages will be visited and discussions will be held with anyone who is interested or has concerns.

Mr. Patrick Snow gave a short report on the fall 2008 hunt activities on moose, caribou, Grizzly bear and other in Unit 23. He provided handouts on the camp locations and the estimated chart for hunters transported and the game harvested. Mr. Shiedt had a question about the dropoff site used by Northwestern Aviation and Buck Maxon. The Cutler site, he said is the headwaters of the Kobuk and Ambler rivers and would interfere with the migration of the caribou in the fall. Ms. Ayres said that the objective of the map is a joint effort of all agencies to try to snapshot where all the activities are in the region. She stated that the Council's input to improve is helpful. People can also provide input through the GMU 23 Working Group when it meets.

Dr. Diana Stram, fisheries analyst, on staff with the **North Pacific Fishery Management Council** gave a short report. She introduced two NPFMC members present at this meeting. Mr. Duncan Fields from Kodiak Island has worked as an attorney in Kodiak with surrounding villages on fish. Mr. Gerry Merrigan from Petersburg works for the Bering Sea Company. There are 15 members on the NPFMC. Ms. Gretchen Harrington represents the National Marine Fisheries Service. The NPFMC and NMFS jointly manage the Federal fisheries three to two hundred miles off shore. This includes the Bering Sea, the Aleutian Islands, as well as the Gulf of Alaska. Primarily the NPFMC manages the major ground fish species such as Pollock, cod, rockfish, and sable fish and makes allocative decisions for halibut. The NPFMC has shared management with the State of Alaska for the Bering Sea and Aleutian Islands crab species (major species are snow crab, Bristol Bay red king crab, and tanner crab). They also have joint management for the Alaska scallop fisheries and the Bering Sea Pollock fishery in the Bering Sea which includes the bycatch of salmon. The NPFMC will discuss chum salmon bycatch at its December meeting in Anchorage. This presentation was explicitly for the Chinook salmon bycatch. Following this presentation the Council asked questions for clarification.

ESTABLISHED TIMES AND PLACES OF NEXT MEETINGS

The winter meeting will be in Kotzebue on March 5, 2009, poll vote
The fall meeting will be in Kotzebue on September 2, 2009, poll vote

ADJOURNMENT

The meeting ended at 1:20 p.m.

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

Barbara M. Atoruk, DFO
USFWS Office of Subsistence Management

Date

Victor Karmun, Chair
Northwest Arctic Subsistence Regional Advisory Council

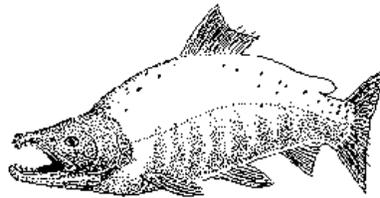
Date

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

For a more detailed report of this meeting, copies of the transcript are available upon request. Call Barbara_Atoruk@fws.gov or 907-786-3885.

PRIORITY INFORMATION NEEDS

FEDERAL SUBSISTENCE FISHERIES



2012 FISHERIES RESOURCE MONITORING PROGRAM

Office of Subsistence Management
U.S. Fish and Wildlife Service
1011 E. Tudor Road
Anchorage, Alaska 99503-6199

1-800-478-1456 or 907-786-3888 Voice
907-786-3612 Fax

July 23, 2010

The Office of Subsistence Management (OSM) invites the submission of proposals for fisheries investigation studies to be initiated under the 2012 Fisheries Resource Monitoring Program (Monitoring Program). Taking into account funding commitments for ongoing projects, we anticipate approximately \$2.7 million available in 2012 to fund new monitoring and research projects that provide information needed to manage subsistence fisheries for rural Alaskans on Federal public lands. Funding may be requested for up to four years duration.

Although all proposals addressing subsistence fisheries on Federal public lands will be considered, the 2012 Request for Proposals is focused on priority information needs. The Monitoring Program is administered by region, those being the Northern, Yukon, Kuskokwim, Southwest, Southcentral, and Southeast regions. Strategic plans developed by workgroups of Federal and State fisheries managers, researchers, Regional Advisory Council members and other stakeholders, have been completed for three of the six regions: Southeast, Southcentral (excluding Cook Inlet Area), and Southwest Alaska. These plans identify prioritized information needs for each major subsistence fishery and can be viewed on or downloaded from OSM's website: <http://alaska.fws.gov/asm/index.cfml>. Independent strategic plans were completed for the Yukon and Kuskokwim regions for salmon in 2005, and jointly for whitefish in 2010. For the Northern Region and the Cook Inlet Area, priority information needs were developed with input from Regional Advisory Councils, the Technical Review Committee, Federal and State managers and staff from OSM.

This document summarizes priority information needs for 2012 for all six regions and a multi-regional category that addresses priorities that may extend to more than one study region. Investigators preparing proposals for the 2012 Monitoring Program should use this document and relevant strategic plans, and the Request for Proposals, which provides foundational information about the Monitoring Program, to guide proposal development. While Monitoring Program project selections may not be limited to priority information needs identified in this document, proposals addressing other information needs must include compelling justification with respect to strategic importance.

Monitoring Program funding is not intended to duplicate existing programs. Agencies are discouraged from shifting existing projects to the Monitoring Program. Where long-term projects can no longer be funded by agencies, and the project provides direct information for Federal subsistence fisheries management, a request to the Monitoring Program of up to 50% of the project cost may be submitted for consideration. For Monitoring Program projects for which additional years of funding is being requested, investigators should justify continuation by placing the proposed work in context with the ongoing work being accomplished. For projects with broad overlap of Federal and State management authority, a substantial match in funding must be included in order to be considered for Monitoring Program funding.

Because cumulative effects of climate change are likely to fundamentally affect subsistence fishery resources, their uses, and how they are managed, investigators are requested to consider examining or discussing climate change effects as a component of their project. Investigators conducting long-term stock status projects will be required to participate in a standardized air and water temperature monitoring program. Calibrated temperature loggers and associated equipment, analysis and reporting services, and access to a temperature database will be provided. Finally, proposals that focus on the effects of climate change on subsistence fishery resources and uses, and that describe implications for subsistence management, are specifically requested. Such proposals must include a clear description of how the project would measure or assess climate change impacts to subsistence fishery resources, uses, and management.

Projects with an interdisciplinary emphasis are encouraged. The Monitoring Program seeks to combine ethnographic, harvest monitoring, traditional ecological knowledge, and biological data to aid in finding effective management approaches to fisheries. Investigators are encouraged to combine interdisciplinary methods, theories, and data to address information needs. Consideration should be given to the cultural context of key research topics.

Collaboration and cooperation with rural communities is encouraged at all stages of research planning and implementation of projects that directly affect those communities. The Request for Proposals describes the collaborative process in community-based research and in building partnerships with rural communities.

The following sections provide specific regional and multi-regional priority information needs for the 2012 Monitoring Program. They are not listed in priority order.

Northern Region Priority Information Needs

The Northern Region is divided into three areas which reflect the geographic areas of the three northern Regional Advisory Councils (Seward Peninsula, Northwest Arctic, and North Slope). Together, the three areas comprise most of northern Alaska, and contain substantial Federal public lands. Since 2001, the three northern Regional Advisory Councils have identified important fisheries issues and information needs for their respective areas. The Seward Peninsula and Northwest Arctic Councils have identified salmon and char fisheries as being the most important fisheries for their areas. The North Slope Council identified char, whitefish, and Arctic grayling fisheries as most important for its area. In addition, the effects of climate change on subsistence fishery resources has been identified as a priority research need. The Multi-regional priority information needs section at the end of this document includes climate change research needs.

For the Northern Region, the 2012 Request for Proposals is focused on the following priority information needs:

- Baseline harvest assessment and monitoring of subsistence fisheries in the Northwest Arctic and North Slope regions.
- Historic trends and variability in harvest locations, harvests and uses of non-salmon fish.
- Iñupiaq taxonomy of fish species, Iñupiaq natural history of fish, land use, place name mapping, species distribution, and methods for and timing of harvests. Species of interest include sheefish, northern pike, or other subsistence non-salmon fish in the Northwest Arctic region.
- Spawning distribution, timing, and stock structure of Selawik River whitefish species.

Yukon Region Priority Information Needs

Since its inception, the Monitoring Plan for the Yukon Region has been directed at information needs identified by the three Yukon River Regional Advisory Councils (Yukon-Kuskokwim Delta, Western Interior, and Eastern Interior) with input from subsistence users, the public, Alaska Native organizations, Federal and State agencies, and partner agencies and organizations. The U.S./Canada Yukon River Salmon Joint Technical Committee Plan has been used to prioritize salmon monitoring projects in the Alaskan portion of the Yukon River drainage. Additionally, a research plan for whitefish has identified priority information needs for whitefish species in the Yukon and Kuskokwim river drainages.

For the Yukon Region, the 2012 Request for Proposals is focused on the following priority information needs:

- Reliable estimates of Chinook and chum salmon escapements (e.g., weir and sonar projects).
- Effects on salmon stocks and users of fishery management practices implemented to conserve Chinook salmon (e.g. gillnet mesh size, gillnet depth, and windowed openings).
- Methods for including “quality of escapement” measures in establishing Chinook salmon spawning goals and determining the reproductive potential of spawning escapements.
- Trends in Yukon River Chinook salmon production relative to other spawning stocks of the Bering Sea and Gulf of Alaska.
- Contemporary economic strategies and practices in the context of diminished salmon runs. Topics may include an evaluation of barter, sharing, and exchange of salmon for cash, as well as other economic strategies and practices that augment and support subsistence activities. Of particular interest are distribution networks, decision making, and the social and cultural aspects of salmon harvest and use.
- Description of the use of gillnets to harvest salmon species by residents of the Yukon River drainage.
- Location and timing of Bering cisco spawning populations in the Yukon River drainage.
- Complete genetic baseline sampling and population marker development for sheefish spawning populations in the Yukon River drainage.
- Harvest, use, and associated contextual information for whitefish by species in lower Yukon River drainage communities.

Kuskokwim Region Priority Information Needs

Since 2001, the Yukon-Kuskokwim Delta and Western Interior Regional Advisory Councils, with guidance provided by the Kuskokwim Fisheries Resource Coalition, have identified a broad category of issues and information needs in the Kuskokwim Region. These include collection and analysis of traditional ecological knowledge; harvest assessment and monitoring; salmon run and escapement monitoring; non-salmon fish population monitoring; and marine/coastal salmon ecology. Additionally, a research plan for salmon and a research plan for whitefish have been used to prioritize monitoring projects for salmon and whitefish. These were reviewed to ensure that remaining priority information needs were considered.

For the Kuskokwim Region, the 2012 Request for Proposals is focused on the following priority information needs:

- Reliable estimates of Chinook, chum and coho salmon escapement (e.g. weir projects).
- Harvest, use, and associated contextual information for whitefish by species in upper Kuskokwim River drainage communities. Communities of interest include McGrath, Telida, Nikolai, Takotna, and Lime Village.

- Traditional ecological knowledge of whitefish by species in central Kuskokwim River drainage communities. Communities of interest include Upper Kalskag, Lower Kalskag, Aniak, Chuathbaluk, Red Devil, Sleetmute, Stony River, and Crooked Creek. The findings from this research will supplement harvest and use information from previous research.
- Harvest, use, and associated contextual information for whitefish by species in lower Kuskokwim River drainage communities. Specific groups of communities of interest are Kwethluk, Akiachak, Napaskiak, and Tuluksak, or Chefornak, Kipnuk, Kongiganak, and Kwigillingok.
- Broad whitefish population assessment, including distribution and age structure.
- Location and timing of Bering cisco spawning populations in the Kuskokwim River drainage.
- Complete genetic baseline sampling and population marker development for sheefish spawning populations in the Kuskokwim River drainage.
- Status of sheefish spawning population in Highpower Creek, an upper tributary of the Kuskokwim River (this could be part of the genetic baseline study listed directly above).

Southwest Region Priority Information Needs

Separate strategic plans were developed for the Bristol Bay-Chignik and Kodiak-Aleutians areas, corresponding to the geographic areas covered by the Bristol Bay and Kodiak/Aleutians Regional Advisory Councils. These strategic plans were reviewed to ensure that remaining priority information needs were considered.

For the Southwest Region, the 2012 Request for Proposals is focused on the following priority information needs:

- Trends in whitefish harvest and use from Lake Clark communities.
- Environmental, demographic, regulatory, cultural, and socioeconomic factors affecting harvest levels of salmon for subsistence use in the Kodiak Area. Researchers should consider evaluating factors influencing use patterns and describing the socioeconomic impacts of other fisheries.
- Harvest of salmon for subsistence use by residents of the Aleutian Islands Area, including current and traditional harvest methods and means by species, and current and traditional uses and distribution practices.

Southcentral Region Priority Information Needs

A strategic plan was developed for Prince William Sound-Copper River and an abbreviated strategic planning process was employed for Cook Inlet. These sources were reviewed to ensure that remaining priority information needs were considered.

For the Southcentral Region, the 2012 Request for Proposals is focused on the following priority information need:

- Historical and current subsistence use areas for harvest of salmon and non-salmon fish species by residents of Ninilchik, Hope, and Cooper Landing. Research should including intensity of use and use on Federal public lands and waters.

Southeast Region Priority Information Needs

A strategic plan was developed for Southeast Region in 2006 and was reviewed to ensure that priority information needs are identified. The 2012 Request for Proposals is focused on priority information needs for sockeye salmon and steelhead trout. It should be noted that current Department of Agriculture funding levels for the monitoring program in Southeast Alaska are fully committed to continuation of projects initiated in 2010. However, this request for proposals includes solicitation for the Southeast Region so as to maintain options for 2012 should additional funding become available.

For the Southeast Region, the 2012 Request for Proposals is focused on the following priority information needs:

- Reliable estimates of sockeye salmon escapement. Stocks of interest include: Gut Bay, Red, Kah Sheets, Salmon Bay, Sarkar, Lake Leo, and Hoktaheen.
- In-season subsistence harvest of sockeye salmon. Stocks of interest include: Hatchery Creek, Gut Bay, Red, Kah Sheets, Salmon Bay, Sarkar, Kanalku, and Hoktaheen.
- Contribute to the genetic stock identification baseline of Chatham Strait sockeye salmon.
- Reliable estimates of steelhead escapement, especially for systems on Prince of Wales Island.

Multi-Regional Priority Information Needs

The Multi-regional category is for projects that may be applicable in more than one region. For the Multi-Regional category, the 2012 Request for Proposals is focused on the following priority information needs:

- Changes in subsistence fishery resources and uses, in the context of climate change where relevant, including but not limited to fishing seasons, species targeted, fishing locations, harvest methods and means, and methods of preservation. Include management implications.
- An indexing method for estimating species-specific whitefish harvests on an annual basis for the Kuskokwim and Yukon drainages. Researchers should explore and evaluate an approach where sub-regional clusters of community harvests can be evaluated for regular surveying with results being extrapolated to the rest of the cluster, contributing to drainage-wide harvest estimates.
- Evaluation of conversion factors used to estimate edible pounds from individual fish, and from unorthodox units such as tubs, sacks, or buckets.

Winter 2011 Regional Advisory Council Meeting Calendar

February 15–March 24, 2011 current as of 08/02/10

Meeting dates and locations are subject to change.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<i>Feb. 13</i>	<i>Feb. 14</i>	<i>Feb. 15</i> <i>Window Opens</i>	<i>Feb. 16</i>	<i>Feb. 17</i>	<i>Feb. 18</i> NWA—Kotzebue	<i>Feb. 19</i>
<i>Feb. 20</i>	<i>Feb. 21</i> HOLIDAY	<i>Feb. 22</i>	<i>Feb. 23</i> YKD—Bethel	<i>Feb. 24</i>	<i>Feb. 25</i>	<i>Feb. 26</i>
<i>Feb. 27</i>	<i>Feb. 28</i>	<i>Mar. 1</i> EI—Tanana WI—Galena	<i>Mar. 2</i>	<i>Mar. 3</i>	<i>Mar. 4</i>	<i>Mar. 5</i>
<i>Mar. 6</i>	<i>Mar. 7</i> NS—Barrow	<i>Mar. 8</i>	<i>Mar. 9</i> BB—Naknek	<i>Mar. 10</i>	<i>Mar. 11</i>	<i>Mar. 12</i>
<i>Mar. 13</i>	<i>Mar. 14</i>	<i>Mar. 15</i> SP—Nome	<i>Mar. 16</i> SC—Anchorage	<i>Mar. 17</i>	<i>Mar. 18</i>	<i>Mar. 19</i>
<i>Mar. 20</i>	<i>Mar. 21</i>	<i>Mar. 22</i> SE—Sitka K/A—Kodiak	<i>Mar. 23</i>	<i>Mar. 24</i> <i>Window Closes</i>	<i>Mar. 25</i>	<i>Mar. 26</i>

Fall 2011 Regional Advisory Council Meeting Window

August 30–October 15, 2011 current as of 08/04/10

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>
		NS—TBA				
<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>END OF FY2010</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> HOLIDAY	<i>Oct. 11</i>	<i>Oct. 12</i>	<i>Oct. 13</i>	<i>Oct. 14</i> WINDOW CLOSES	<i>Oct. 15</i>

UPDATE ON THE BROWN BEAR CLAW HANDICRAFT WORKING GROUP

The Brown Bear Claw Handicraft Working Group met on July 29, 2010 in Anchorage. Representatives of seven of the ten Regional Advisory Councils participated in person, and representatives of Eastern and Southcentral Regional Advisory Councils participated by teleconference. Staff from Alaska Department of Fish and Game and Federal agencies also attended. The meeting, chaired by Larry VanDaele with ADF&G and Helen Armstrong, OSM, was held in the OSM Board Room and lasted most of the day.

To begin with, discussion focused on a central question, namely, whether or not there is a need for changes to regulations that allow the sale of handicrafts that incorporate brown bear claws; and if so, can a regulation or regulations be developed that would be non-burdensome for subsistence users.

Other related questions had to do with existing laws or requirements that may affect subsistence users wanting to sell handicrafts that incorporate bear claws, including:

- CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an international agreement created to ensure that international trade in wild animals and their parts does not threaten the survival of the species worldwide. Although brown bears are not endangered in Alaska, they are listed as endangered in the lower 48 states of the U.S. and worldwide. Therefore, products from brown bears require CITES permits for international trade (as well as black and polar bears). Under CITES, both tag numbers and permits can be issued.
 - When a bear is sealed, a CITES tag number is attached to the bear hide.
 - A CITES permit is needed to take a handicraft that includes a brown bear part, such as a claw, into another country. To do that, a CITES tag number would need to be provided to a law enforcement officer to get a CITES permit (cost is \$25). This is the responsibility of the buyer, not the seller, unless the seller is exporting the item out of the country (in which case they are required to pay for an export license).
- Sealing of brown bears was also discussed; of particular concern was where bears could be sealed. The existing Federal regulations require modification to allow brown bears to be sealed in villages rather than regional centers. ADF&G representatives assured the Council members that subsistence users would not have to leave the community to get a bear sealed.

Following this discussion, the working group discussed options with regard to regulatory action to bring to the Federal Subsistence Board. The working group was in consensus that:

- Deferred Proposal WP08-05 should be rejected by the Federal Subsistence Board. State representatives at the working group meeting concurred that the Deferred Proposal WP08-05 should be rejected.
- A new proposal should be submitted. The new proposed regulation would require sealing the brown bear if the subsistence user intends to sell a handicraft incorporating the claw(s). A CITES tag number, which is provided when the hide is sealed, would then accompany the handicraft. The new proposal would be submitted by OSM staff.

- Further details regarding how a CITES tag number would accompany a handicraft (a certificate or sticker or some other mechanism) are being developed by staff. These details will be provided to the working group at a later date and will be included in the proposal when it is submitted.
- The proposed regulation would apply only to Federally qualified subsistence users who sell handicrafts incorporating brown bear claw(s). There would be no change for those who take brown bears, make handicrafts for personal use, and do not intend to sell such a handicraft.
- Further details for the proposed regulation still need to be developed addressing how the CITES tag number would accompany the handicraft as well as changes to the regulations regarding the ability to seal the hide in villages rather than regional centers. The working group reached consensus on the following language (additions are bolded). For Federally qualified subsistence users:

You may sell handicraft articles made from the skin, hide, pelt, or fur of a brown bear (including claws) taken from Units 1-5, 9A-C, 9E, 12, 17, 20, 22, 23, 24B (only that portion within Gates of the Arctic National Park), 25, and 26.

If you intend to sell a handicraft incorporating a brown bear claw(s), the hide must be sealed, which includes a CITES tag number. The CITES tag number must accompany the handicraft.

The analysis of this proposal will be presented to all Councils for their recommendations at the fall 2011 meetings, and will be considered by the Federal Subsistence Board at its January 2012 meeting.

QUESTIONS AND ANSWERS REGARDING THE BROWN BEAR CLAW HANDICRAFTS WORK GROUP

Why was this working group formed?

At the May 2008 Federal Subsistence Board meeting, the idea of a working group was suggested by the State as a way to address some of their concerns with Federal regulations that allow the sale of handicrafts that include brown bear claws. The Federal Subsistence Board endorsed the formation of a working group, and clarified that its membership needed to include representatives of the Regional Advisory Councils. The Federal Board also deferred action on a statewide proposal submitted by Alaska Department of Fish and Game (ADF&G) that addressed Federal regulations, pending the outcome of the working group.

What is the charge of the working group?

The draft charge of the working group was developed at a meeting of State and Federal staff in January 2009. The charge is as follows:

Develop a method(s) to recommend to the Federal Subsistence Board and the Board of Game for tracking brown bear claws made into handicrafts that is enforceable and culturally sensitive, commensurate with the need to provide conservation of this wildlife resource.

Who is in the working group and how often has it met?

The brown bear claws handicraft tracking working group includes representatives of the ADF&G, Alaska Wildlife Troopers, Office of Subsistence Management, US Fish and Wildlife Service, US Forest Service, and nine of the ten Regional Advisory Councils. Federal and state agency staff met five times between January and August 2009, but Council representatives were only able to attend one of these meetings by teleconference (June 2009). The working group met again in July 2010.

What is currently allowed under Federal subsistence regulations with regard to brown bear parts?

Under Federal subsistence regulations, Federally qualified subsistence users may sell handicraft articles made from the skin, hide, pelt or fur of a brown bear (including claws) taken from Units 1-5, 9A-C, 9E, 12, 17, 20, 23, 24B (only that portion within Gates of the Arctic National Park), 25 and 26. In Units 1-5, Federally qualified subsistence users may sell handicraft articles made from the skin, hide, pelt, fur, claws, bones, teeth, sinew or skulls of a brown bear taken in Units 1, 4 or 5. Raw claws may not be sold to anyone, including other subsistence users.

Will the working group change Federal Subsistence regulations?

Only the Federal Subsistence Board can change Federal subsistence regulations, and it is not the goal of the working group to rescind Federal regulations that allow for the sale of handicrafts that incorporate brown bear claws. The working group is looking for a non-burdensome way to track legally harvested claws that protects the artist, the buyer, and the resource, and is supported by the Councils.

If the working group can devise a way to track brown bear claws used in handicrafts, how would this protect subsistence users?

Illegally-harvested brown bears are resources that are being taken away from subsistence users. In some cases, poaching for bear parts is incorrectly attributed to legitimate hunters, unfairly affecting peoples' opinions of hunting and subsistence. Developing a mechanism to track legally harvested claws could protect handicraft makers by showing the claws that are used were legally harvested. It could also protect the buyer by developing a mechanism to document and track, which will allow buyers to legally import the handicrafts into other states and countries. This will protect the resource and enhance the value of legitimately obtained handicrafts by making the legal claws identifiably separate from the illegal claws on the market.

What are some of the concerns over the sale of brown bear claws in Alaska?

Although brown bear populations are generally healthy and productive in Alaska, this is not the case in other parts of the United States and the world. There is a demand for bear parts in foreign and domestic markets that poachers and traffickers fill by obtaining brown bears for their parts (primarily paws, claws and gall bladders) and shipping them to illegal markets. These illegal activities threaten populations of brown bears in other parts of the US and world and could eventually affect Alaskan bear populations.

What drives the illegal trade in brown bears and their parts?

Prices for individual claws are highly variable. There have been reports of brown bear paw soup costing \$800 per bowl in Asia, and brown bear claw necklaces costing over \$3,000. These high prices drive the trade in illegal brown bear parts. In the past ten years, agents from US Fish and Wildlife Service and the Alaska Wildlife Troopers have documented over 150 cases where they have found dead bears with

only the claws, paws or gall bladders removed. These cases do not reflect findings by other enforcement agencies that have different ways of organizing individual cases. Illegal harvests are considered poaching and are not reflective of the legal harvests of subsistence users.

What options are there for tracking claws?

The Brown Bear Claw Working Group is looking at existing programs that track animal parts in different countries using such mechanisms as tags, seals, stickers or permits that stay with the animal part. While a technical solution such as individually identifiable microchips inserted in each claw would be possible, such marking and tracking is not wide spread, and such marking of individual claws might not be effective on a global scale.

Would it work to have documentation for claws?

We think so, as long standing programs for other resources have worked. CITES (Convention of International Trade of Endangered Species) has an established and successful documentation and tracking program to track the legal and illegal movement of threatened or endangered species. Alaska brown bears are already protected under CITES and between 1975-2003, there were over 6,500 reports of legal brown bear claw exports.

To take advantage of this program, the Federal Subsistence Management Program could use the existing ADF&G procedures for sealing when the hunter plans on using the claws for making a handicraft to sell in the future. The existing ADF&G procedures is to attach a CITES tag to the bear hide when the bear is sealed. The appropriate forms to document and track brown bear claws taken by Federally qualified subsistence users could be incorporated into the sealing process when the hide is sealed, thereby minimizing paperwork and burden on the hunter. A numbered sticker or permit could then be issued and would stay with the handicraft as proof the claws came from a legally harvested Alaskan brown bear. The Federal government manages CITES permit distribution.

The handicrafts made from brown bear claws legally harvested in Alaska by Federally qualified subsistence users should be distinct from all other sources of brown bear claws to identify that the handicrafts came from sustainably managed bear populations and from Federally protected Alaskan subsistence users. This will protect the resource and enhance the value of legitimately obtained handicrafts. Possession of a CITES permit would allow the buyer to legally take brown bear claw handicrafts into other countries.

In which units is sealing of brown bear currently not required?

Sealing brown bear skins and skulls harvested by Federally qualified subsistence users on Federal public lands is not required (unless you remove the skin or skull from the unit) in Units 5, 9B, 17, 18, portions of 19A, 19B (downstream of and including the Aniak River drainage), 21D, 22 (except 22C), 23 (except the Baldwin Peninsula north of the Arctic Circle), 24, and 26A. *These are the only units or portions of units where new sealing requirements would have an effect, and only when the intent is to sell the brown bear claw handicraft.*

In which units would the proposed regulation have no effect?

The proposed regulations would have no effect on those units where sealing is already required. These units are: 1-4, 6-8, 9A, 9C—9E, 10-16, portions of 19A, 20, 21A—C, 21E, 22C, 25, 26B and 26C.

BRIEFING ON THE NEW FEDERAL SUBSISTENCE PERMIT SYSTEM

The Federal Subsistence Management Program issues permits to Federally qualified subsistence users where specified in regulations.

- Recognizing limitations of the existing system, beginning in February 2010, a new Federal Subsistence Permit System (FSPS) was developed and the wildlife harvest component was brought on line in mid-April.

OSM staff undertook the project to improve efficiencies by:

- Building the latest security measures into the new FSPS in order to protect personal information of permit holders as well as the integrity of the harvest data
- Allowing for in-season tracking of harvests, thereby allowing for more responsive in-season management and conservation of species
- Standardizing terminology and improving accuracy of the issued permits and also harvest reporting data subsequently entered and managed within the system
- Allowing Federal managers to generate tailored, functional reports to provide staff biologists and anthropologists with solid basis for subsequent regulatory analyses and actions
- Streamlining the process of issuing permits to Federally qualified users, as well as tracking the returns of the harvest information reports.

Since April, OSM personnel have trained more than 96 Federal agency staff how to issue permits using the new system

- More than 3,200 permits have been issued since then

Feedback from users is overwhelmingly positive:

- Public users – much quicker process to receive permits, less time waiting in line
- Agency staff – far more useful than before

What's in store for the future?

- The fisheries management component of the permit system is under development and is expected to be available for use in the 2011 season.
- Web based harvest reporting



U.S. FISH and WILDLIFE SERVICE
BUREAU of LAND MANAGEMENT
NATIONAL PARK SERVICE
BUREAU of INDIAN AFFAIRS

FWS/OSM 10055/AW

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



U.S. FOREST SERVICE

JUL 1 2010

Mr. Walter G. Sampson
Northwest Arctic Subsistence
Regional Advisory Council
Post Office Box 1088
Kotzebue, Alaska 99752

Dear Mr. Sampson:

Enclosed with this letter is a report of the Federal Subsistence Board's actions at its May 18-20, 2010, meeting regarding proposed changes to subsistence wildlife regulations. The Board used a consensus agenda on those proposals where the Regional Advisory Council(s), the Interagency Staff Committee, and the Alaska Department of Fish and Game were in agreement. The Board adopted the consensus agenda at the conclusion of the meeting. Details of these actions and the Board's deliberations are contained in the meeting transcripts. Copies of the transcripts may be obtained by calling our toll free number, 1-800-478-1456, and are available online at the Office of Subsistence Management website, <http://alaska.fws.gov/asm/index.htm>.

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

If you have any questions regarding the summary of the Board's actions, please contact Barbara Atoruk, 1-907-786-3885.

Sincerely,

/S/ Michael R. Fleagle

Michael R. Fleagle, Chair

Enclosure

cc: Northwest Arctic Subsistence Regional Advisory Council members
Peter J. Probasco, OSM

**FEDERAL SUBSISTENCE BOARD ACTION REPORT
MAY 18-20, 2010**

Note to Reader: 1) Changes to regulatory language are shown by ~~lettering~~ for deleted language and bolded **lettering** for new language. 2) The consensus agenda is comprised of proposals for which the Office of Subsistence Management, Regional Advisory Council(s), the Interagency Staff Committee, and the Alaska Department of Fish and Game agree on a recommended action. The Federal Subsistence Board does not address consensus agenda proposals individually unless requested to do so at the meeting.

STATEWIDE PROPOSALS

Proposal WP10-01

DESCRIPTION: Proposal WP10-01, submitted by the USFWS, Office of Subsistence Management (OSM), requests the addition of a definition for “drawing permit” to the Federal subsistence management regulations.

COUNCIL RECOMMENDATION/JUSTIFICATION:

Southeast Alaska SRAC: Support with modification as described in the OSM conclusion. This proposal is housekeeping and provides clarity for a term in common use.

Southcentral Alaska SRAC: Support with modification as described in the OSM conclusion. This proposal would not negatively affect subsistence users.

Kodiak/Aleutians SRAC: Support with modification as described in the OSM conclusion.

Bristol Bay SRAC: Support with modification as described in the OSM conclusion.

Yukon-Kuskokwim Delta SRAC: Support with modification as described in the OSM conclusion. This is a housekeeping proposal to clarify random drawing.

Western Interior Alaska SRAC: Support with modification as described in the OSM conclusion.

Seward Peninsula SRAC: Support with modification as described in the OSM conclusion. The Council agrees with clarifying definitions for “drawing permits.”

Northwest Arctic SRAC: Support. The Council supported the proposal because subsistence is a way of life and there are concerns about having to use a drawing permit.

Eastern Interior Alaska SRAC: Support with modification as described in the OSM conclusion. This proposal is housekeeping and would simplify and clarify regulations.

North Slope SRAC: Support. Subsistence is a way of life and there are concerns about having to use a drawing permit.

BOARD ACTION/JUSTIFICATION: **Adopted with modification**, as recommended by eight councils to read, “*Statewide-General Regulations §__.25(a) Definitions. **Drawing permit—a permit issued to a limited number of Federally qualified subsistence users selected by means of a random drawing.***” The definition clarifies a term that is used in the Federal subsistence hunting regulations and does not affect fish and wildlife populations, subsistence uses or other uses. The modified wording simplifies the definition and makes it clear that drawing permits are based on a random drawing for all similarly situated Federally qualified subsistence users.

Proposal WP10-02

NOTE: The status of Proposal WP10-02 (deferred proposal WP08-05) was presented to all Regional Advisory Councils during the winter 2010 cycle of meetings. This proposal was further deferred until the assigned State-Federal workgroup completes its work and presents its findings to the Board in January 2011. The Southeast Alaska SCRAC was the only council that took action on the proposal.

COUNCIL RECOMMENDATION/JUSTIFICATION:

Southeast Alaska SRAC: Support use of brown bear parts for handicrafts. There is no evidence to indicate the need for a bear handicrafts workgroup or a need to limit or restrict the use of brown bear parts. There is no need to defer action.

BOARD ACTION/JUSTIFICATION: The Board did not address this proposal, preferring instead to wait until the workgroup has completed its work.

Proposal WP10-03

DESCRIPTION: Proposal WP10-03, submitted by the Office of Subsistence Management, requests the addition of a general provision in Federal subsistence management regulations to allow the harvest of fish and wildlife by participants in a cultural or educational program.

COUNCIL RECOMMENDATION/JUSTIFICATION:

Southeast Alaska SRAC: Support with modification as described in the OSM conclusion. The Council favors removing confusing language regarding the ceremonial use of fish and wildlife. However, it is unclear to the Council how OSM would define an educational camp. The Council favors simplifying regulations that do not include hard timelines and that provide flexibility in the number of animals that can be taken.

Southcentral Alaska SRAC: Support with modification to read “§____.27(e) §____.25(g) *Cultural/educational program permits. ~~(2)(1) The U.S. Fish and Wildlife Service Office of Subsistence Management may issue a permit to harvest fish for a qualifying cultural/educational program to an organization that has been granted a Federal subsistence permit for a similar event with the previous 5 years. A qualifying program must have instructors, enrolled students, minimum attendance requirements, and standards for successful completion of the course. Applications must be submitted to the Federal Subsistence Board through the Office of Subsistence Management and should be submitted 60 days prior to the earliest desired date of harvest. Permits will be issued for no more than 25 fish per culture/education camp. Appeal of a rejected request can be made to the Federal Subsistence Board. Application for an initial permit for a qualifying cultural/educational program, for a permit when the circumstances have change significantly, when no permit has been issued within the previous 5 years, or when there is a request for harvest in excess of that provided in this paragraph (e)(2), will be considered by the Federal Subsistence Board. Harvest must be reported and any animals harvested will be counted against any established Federal harvest quota for the area in which it is harvested. (2) A permit to harvest fish, wildlife, or shellfish for a qualifying culture/educational program which has been granted a Federal subsistence permit for a similar event with the previous 5 years may be issued by the Federal in-season manager (for fisheries) or the Federal local land manager (for wildlife). Requests for follow-up permits must be submitted to the in-season or local land manager and should be submitted 60 days prior to the earliest desired date of~~*”

harvest.” These amendments provide more clarity, especially with respect to harvest limits. The proposal will not affect existing culture camps and is consistent with existing regulations.

Kodiak/Aleutians SRAC: Support with modification as described in the OSM conclusion. The modified proposal will simplify the process.

Bristol Bay SRAC: Support with modification as described in the OSM conclusion. The proposal would simplify the current regulations to reduce confusion among the public and Federal managers.

Yukon-Kuskokwim Delta SRAC: Support with modification as described in the OSM conclusion. This is a housekeeping proposal; adding general provisions in the regulations would clarify subsistence management regulations.

Western Interior Alaska SRAC: Support with modification as described in the OSM conclusion.

Seward Peninsula SRAC: Support with modification as described in the OSM conclusion.

Northwest Arctic SRAC: Support with modification as described in the OSM conclusion. It is very important to provide opportunity for cultural/educational programs permits.

Eastern Interior Alaska SRAC: Support with modification as described in the OSM conclusion. This proposal supports subsistence uses of wildlife and retains the ability to obtain permits with less than a 60-day notice. The Council suggested further simplification by asking the Federal Subsistence Management Program to work with the Alaska Department of Fish and Game to develop a joint Federal-State permit.

North Slope SRAC: Support with modification as described in the OSM conclusion. It is very important to provide opportunity for cultural/educational programs permits.

BOARD ACTION/JUSTIFICATION: Adopted with modification, as recommended by nine councils, to read, § _____.25(g) ***Cultural/educational program permits (1) A qualifying program must have instructors, enrolled students, minimum attendance requirements, and standards for successful completion of the course. Applications must be submitted to the Federal Subsistence Board through the Office of Subsistence Management and should be submitted 60 days prior to the earliest desired date of harvest. Harvests must be reported and any animals harvested will count against any established Federal harvest quota for the area in which it is harvested. (2) Requests for follow-up permits must be submitted to the in-season or local manager and should be submitted 60 days prior to the earliest desired date of harvest.***

The harvest of fish and wildlife by participants in cultural and educational programs is generally allowed in the Federal Subsistence Management Program regulations. Proposal WP10-03 will further clarify for fish and wildlife manager, Office of Subsistence Management staff, members of the Interagency Staff Committee, and members of the Federal Subsistence Board the cultural and educational permit regulations.

Proposal WP10-04

DESCRIPTION: Proposal WP10-04, submitted by the Office of Subsistence Management, would remove Units 6, 12, 20A, 20B, 20C east of the Teklanika River, 20D, and 20E from the areas for which the Assistant Regional Director for Subsistence Management has the delegated authority to open close or adjust Federal subsistence lynx seasons and to set harvest and possession limits.

COUNCIL RECOMMENDATION/JUSTIFICATION:

Southeast Alaska SRAC: No action taken.

Southcentral Alaska SRAC: Support with modification as described in the OSM conclusion. The proposed action would not impact subsistence users and there are no conservation concerns for the lynx population.

Kodiak/Aleutians SRAC: No action taken. The Council did not want to take action on a proposal that would affect another region.

Bristol Bay SRAC: Support with modification as described in the OSM conclusion. The Council supports Federal and State alignment of regulations that enhance the management of resources, reduce confusion for the public, and allow subsistence uses to continue.

Yukon-Kuskokwim Delta SRAC: Support with modification as described in the OSM conclusion. This is a housekeeping proposal and has no impact on the Yukon-Kuskokwim Delta Region.

Western Interior Alaska SRAC: Support with modification as described in the OSM conclusion.

Seward Peninsula SRAC: No action taken. The proposed action would not affect the Seward Peninsula Region.

Northwest Arctic SRAC: Oppose.

Eastern Interior Alaska SRAC: Support. This proposal could be considered housekeeping in that the ability to adjust seasons is still possible and this change would simplify regulations.

North Slope SRAC: Support with modification to delete the regulatory language found in § __.26(f)(3) and delegate the authority to open, close, or adjust Federal lynx seasons and to set harvest and possession limits for lynx via a delegation of authority letter only.

BOARD ACTION/JUSTIFICATION: **Adopted with modification** to delete the regulatory language found in § __.26 (f)(3), and delegate the authority to open, close, or adjust Federal lynx seasons and to set harvest and possession limits for lynx via a delegation of authority letter only, consistent with five of the Councils' recommendations.

Proposal WP10-05

DESCRIPTION: Proposal WP10-05, submitted by the Office of Subsistence Management, seeks to update, clarify, and simplify the regulations regarding accumulation of harvest limits for both fish and wildlife.

COUNCIL RECOMMENDATION/JUSTIFICATION:

Southeast Alaska SRAC: Support. This proposal is housekeeping and necessary to accommodate previous changes to Federal regulations.

Southcentral Alaska SRAC: Support. This is a housekeeping proposal that would not affect fish and wildlife populations and subsistence users.

Kodiak/Aleutians SRAC: Support.

Bristol Bay SRAC: Support. The proposal will not impact subsistence users and will not affect fish and wildlife populations.

Yukon-Kuskokwim Delta SRAC: Support. This is a housekeeping proposal that would benefit subsistence users.

Western Interior Alaska SRAC: Support.

Seward Peninsula SRAC: Support. The Council agrees with simplifying and clarifying wording for accumulations of harvest limits. This proposal does not affect the Seward Peninsula Region.

Northwest Arctic SRAC: Oppose. The Council expressed concerns about the State management program in relation to the Federal program.

Eastern Interior Alaska SRAC: Support. This proposal is housekeeping and would clarify current regulations.

North Slope SRAC: Support. This proposal does not change Federal subsistence regulations for the North Slope Region concerning accumulation of harvest limits or the timeframe for harvest limits.

BOARD ACTION/JUSTIFICATION: **Adopted**, as recommended by nine of the Councils. This action will simplify the regulations.

NORTHWEST ARCTIC REGION

Proposals WP10-82/83/85

DESCRIPTION: Proposal WP10-82, submitted by Virgil Adams of Noatak, requests changing the time period in the special provision that restricts aircraft use over the Noatak Controlled Use Area from August 25—September 15 to August 30—September 30. Proposal WP10-83, submitted by the Maniilaq Association, requests changing the time period in the special provision that restricts aircraft use over the Noatak Controlled Use Area from August 25—September 15 to August 25—October 30. Proposal WP10-85, submitted by the Native Village of Noatak, requests changing the time period in the special provision that restricts aircraft use over the Noatak Controlled Use Area from August 25—September 15 to August 15—September 30.

COUNCIL RECOMMENDATION/JUSTIFICATION: No Action taken on WP10-82 and -83. Support WP10-85 with modification as described in the OSM analysis preliminary conclusion.

BOARD ACTION/JUSTIFICATION: **Took no action** on WP10-82 and WP10-83. **Adopted with modification** WP10-85. These proposals were on the consensus agenda. The regulation adopted for WP10-85 will read:

Unit 23—Special Provisions

(A) You may not use aircraft in any manner either for hunting of ungulates, bear, wolves, or wolverine, or for transportation of hunters or harvested species in the Noatak Controlled Use Area for the period August 25 15-September 15 30. The Area consists of

that portion of Unit 23 in a corridor extending five miles on either side of the Noatak River beginning at the mouth of the Noatak River, and extending upstream to the mouth of Sapun Creek. This closure does not apply to the transportation of hunters or parts of ungulates, bear, wolves, or wolverine by regularly scheduled flights to communities by carriers that normally provide scheduled air service.

Proposal WP10-84

DESCRIPTION: Proposal WP10-84, submitted by the Northwest Arctic Subsistence Regional Advisory Council, requests that the regulation allowing for the harvest of one muskox by Federal permit or State Tier II permit be revised as follows: change the Tier II permit to State Tier I subsistence registration permit, change the sex of the animal that can be harvested during the August 1—December 31 season to bulls only, and allow the harvest of any muskox during the January 1—March 31 season.

COUNCIL RECOMMENDATION/JUSTIFICATION: Support with modification as described in the OSM preliminary conclusion.

BOARD ACTION/JUSTIFICATION: **Adopted with modification.** This proposal was on the consensus agenda. The regulation will read:

Unit 23—Muskox

*Unit 23 south of Kotzebue Sound and west of and including the Buckland River drainage—~~1 muskox~~ **1 bull** by Federal permit or State Tier ~~II~~ **I registration** permit; Aug. 1-Dec. 31*

or

***1 muskox by Federal permit or State Tier I registration permit.** Jan. 1-Mar. 15*

Federal public lands are closed to the taking of muskox except by Federally qualified subsistence users hunting under these regulations. Annual harvest quotas and any needed closures for Unit 23 will be announced by the Superintendent of the Western Arctic National Parklands, in consultation with ADF&G and BLM.



U.S. FISH and WILDLIFE SERVICE
BUREAU of LAND MANAGEMENT
NATIONAL PARK SERVICE
BUREAU of INDIAN AFFAIRS

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



FWS/OSM 10076/AW

JUL 29 2010

Mr. Walter Sampson, Chair
Northwest Arctic Subsistence
Regional Advisory Council
Post Office Box
Kotzebue, Alaska 99723

Dear Mr. Sampson:

This letter responds to the Northwest Arctic Subsistence Regional Advisory Council's 2009 Annual Report. The Federal Subsistence Board (Board) appreciates your effort in developing the Annual Report and values the opportunity to review the issues brought forward concerning your region. Annual Reports allow the Board to become more aware of the issues that fall outside the regulatory proposal process and affect subsistence users in your region.

The responsibility to respond to these reports has been delegated to the Board by the Secretaries of the Interior and Agriculture. The Board has reviewed your Council's Annual Report and offers the following responses.

Issue 1: Unit 23 Brown Bear

The Council requests a report on the status of the brown bear population in Unit 23 and the various impacts, the predation, the habitat of those populations. Brown bears are of particular interest as brown bears have become aggressive and on several occasions have entered the city limits of some villages in the region. The Council is also interested in the impacts brown bears are having on the other species.

Response

A number of population surveys have been completed in unit 23 in recent years, although the data are still being analyzed, and the population trends for brown bears in this area are not yet available. A brown bear population survey was conducted in the lower Noatak River in 2008, the upper Noatak River in 2005 and 2007, and the Northern Seward Peninsula/Bering Land Bridge National Park in 2006. Preliminary analysis suggests that bear density is lower in the upper Noatak than in the lower Noatak, and that the bear density in the lower Noatak and Red Dog area is healthy. The only other brown bear population data that exists for Unit 23 is from a population

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census conducted in the Red Dog Mine area in 1987. This census estimated a population density of one adult bear (2.5 years of age or older) per 25.7 square miles. As you know, residents of Unit 23 have claimed that brown bear numbers have increased during the past 40 years. The brown bear population may have grown in size due to an increase in food sources which include caribou, moose, and muskoxen. Local residents have indicated that subsistence brown bear harvest may have declined due to increases in ungulates during the past 40 years, as moose and caribou are preferred food sources over brown bears. Based on incidental observations made by the Alaska Department of Fish and Game area wildlife biologist and reports from the public, bear predation on moose calves likely affected moose recruitment since the mid to late 1990s.

Issue 2: Unit 23 Muskox

The Council requests an update on the population status of Unit 23 muskoxen, including the southern portion of the region that includes Buckland and Deering.

Response

Two populations of muskoxen are found in Unit 23: the Cape Thompson herd and the Unit 23 Southwest herd. From 1970 to 1998, the Cape Thompson muskox population increased approximately 8% annually. Between 1998 and 2007, the population ranged between 259 and 424 animals. The population size peaked at about 424 animals in 2000, and subsequently declined to about 347 animals in 2007. ADFG conducted surveys in 2010, although survey conditions were not ideal. Preliminary data shows a minimum count of 296 muskoxen in the core survey area, although a number of groups of muskox were seen that fell outside of the sample area. These included a group of 4 bulls that occurred within three miles of the boundary, a group of 8 in the Kelly River Drainage (14 miles outside the boundary), a group of 14 in the Kugururok drainage (40 miles outside the boundary) and a group of 15 near Akulik Creek.

In Unit 23 Southwest, ADF&G survey results from muskoxen censuses indicated that the population grew from 134 animals in 1992 to 219 animals in 2007.

In 2009, the National Park Service began a joint study with the U.S. Geological Survey and the Wildlife Conservation Society researching the comparisons of population dynamics and ecology of muskoxen, in and adjacent to, the Bering Land Bridge National Preserve (BELA) (Unit 23SW) and Cape Krusenstern National Monument (Unit 23). Currently there are 17 radio-collared adult females within the BELA, ranging from Cape Espenberg to Ear Mountain. Five animals have been reported dead with at least four due to probable bear predation.

The results from 2009 field research show that the Cape Krusenstern animals are approximately 70lbs lighter, on average, and have much poorer dentition (broken and/or rotting teeth). Biologists would appreciate receiving jaws from harvested muskoxen, particularly with the front incisors intact. The calf cow ratio increase dramatically in 2009 to 29 calves:100 cows compared to the 2008 ratio of 9 calves:100 cows.

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Issue 3: Unit 23 Sheep

The Council again requests an update on the status of sheep population in Unit 23 and the impacts to that population.

Response

Sheep exist in Unit 23 at low population densities compared to other populations in Alaska with better and more stable range conditions. Survey results indicate that 85 percent to 90 percent of the Unit 23 population exists within the Baird Mountains sheep trend count area. The Baird Mountains sheep population peaked in 1989 at approximately 981 animals. Due to severe winter die offs during 1990 and 1991, the sheep population was reduced to approximately 400 animals. The sheep population appears to have reached its lowest levels in 1996 when the population was estimated at 302 animals. By 2002, the population had rebounded to approximately 730 animals. Results from the most recent survey conducted in 2009 revealed that the population had increased to approximately 823 adult sheep, approaching population levels that existed prior to the 1990/1991 crash.

Sheep in Units 23 and 26A are at the northwestern margin of their range, making these populations prone to fluctuations in population size due to extreme adverse weather conditions. Other factors such as wolf predation and caribou abundance substantially affect sheep numbers and distribution. Wolf numbers have widely fluctuated during the last 50 years in response to hunting, disease, and availability of prey. Vegetation trampled by the seasonal migration of caribou has likely had an intermittent effect on the availability of food for sheep.

Issue 4: Unit 23 Transporters and Guides

The Council is forever interested in this issue and again sincerely request updates at the fall meetings. As you know, the Council is very concerned about user conflicts in the region and requests an update on any actions taken by the Alaska Board of Game and the Federal Subsistence Board to help reduce these conflicts.

Response

The Board shares the Council's concerns about user conflicts in the region. As Chair of the Federal Subsistence Board, I am an active member of the Unit 23 User Conflict Working Group, and through that process I am kept apprised of recent actions by the Alaska Board of Game. At its November 2009 meeting, the Alaska Board of Game adopted a proposal which revised the time period in the special provision that restricts aircraft use over the Noatak Controlled Use Area from August 25 through September 15 to August 15 through September 30. The Alaska Board of Game also adopted a proposal which states a pilot may not transport parts of big game with an aircraft without having in actual possession a certificate of successful completion of an Alaska Department of Fish and Game approved education course regarding big game hunting and meat transportation in Unit 23. Both of these proposals were developed through consensus by the

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Unit 23 User Conflict Working Group which includes representatives of Unit 23 fish and game advisory committees and Regional Advisory Councils, guides, transporters, Federal and State agencies, tribal governments, Native corporations, and the Northwest Arctic Borough. The Working Group's purpose is to *"find solutions to hunting conflicts that will preserve the Inupiaq values of the region, including opportunities for local hunters to take caribou as needed, while also providing reasonable opportunities for visiting hunters to hunt caribou in the unit."*

At our May 2010 meeting, the Federal Subsistence Board adopted a proposal adjusting the time period in the special provision that restricts aircraft use over the Noatak Controlled Use Area. The dates were changed from August 25 through September 15 to August 15 through September 30, which aligns with State regulations. This action should help reduce user conflicts between Federally qualified subsistence users and commercial operators, their clients and general hunters along the Noatak River.

Issue 5: Unit 23 Hunting Plans

The Council requested that the hunting plans for conservation units of Cape Krusenstern National Monument and Kobuk Valley National Park need to be made to help the subsistence users in the region.

Response

Section 808 of ANILCA established the subsistence resource commissions (SRC) and charged them with responsibility to produce hunting programs. The SRCs for Cape Krusenstern and Kobuk Valley have developed hunting programs and copies are available in the National Park Service office in Kotzebue. These plans have not been reviewed or updated for a number of years. The National Park Service intends to work with both SRCs to accomplish these reviews and updates at the next scheduled SRC meetings in the region.

Issue 6: Unit 23 Study Reports

The Council requested that reports be written, printed, and distributed on the studies that are completed on all the resources used for subsistence in their region.

Response

The Board appreciates your interest in studies addressing subsistence resources in your region. The Office of Subsistence Management provides funding support for fisheries projects through the Fisheries Resources Monitoring Program (Monitoring Program) and for wildlife projects through the ANILCA 809 process. The Monitoring Program provides data to aid in the management of subsistence fisheries resources. To date, 32 projects have been funded for the entire Northern Region (which consists of the areas covered by the three northern Regional Advisory Councils). At present, the Monitoring Program has one ongoing project in the Northwest Arctic Region, *Spawning Location, Run Timing, and Spawning Frequency of Kobuk River Sheefish.*

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From July 17 to August 3, 2008, 150 sheefish were captured and radio tagged. Aerial tracking surveys located these fish in the mainstem of the Kobuk River between Mauneluk River and Beaver Creek. The 2009 annual project report describing the initial year of research is included as an enclosure with this letter. All of the projects funded through the Monitoring Program can be found on-line at: <http://alaska.fws.gov/asm/fisreportdetail.cfm?fisrep=21>

You can request copies of project reports from your council coordinator, Barbara Atoruk. Let her know the name or subject of the study and she will provide you with a copy of any reports you request.

As a reminder to the Council, the request for proposals for the 2012 Monitoring Program will be released in Fall 2010 for projects to begin in April 2012, and Office of Subsistence Management staff will ask for input to the priority information needs identified in the request for proposals at the Fall meeting. The Council should review the priority information needs carefully to be sure they accurately reflect its issues and concerns as this document will provide the basis for the request for proposals.

ANILCA 809 funding is much more limited, and only a few projects are funded annually. Most of this funding goes to the Alaska Department of Fish and Game to provide liaison support to the Federal Subsistence Management Program. A few projects may be funded annually to address the highest priority information needs. Currently, the Program is funding a project to conduct household surveys regarding harvest of large mammals in Unit 18, an area for which we have no harvest information except for State harvest ticket returns. When that project is complete and the report is available we will place it on our web site also.

In addition to projects funded through the Office of Subsistence Management, the other Federal Subsistence Management Program agencies also support projects addressing subsistence uses in the Northwest Arctic Region. As an example, the National Park Service conducts studies in the Northern Region, although much of the work completed by the National Park Service is done in cooperation with other Federal and State agencies, including the Fish and Wildlife Service, the Bureau of Land Management, and the Alaska Department of Fish and Game. A variety of studies and reports are underway and are periodically completed. Where the National Park Service is the lead agency, staff will present information about those studies and bring copies of any recently completed studies to the Council's Fall 2010 meeting. The National Park Service is also looking at ways to post information on its park internet sites to further make the information available.

Issue 7: Unit 23 Subsistence Program Review

The Council requests that it be given updates on the status of the Subsistence Program Review. They want to be well informed on this topic.

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Response

At the October 2009 Alaska Federation of Natives convention, Secretary of the Interior Ken Salazar announced that his department, led by the Alaska Affairs Office of the Secretary, was to engage in a review of the Federal Subsistence Management Program in Alaska. According to Secretary Salazar, the review was intended to focus on how the Program is meeting the purposes and subsistence provisions of the Alaska National Interest Lands Conservation Act of 1980, and whether the Program is serving rural subsistence users as envisioned when the Program was begun in the early 1990s. At the time of the announcement, a six month time frame was envisioned; however, given events that have unfolded since then, the process will take longer than originally intended.

Led by Pat Pourchot, Special Assistant to the Secretary for Alaska Affairs, the review team traveled throughout Alaska to meet with, listen to, and solicit comments from a wide variety of stakeholders. Participants in this process included subsistence users from throughout Alaska, Regional Advisory Council members, Alaska Native groups, including regional tribal, non-profit and profit organizations, commercial fishing groups, representatives of recreational and sport user groups, and the State of Alaska, among others. In addition to meeting with these groups, the review team also encouraged electronic submittal of comments to their web site. Comments were received from over 115 individuals, agencies and other entities. For a summary of all issues raised and comments received on the Secretarial Review, you can go to the Department of the Interior, Alaska Region web site at: <http://www.doi.gov/whatwedo/subsistencereview/>

Based on these meetings and on public comments received, the Secretary, working with the Secretary of Agriculture, is considering programmatic changes. Given the unfortunate happenings in the Gulf of Mexico beginning in April of this year, most Department of the Interior attention has been directed there, and the time table for completion of the Program review is not known at this time.

Issue 8: Alaska Migratory Bird Co-Management Council

The Council requested that information be provided to them on how to go about getting a representative for the Northwest Arctic Region on the Alaska Migratory Bird Co-Management Council. They want to be fully informed and provided with updates of the regulations and changes for each regulatory year from a staff of Migratory Bird Program. This is their cultural and traditional lifestyle and they have always depended on the birds for their survival.

Response

The hunting regulations for the spring/summer season are promulgated by the Secretary of the Interior on the advice from the Service Regulations Committee and the Alaska Migratory Bird Co-management Council. Amendments to the Migratory Bird Treaty Act with Canada called for the creation of management bodies to ensure an effective and meaningful role for Alaska's indigenous inhabitants in the conservation of migratory birds. To this end, the AMBCC Council was formed.

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The amendments also require the government to recognize and continue an ongoing customary and traditional use of migratory birds by subsistence users in Alaska.

At the Council's Fall 2009 meeting, you requested that Unit 23 be represented at the Alaska Migratory Bird Co-management Council. Since that time, Maniilaq Association hired a natural resource coordinator, Enoch Shiedt Sr., who is representing Maniilaq Association on the AMBCC.

Mr. Shiedt is charged with overseeing a grant that requires Maniilaq Association to form a regional management body that represents the views of the villages in the Northwest Arctic Borough. Staff of the AMBCC will provide information and updates on migratory bird regulations to Mr. Shiedt. He will be responsible for providing outreach and education to the residents of his region relative to regional regulations. In the event he is unable to present information on the regulations, staff of the AMBCC will provide a written report to the Council. The regional management body will submit recommendations for regional regulations that support their customary and traditional lifestyle as it relates to migratory birds.

In closing, I thank the members of the Northwest Arctic Subsistence Regional Advisory 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 Northwest Arctic Region are well represented through your work.

Sincerely,

/S/ Michael R. Fleagle

Michael R. Fleagle, Chair
Federal Subsistence Board

Enclosure

cc: NWASRAC Members
Federal Subsistence Board
Interagency Staff Committee
Peter J. Probasco, Office of Subsistence Management

Spawning Location, Run Timing, and Spawning Frequency of Kobuk River
Sheefish

Annual Report for Study 08-103
USFWS Office of Subsistence Management
Fishery Information Service Division

James W. Savereide
Alaska Dept. of Fish and Game
Division of Sport Fish
1300 College Road
Fairbanks, AK 99701

May 2009

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ABSTRACT

Radiotelemetry methods are currently being used to document spawning locations, describe the timing of upstream and downstream spawning migrations, and estimate the spawning frequency of sheefish in the Kobuk River. In 2008, 150 mature sheefish were captured and radiotagged from 17 July to 30 August. Five aerial tracking surveys were conducted from 3 September to 27 September to locate sheefish in their spawning area. Radio-tagged sheefish were located in the mainstem Kobuk River between the Mauneluk River and Beaver Creek. A pair of stationary tracking stations located just upstream of Kobuk Village and one in the village were used to record downstream migration after spawning. The mean date of downstream passage in 2008 was 22 September. Aerial surveys, boat surveys, and stationary tracking stations will be used to track sheefish radiotagged in 2008, and an additional 150 sheefish to be radiotagged in 2009, through the fall of 2011. This will provide the required information to estimate the timing of the spawning migrations and spawning frequency of sheefish in the Kobuk River.

INTRODUCTION

Sheefish or inconnu *Stenodus leucichthys* are an extremely important resource in the northwest Alaska. Their importance stems from their extensive use as a subsistence food, their value as a commercial resource, and their reputation as a trophy sport fish (Georgette and Loon 1990). The Kobuk River sheefish population supports inriver subsistence and sport fisheries along with winter subsistence and commercial fisheries that occur in Hotham Inlet and Selawik Lake (Figure 1). Kobuk River sheefish are also harvested by subsistence users living in the Selawik NWR (villages of Selawik, Noorvik, and Kiana). Sheefish harvested in Hotham Inlet and Selawik Lake are a mixed-stock comprised of the only two known spawning populations in the region, the Selawik and Kobuk River populations (Alt 1987). The exploitation of these stocks is poorly understood due to incomplete estimates of total annual harvest, unknown stock composition in the mixed-stock winter fisheries, and unknown total exploitable stock abundance. An understanding of these basic elements is necessary to describe the population

dynamics of each stock and identify sustainable harvest levels. However, before conducting additional spawning population assessments, a better understanding of spawning locations, run timing, and spawning frequency is required. Estimates of spawning frequency are critical in determining whole population sizes based on spawning population estimates, while spawning locations and estimates of run timing will provide the basis for improving and/or assessing the design of population assessment techniques like mark-recapture experiments or sonar.

OBJECTIVES

The objectives for this multiple year study are to use radiotelemetry techniques to:

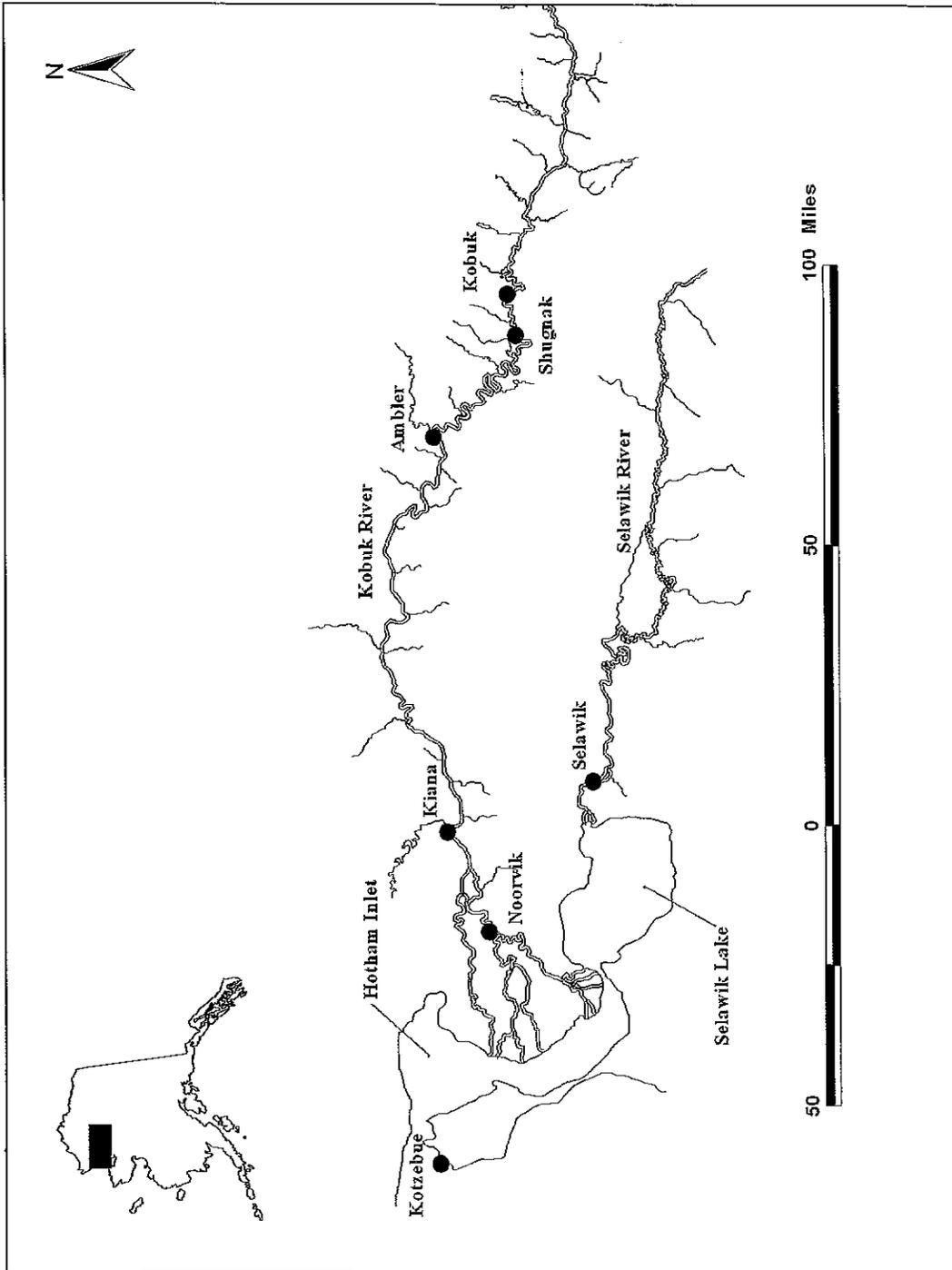


Figure 1.-A map of the Kobuk and Selawik River drainages including Hotham Inlet, Selawik Lake, and surrounding communities.

1. document spawning locations of sheefish within the Kobuk River upstream of the village of Kobuk;
2. describe the timing of spawning migrations (upstream and downstream) for mature sheefish within the Kobuk River drainage;
3. estimate the proportion of the sheefish spawning population in 2008 and 2009 that returns annually to spawning areas upstream of the village of Kobuk from 2009 to 2011 such that each annual proportion is within 10 percentage points 90% of the time; and,

An additional task will be to:

4. identify and characterize different spawning frequency strategies used by adult sheefish in the Kobuk River, estimate the proportion of adults using each strategy, and estimate the potential variation in the proportion of adult sheefish spawning in any given year.

METHODS

Radiotelemetry techniques are currently being used to estimate spawning frequency, document spawning areas, and estimate run timing (upriver and downriver migrations) of mature sheefish in the Kobuk River. Migrating sheefish were captured and radiotagged upstream of the village of Kobuk (Figure 2) to ensure that all fish sampled were mature and bound for upriver spawning areas. The duration of the migratory period past the capture site is known to last ~ 6 weeks from mid-July to late August, with the majority of the run passing during the first three weeks of

August. Efforts were made to distribute radio transmitters over the entire duration of the run and in proportion to run strength to guard against potential differences in run-timing related to spawning areas (e.g. upper vs. lower reaches of spawning area) or spawning frequency. Sex-related differences in spawning behavior are more likely because of the higher energetic demands of producing eggs; therefore, attempts were made to distribute radio transmitters equally among males and females. Data related to movements, run-timing, and spawning locations were collected using a combination of aerial tracking surveys and stationary tracking stations.

A three-person crew was used to capture (hook-and-line), sample, and radiotag 150 sheefish. The same methods will be used to radiotag an additional 150 sheefish in 2009. Radio transmitters were surgically implanted following the surgical methods detailed by Brown (2006) and Morris (2003). Radio transmitters were deployed over the course of the upstream spawning migration, and 2 hours of fishing effort was expended at the capture site during each sampling day. For each sheefish radiotagged, data collected included:

- 1) measurement of length to the nearest 5 mm FL;
- 2) sex;
- 3) location (river-kilometer and GPS coordinate); and,
- 4) date.

The deployment schedule (Table 1) was based on an approximation of the upstream migration past Kobuk village, which is just downstream of the capture site. The first day of the run corresponds to the first day a sheefish was captured.

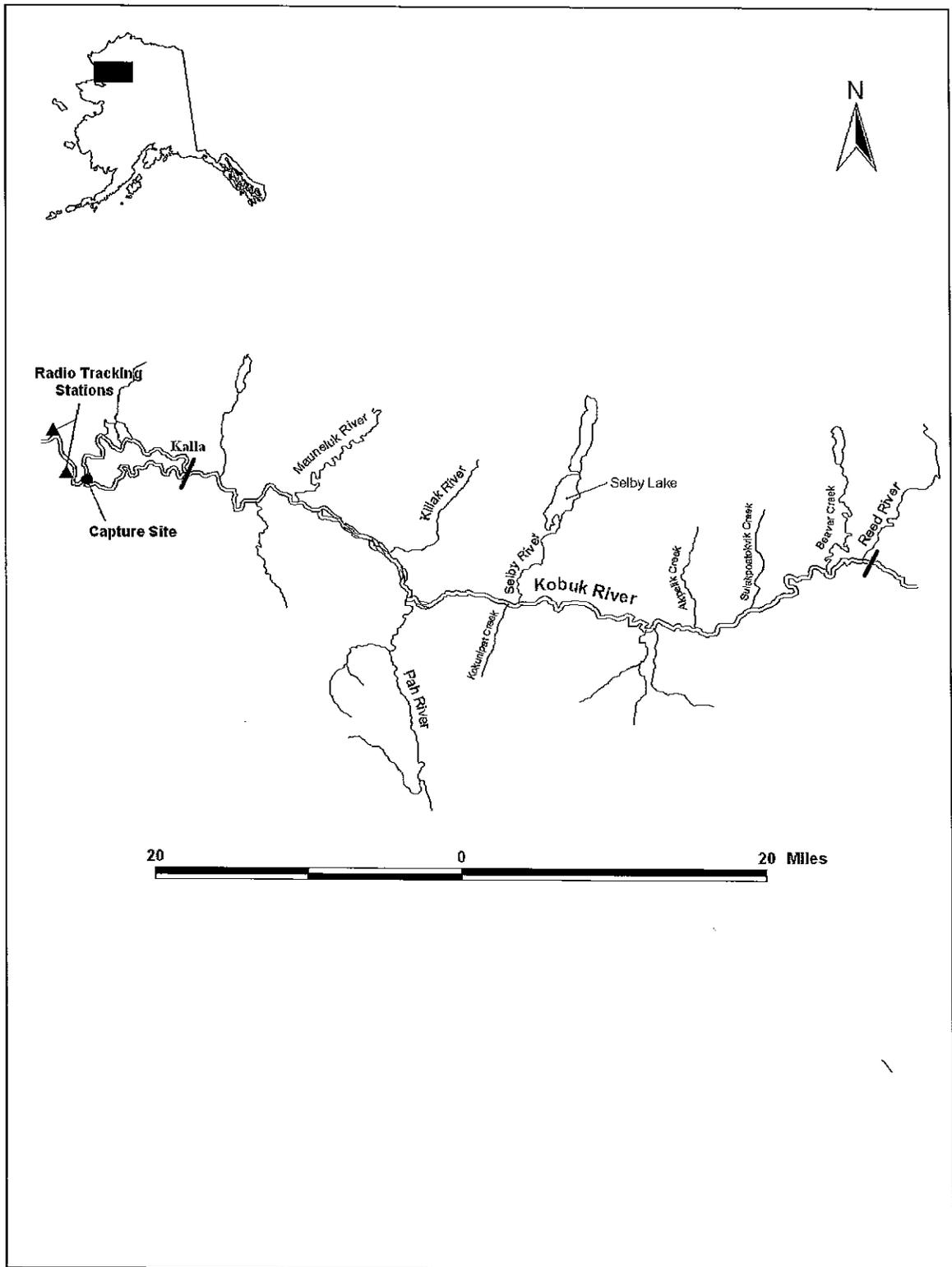


Figure 2.—Map of the Upper Kobuk River demarcating the capture area and tracking station locations.

Table 1.—Number of radio transmitters deployed and scheduled by day of run in 2008 and the scheduled deployment for 2009.

Day of Run ^a	2008		2009	
	Transmitters Deployed	Actual Cumulative	Scheduled Deployment	Scheduled Cumulative
1	1	1	1	1
2	2	3	2	3
3	1	4	2	5
4	3	7	2	7
5	2	9	2	9
6	2	11	2	11
7	2	13	2	13
8	2	15	2	15
9	2	17	2	17
10	2	19	2	19
11	2	21	2	21
12	3	24	3	24
13	3	27	3	27
14	3	30	3	30
15	3	33	3	33
16	3	36	3	36
17	3	39	3	39
18	3	42	3	42
19	3	45	3	45
20	4	49	4	49
21	4	53	4	53
22	4	57	4	57
23	3	60	4	61
24	5	65	4	65
25	4	69	4	69
26	5	74	5	74
27	5	79	5	79
28	5	84	5	84
29	5	89	5	89
30	5	94	5	94
31	5	99	5	99
32	5	104	5	104
33	5	109	4	108
34	4	113	4	112
35	4	117	4	116
36	4	121	4	120
37	4	125	4	124
38	4	129	4	128
39	4	133	4	132
40	4	137	4	136
41	4	141	3	139
42	3	144	3	142
43	6	150	3	145
44			2	147
45			2	149
46			1	150

^aDay 1 corresponds to the first day the crew catches a sheefish.

Radio transmitters were allocated equally by sex and among three size categories within a sex. Sex was assigned by inspecting external characteristics (i.e. gravidness and presence of swollen vent for females) and/or by inspection of gonads. In cases where sex could not be determined, no radio transmitter was inserted. The length categories were for males: ≤ 799 mm FL, 800-849 mm FL, and ≥ 850 mm FL; and for females: ≤ 899 mm FL, 900-9974 mm FL, ≥ 975 mm FL.

Implanted radio transmitters operate on one frequency with individual transmitters digitally coded for identification. The transmitters are operational over a four-year period and are programmed to operate for 18 weeks per year (July through mid-November) transmitting 24 hours per day.

Radio-tagged sheefish were located using a combination of stationary tracking stations, aerial surveys, and boat surveys. A total of three tracking stations were erected to ensure that all fish migrating to and from spawning areas were identified. The first station is located in Kobuk (Figure 2) and local students are monitoring and downloading the information as part of their class work. The remaining two stations are located upstream of Kobuk (Figure 2). Each station includes a deep-cycle battery, a solar array, an antenna switch box, a steel housing box, two Yagi antennas, and a Lotek™ SRX 600 data logger. The tracking stations were operational between mid-July and November. The receivers monitored the frequencies continuously and received from both antennas simultaneously. When a signal of sufficient strength was encountered, the receiver would pause for 8 s on each antenna, and then transmitter frequency, transmitter code, signal strength, date, time, and antenna number was recorded on the data logger. Recorded data were downloaded every 7-21 days.

A series of five aerial tracking surveys over the spawning area, currently believed to extend from Kalla to the Reed River (Figure 2), were conducted from a small fixed-wing aircraft throughout the known spawning period (September to early October). Surveys were done in cooperation with the U.S. Fish and Wildlife Service. In addition, a dedicated boat survey of the spawning area was conducted in 2008 as well as opportunistic tracking while navigating the river.

Water temperatures (°C) during the spawning period until freeze-up were recorded throughout the spawning area with six electronic temperature data loggers. Water temperatures were recorded hourly using optic data loggers with a ten-year battery life. Data loggers were anchored in flowing water in protected areas and exact locations were identified on maps and in latitude and longitude coordinates (decimal degrees, Alaska NAD27 Datum). Data loggers will be retrieved and downloaded during the open water period of 2009.

Data Analysis

Spawning Locations

Multiple aerial and boat surveys were conducted throughout the spawning area to pinpoint spawning locations. Typically, the farthest upstream location of a radio-tagged sheefish was assigned as the spawning location. The entire river reach used for spawning was partitioned into 10 km reaches and each reach was weighted by the proportion of transmitters present to identify patterns in fish densities. The spawning densities among partitions will

be examined each year to identify any variation in areas selected for spawning.

Run Timing

An upstream and downstream run-timing profile was constructed for all fish migrating past the tracking stations. Profiles are presented annually and for all years pooled. Contingency table analyses using chi-square tests were performed to explore for independence of migratory timing and sex. For example, the ratio of males to females from the beginning of the downstream migration until the mean date of passage was compared to the ratio from the mean date of passage to the end of the downstream migration. If significant differences existed, run-timing profiles for each sex were constructed. At the completion of the study, a generalized description of migratory patterns along the length of their migration from Hotham Inlet to their spawning area and back (i.e. from mid-June through mid-November) will be developed using data from all aerial surveys and tracking stations.

Run timing profiles were described as time-density functions, where the relative abundance of sheefish located upstream and downstream of the tracking stations during time interval t were described by (Mundy 1979):

$$f(t) = \frac{R_t}{\sum_{t=1}^T R_t} \tag{1}$$

where:

$f(t)$ = the empirical temporal probability distribution over the total span of the spawning migration (upstream and

downstream) for sheefish spawning in the Kobuk River; and,

R_t = the subset of radio-tagged sheefish that migrated past the tracking stations during day t .

The mean date of passage (\bar{t}) past the tracking stations (upstream and downstream) were estimated as:

$$\bar{t} = \sum_t t f(t), \tag{2}$$

the variance of the mean date of passage will be estimated as:

$$Var \bar{t} = \frac{\sum_{t=1}^T (t - \bar{t})^2 f(t)}{\sum_{t=1}^T R_t} . \tag{3}$$

Spawning Frequency

All sheefish radiotagged in 2008 were destined to spawn later that same fall. The first analysis of spawning frequency (fish that spawn in 2008 and 2009 and fish that spawned in 2008, but not in 2009) will not take place until after the 2009 spawning season and a similar analysis will be conducted after the 2010 spawning season.

To facilitate data analysis, all radio-tagged sheefish will be assigned a “fate” (Table 2) every time they are located. The known fates of all radio-tagged sheefish are required to attain unbiased estimates of spawning frequency. Fates are determined from a combination of information collected from tracking stations, aerial and boat tracking surveys, tag returns from harvested fish and from “ground-truthing”

Table 2.—List of possible fates of radio-tagged sheefish in the Kobuk River used to assess spawning frequency.

Fate	Description
Unknown (U)	A fish that was never located because of radio transmitter failure or could never be located after tagging. Fish with this fate will be culled from the data set.
Tagging Mortality (TM)	A fish that dies in response to transmitter implantation prior to the first aerial survey. Fish with this fate will be culled from the data set.
Fishing Mortality (FM)	In a given year, a fish reported harvested in one of the fisheries prior to passing the tracking station near the village of Kobuk. Fish with this fate will not be used for calculating proportions for current and subsequent years it was known to be dead.
Indefinite (I)	A sheefish that was alive the prior year but was never located during a subsequent year. During the years subsequent to its last confirmed location, this fish will be culled from the data set.
Spawner (S)	In a given year, a fish that migrated past the tracking station near Kobuk and either died immediately thereafter due to fishing or natural mortality or completed its upstream and downstream spawning migration. Based on several observations (e.g. four surveys during the summer), a fish that displayed an obvious migration pattern towards the spawning area, but failed to pass the tracking station at Kobuk will also be included.
Non-Spawner (NS)	In a given year, a fish that was located at least once during the summer in the lower portions of the Kobuk or Selawik rivers but did not pass the tracking station at Kobuk, a fish that did not display a obvious migration pattern towards the spawning area, or a fish that was located and judged to be alive (e.g. returned to spawn) in subsequent years.

of radio transmitters with suspect fates (e.g., fish that are harvested and not reported).

Mortality can be easily inferred from lack of movement between trackings because sheefish are highly migratory. In other words, if a sheefish is located twice and fails to move a significant distance (e.g., 10 km) over a period of one month or greater, then it's likely to have died or lost its transmitter. In contrast, assigning a fate of "non-spawner" may be problematic because radio transmitters cannot transmit through the brackish waters of Hotham Inlet where sheefish may seasonally reside for foraging during years where they do not spawn. However, a number of non-spawning sheefish enter the lower portions of the Kobuk River and Selawik Lake during the open-water period to forage (Alt 1987), which will make it possible to locate them from the air. Because natural mortality is thought to be minimal during summer, fish that are located at least once during the summer can be inferred to have survived to the fall, and therefore, would be considered to have been alive at the time of spawning for that year. Non-reporting of harvest by sport fishers would be considered negligible because the chance that a radio-tagged fish is harvested and not reported is very small. Non-reporting of a radio-tagged sheefish in the subsistence fishery is likely to occur and can be easily deduced during aerial surveys. Radio transmitters removed from the water have a sharp increase in their signal strength and range, and a non-reported harvest would be inferred if such a transmitter is located within a village, established fish camp or cabin, either from the air or during boat surveys.

To further aid in accounting for all fates, radio transmitters have return information printed on them and a monetary reward for their return is offered. Local residents

have voiced their support for this project and good cooperation and reporting is expected. Informational flyers and posters describing the project and encouraging transmitter returns were posted in all villages where harvests may occur and announcements were made at appropriate stakeholder meetings and over the radio.

Despite all attempts to account for all fates, some ambiguity will inevitably remain for a small number of fish for a given year and at the conclusion of the study. To quantify their added uncertainty in parameter estimates sensitivity analyses will be conducted.

Attaining unbiased estimates of spawning frequency assumes that radiotagging does not affect spawning behavior. However, there is no explicit test for this assumption because we cannot observe the behavior of unhandled fish. Sheefish surviving until the following open water period will be used as evidence that the stress of bearing radio transmitters has been eliminated and spawning-related behavior (run-timing, selection of spawning area, and spawning frequency) was representative of the population.

The proportion of sheefish spawning in a given year and its variance will be calculated (Cochran 1977) as:

$$\hat{p}_t = \frac{x_t}{n_t} \quad (4)$$

$$\hat{V}(\hat{p}_t) = \frac{\hat{p}_t(1 - \hat{p}_t)}{n_t - 1} \quad (5)$$

where:

\hat{p}_t = the proportion of sheefish spawning in year t ;

x_t = the number of sheefish with fate (S) in year t ; and,

n_t = includes all sheefish with fate (S) and (NS) in year t .

90% confidence intervals around \hat{p}_t will be calculated using exact binomial confidence limits (Cochran 1977).

Spawning Frequency Strategies

If the proportion of sheefish spawning varies significantly from year to year, a more complete characterization of the spawning strategies used will be necessary to model the probability that an adult spawns in a given year. If different distinct patterns are observed (i.e., some fish consistently skip one year between spawning events while others appear to spawn more regularly skipping every 3rd or 4th year) then the individual patterns would be described. The proportions of adults exhibiting each pattern as well as the proportion of sheefish spawning in any given year will be estimated using a Bayesian approach (Gelman et al. 1995). Variance and 90% credibility interval for the proportion of adult sheefish spawning in any given year will be obtained from the resulting posterior distribution.

RESULTS

A total of 150 mature sheefish were captured and surgically implanted with a radio transmitter from 17 July to 30 August 2008. Efforts were made to deploy radio transmitters in proportion to their upstream migration, sex, and length (Figure 3). The ratio of males to females was similar before and after the mean date of passage, which

implies both sexes were tagged proportionally to their downstream migration ($\chi^2=1.17$, d.f.=1, $p=0.28$).

A total of five aerial surveys from 3 September to 30 September located 81 radio-tagged sheefish from Beaver Creek downstream to just below Kalla (Figure 4).

Downstream migration began as early as 10 September and concluded on 15 October (Figure 5). The mean date of passage for the fall downstream migration was 22 September.

DISCUSSION

Previous studies and local knowledge have established that sheefish in the Kobuk River tend to reach spawning areas upstream of Kobuk village by late August (Alt 1987, Taube and Wuttig 1998). Capturing and radio-tagging 150 sheefish just upstream of Kobuk village for approximately six weeks before the end of August ensured that a representative proportion of the spawning population was sampled (Figure 3).

Taube and Wuttig (1998) and Underwood (2000) verified that post-spawning sheefish migrate quickly back to overwintering areas in the lower rivers or estuaries. Estimates of downstream migration after spawning support this finding with a rapid increase in number and compressed timing toward the end of September (Figure 5).

Final estimates of spawning frequency and migration timing can not be completed at this time. Continued radiotagging in 2009 coupled with tracking station and survey data collected through 2011 will be used to determine the fates of all radio-tagged sheefish and their upstream and downstream spawning migration timing. Once the annual fates are determined the final estimates will be calculated.

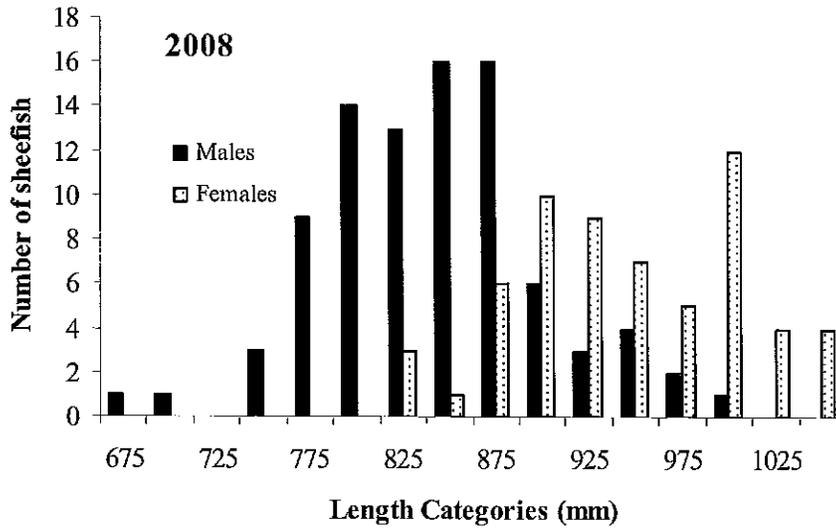


Figure 3.—Number of male and female sheefish radio-tagged by length, 2008.

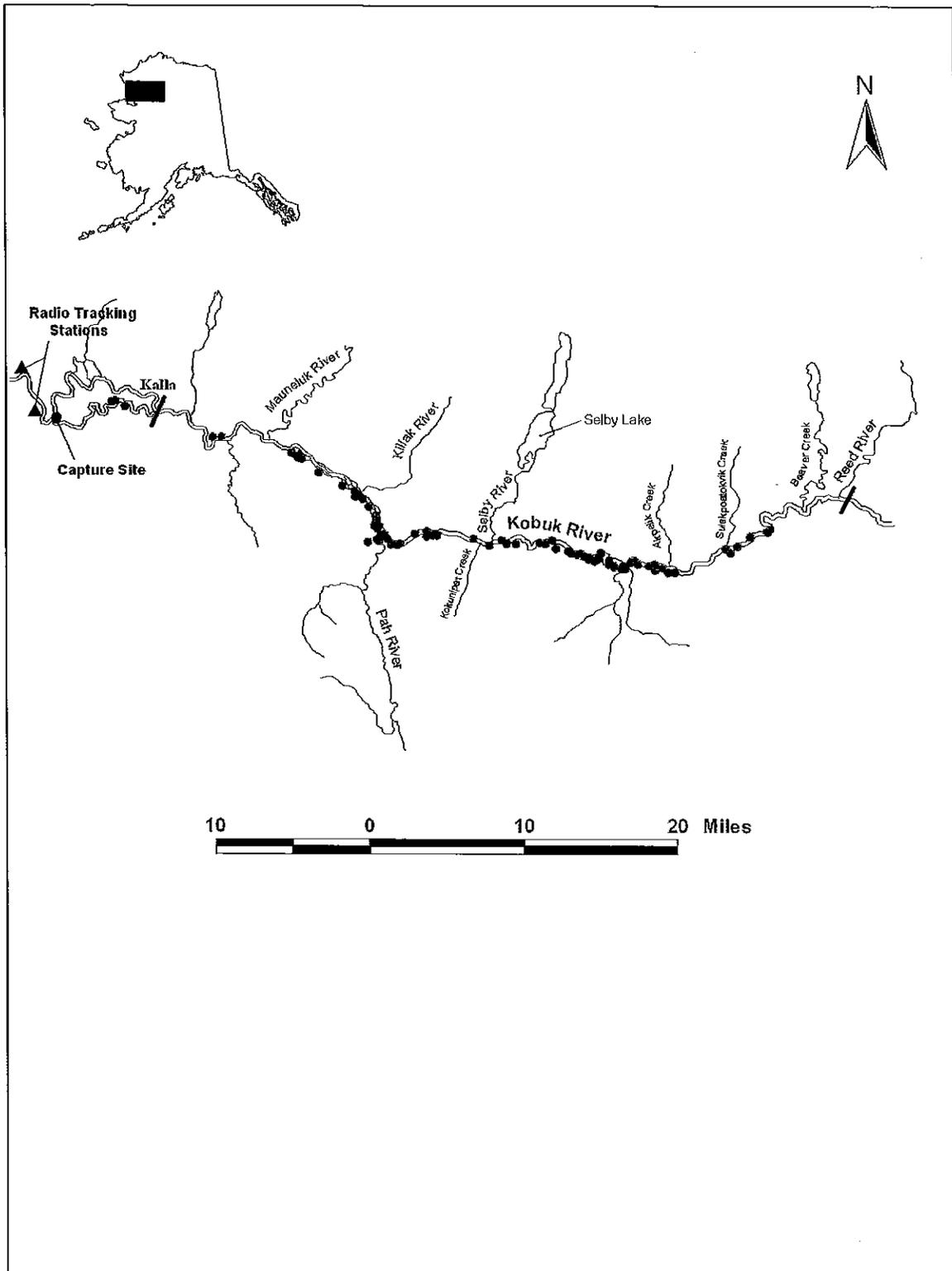


Figure 4.-Map of the spawning area in the Upper Kobuk River demarcating the spawning locations of radio-tagged sheefish, 2008.

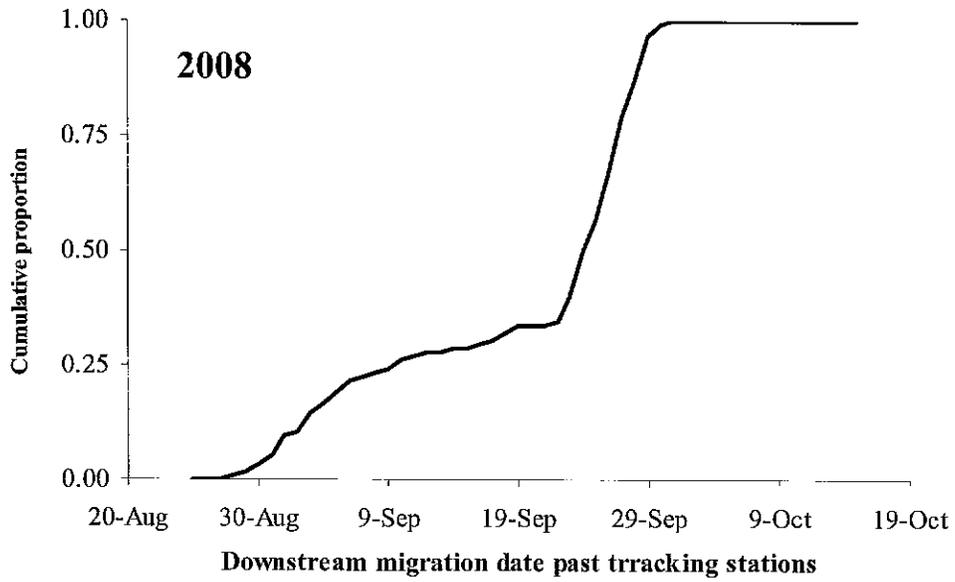


Figure 5.—Downstream migratory run-timing of radio-tagged sheefish past tracking stations located near Kobuk Village, 2008.

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