United States Department of the Interior

FISH AND WILDLIFE SERVICE
1011 E. Tudor Road
Anchorage, Alaska 99503-6199

IN REPLY REFER TO:
FWS/OSM11090.CA

NOV 0 2 2011

Mr. Cliff Judkins, Chair
Alaska Board of Game
P.O. Box 115526
Juneau, Alaska 99811-5526

Dear Chairman Judkins:

The Alaska Board of Game (Board) is scheduled to meet November 11-14, 2011, to deliberate proposals concerning changes to regulations governing hunting and trapping of wildlife for the Arctic and Western Regions. We have reviewed the 37 proposals the Board will be considering at this meeting.

The U.S. Fish and Wildlife Service, Office of Subsistence Management, working with other Federal agencies, has developed preliminary recommendations on those proposals that have potential impacts on both Federal Subsistence users and wildlife resources. Our comments are enclosed.

We appreciate the opportunity to comment on these important regulatory matters and look forward to working with your Board and the Alaska Department of Fish and Game on these issues. Please contact Chuck Ardizzone, Wildlife Liaison, at 907-786-3871, with any questions you may have concerning this material.

Sincerely,

Peter J. Probasco,
Assistant Regional Director

Enclosure

cc: Cora Campbell, ADF&G
Tim Towarak, Chair, FSB
Kristy Tibbles, Board Support Section
Jennifer Yuhas, ADF&G
Interagency Staff Committee
Chuck Ardizzone, OSM

RECOMMENDATIONS

ALASKA BOARD OF GAME PROPOSALS

Arctic and Western Regions

November 11-14, 2011

Barrow, Alaska

U.S. Fish and Wildlife Service Office of Subsistence Management (OSM)

PROPOSAL 2 – **5 AAC 85.050. Hunting seasons and bag limits for musk oxen.** Issue all Nunivak Island muskox permits in Mekoryuk only.

Current Federal Regulation:

No Federal open season.

Is a similar issue being addressed by the Federal Subsistence Board? No, however a proposal to make changes to the Federal Regulations regarding the harvest of muskoxen in Unit 18 could be a viable option in future regulatory years.

Impact to Federal subsistence users/wildlife: Issuance of permits in Mekoryuk would make it easier on residents of Nunivak to secure permits to harvest muskoxen. The issuance of permits in Bethel might present a financial hardship to Nunivak residents in terms of the time and finances associated with travel.

Federal Position/Recommended Action: The OSM recommendation is **neutral** on the proposal as there is currently no Federal season in the area and there is no Federal subsistence priority for muskoxen in Unit 18.

PROPOSAL 7 – 5 AAC 85.045 (a)(16) Hunting seasons and bag limits for moose. Lengthen the Unit 18 resident moose season in the Lower Yukon Area (*e.g.* downstream of Mountain Village) and change the bag limit to include any moose in the fall and two moose per regulatory year.

Current Federal Regulation

Unit 18, that portion north and west of the Kashunuk River, including the north bank from the mouth of the river upstream to the old village of Chakaktolik, west of a line from Chakaktolik to Mountain Village and excluding all Yukon River drainages upriver from Mountain Village – 1 antlered bull	Aug. 10 – Sept. 30
1 moose – If 1 antlered bull is taken during the fall season in this area, 1 additional moose may be taken during the winter season. If no moose are taken in the fall season, 2 moose may be taken in the winter season. No more than 2 moose may be harvested in this area in a regulatory year. A Federal registration permit is required. The Yukon Delta NWR Manager may restrict the harvest in the winter season to only 1 antlered bull or only 1 moose per regulatory year after consultation with the ADF&G and the Yukon-Kuskokwim Delta Subsistence Regional Advisory chair	Dec. 20 – Feb. 28

Is a similar issue being addressed by the Federal Subsistence Board? Yes, a similar proposal to extend the season and change the harvest limit has been submitted to the Federal Subsistence Board. The proposal also requests that antlered bulls may only be taken between September 1 and September 30. The proposal will be addressed at the Board's January 2012 meeting.

Impact to Federal subsistence users/wildlife: The proposed change would allow for increased subsistence harvest opportunities during the fall and would also help limit the growth of this quickly expanding moose population by reducing recruitment rates through a harvest at least partially directed at cows.

Federal Position/Recommendation Action: The OSM recommendation is to **support** the proposal.

Rationale: If the Board supports this proposal, it should help reduce moose densities in the area. OSM concurs with the habitat concerns for Unit 18 and the proposed increase in harvest limits and season length should help reduce negative impacts to habitat that could eventually lead to a population crash if they are not addressed now.

PROPOSAL 8 – 5 AAC 85.045 (a) (16) Hunting seasons and bag limits for moose. Lengthen the resident moose winter season in the Remainder of Unit 18 and change the bag limit to include any moose in the winter hunt.

Units and Bag Limits	**Resident Open Season (Subsistence and General Hunts)**	**Nonresident Open Season**
(16)		
Remainder of Unit 18		
1 antlered bull [PER REGULATORY YEAR]**; or**	Aug. 10-Sept. 30	Sept 1-Sept 30
1 moose	**Dec. 20-Jan. 31**	**No open season**

Current Federal Regulation:

Unit 18 remainder–1 antlered bull	Aug. 10–Sept. 30
	Dec. 20–Jan. 10

Is a similar issue being addressed by the Federal Subsistence Board? Yes, two similar proposals have been submitted to the Federal Subsistence Board. The proposals will be addressed at the Board's January 2012 meeting

Impact to Federal subsistence users/wildlife: Subsistence users would be provided with more

opportunity to harvest moose by extending the season and allowing for the harvest of one moose, rather than one antlered bull. Impacts to the moose population in Unit 18 remainder should be minimal as the population is healthy and is believed to be increasing.

Federal Position/Recommended Action: The OSM recommendation is to **support** the proposal.

Rationale: The proposal would provide additional harvest opportunity for subsistence users in Unit 18. The proposed winter season (Dec. 20–Jan. 31) is similar to the current Federal moose regulations, but the proposal would also liberalize the harvest from one antlered bull to one moose in Unit 18 remainder. The proposed winter season length would be longer than the current Federal season (Dec. 20–Jan. 10); however, OSM has supported a proposal submitted to the Federal Subsistence Board that requests an extension of the winter moose season to the end of February under Federal regulations.

PROPOSAL 16 – 5 AAC 85.057. Hunting seasons and bag limits for wolverine. Increase the bag limit for wolverine in Unit 18.

Change hunting bag limit for wolverine in Unit 18 from 1 to 2.

Current Federal Regulation:

Unit 18–1 wolverine	Aug. 10–Apr. 30

Is a similar issue being addressed by the Federal Subsistence Board? Yes, a similar proposal has been submitted to the Federal Subsistence Board. The proposal will be addressed at the Board's January 2012 meeting.

Impact to Federal subsistence users/wildlife: Subsistence users would be provided with more opportunity to harvest wolverine under hunting regulations. The proposed harvest limit increase would have a minimal impact on the wolverine population in Unit 18. Current State and Federal trapping regulations allow for an unlimited harvest of wolverine in Unit 18. The effect of increasing the harvest limit by one wolverine would most likely be insignificant, especially as wolverines are often harvested opportunistically under hunting regulations.

Federal Position/Recommended Action: The OSM recommendation is to **support** the proposal.

Rationale: The proposal would provide subsistence users with additional opportunity to harvest wolverine under hunting regulations. Although limited information is available beyond fur sealing records, the wolverine population has supported an unlimited trapping harvest and may be increasing.

PROPOSAL 17 – 5 AAC 85.060. Hunting seasons and bag limits for fur animals. Extend the season and increase the bag limit for lynx in Unit 18.

Unit 18: Five lynx, August 10 – April 30.

Current Federal Regulation:

Unit 18–2 lynx Nov. 10–Mar. 31

Is a similar issue being addressed by the Federal Subsistence Board? Yes, a similar proposal has been submitted to the Federal Subsistence Board. The proposal will be addressed at the Board's January 2012 meeting.

Impact to Federal subsistence users/wildlife: Subsistence users would be provided with more opportunity to harvest lynx under hunting regulations. The proposed harvest limit increase and extended season would have a minimal impact on the lynx population in Unit 18. Current State and Federal trapping regulations allow for an unlimited harvest of lynx in Unit 18. The effect of increasing the harvest limit by three lynx would most likely be insignificant, especially as lynx are often harvested opportunistically under hunting regulations.

Federal Position/Recommended Action: The OSM recommendation is to **support** the proposal.

Rationale: The proposal would provide subsistence users with additional opportunity to harvest lynx under hunting regulations. The lynx population has continued to support an unlimited harvest limit under State and Federal trapping regulations, and should be able to support a relatively small increase in harvest associated with the proposed changes.

PROPOSAL 20 – 5 AAC 85.065. Hunting seasons and bag limits for small game. Increase the bag limit and lengthen the season for ptarmigan in Unit 18.

Unit 18: Fifty per day, one hundred in possession, August 10 – June 15.

Current Federal Regulation:

Unit 18–20 ptarmigan per day, 40 in possession Aug. 10–May. 30

Is a similar issue being addressed by the Federal Subsistence Board? Yes, a similar proposal has been submitted to the Federal Subsistence Board. The proposal will be addressed at the Board's January 2012 meeting.

Impact to Federal subsistence users/wildlife: Subsistence users would be provided with more opportunity to harvest ptarmigan with an extended season and increased harvest limit in Unit 18. However, the liberalized harvest regulations may adversely impact the ptarmigan population in Unit 18. The proposed harvest limit would more than double that of current State and Federal regulations, which could lead to overharvest within localized areas. In addition, the proposed season extension would extend into the breeding season, when ptarmigan may be more susceptible to harvest.

Federal Position/Recommended Action: The OSM recommendation is to **oppose** the proposal.

Rationale: There is currently not enough information on the ptarmigan population in Unit 18 to support a harvest limit of 50 ptarmigan daily, 100 in possession. In order to make an informed management decision regarding a sustainable harvest, managers should have some knowledge on whether harvest would be additive or compensatory (Pedersen et al. 2004, Sandercock et al. 2011). The ptarmigan population in Unit 18 may be able to sustain a higher harvest level than the current regulations (20 daily, 40 in possession), especially as portions of the unit likely receive little harvest pressure and may be sources of immigration to harvested areas. However, it should not be assumed that the harvest would be compensated for and local populations would not be adversely affected. Total compensatory mortality is probably rare and the timing of harvest can be important (Kokko and Lindstrom 1998). Most of the ptarmigan harvest in Unit 18 takes place in the spring, which can have a much higher impact than fall harvest, regardless of additive or compensatory mortality (Kokko and Lindstrom 1998).

The proposed ptarmigan season (Aug. 10–Jun. 15) would extend into the breeding season, which could have adverse effects on the ptarmigan population in Unit 18. Male ptarmigan set up and defend territories during this period and may be vulnerable to high harvest levels because of a high tolerance to disturbance. In addition, female nesting is initiated during this time period and nesting may be interrupted. Female ptarmigan have adapted to high nest predation rates by having high rates of renesting. However, rock ptarmigan were found to have low rates of renesting once they began incubating (Cotter 1999). Additive harvest is more likely to occur when it overlaps or proceeds periods of high natural mortality. Previous research has found peaks in natural mortality during periods when ptarmigan were defending territories and participating in courtship displays (Sandercock et al. 2011).

The proponent states that Units 23 and 26 allow the harvest of 50 ptarmigan daily, 100 in possession from Aug. 10–June 15 under State regulations, and there is no biological reason why these regulations should not be allowed in Unit 18. However, the annual harvest estimates in Units 23 and 26 are significantly lower than Unit 18. Annual harvest estimates in Units 23 and 26 ranged from a low of 123 to a high of 2,832 ptarmigan between 2005 and 2009 (Naves 2009, 2010, 2011). Annual harvest estimates from Unit 18 ranged from 4,667 to 30,685 ptarmigan between 1986 and 2009 (Wentworth 2007, Naves 2009, 2010, 2011). Thus, Unit 23 and 26 should not be used as a substantive reason for the proposed regulatory changes in Unit 18.

Currently there are no means to monitor the effects of the proposed harvest limit and season length changes. Ptarmigan harvest is estimated for regions of Alaska as part of the Alaska Migratory Bird Co-Council Subsistence Harvest Assessment Program (Naves 2010), but these estimates represent a limited

index to the relative abundance of ptarmigan, and the harvest estimates do not adequately account for variation in ptarmigan abundance and harvest effort.

<u>PROPOSAL 23</u> – 5 AAC 92.052. Discretionary permit hunt conditions and procedures. Review the discretionary authority requiring the nullification of trophy value of animals taken under a subsistence permit.

Current Federal Regulations:

Currently there are no regulations requiring nullification of trophy value in Federal hunting regulations.

Is a similar issue being addressed by the Federal Subsistence Board? No.

Impact to Federal Subsistence users/wildlife: There should be no impact to wildlife. Discretionary authority requiring nullification of trophy value of animals taken under a subsistence permit has been used in a number of game management units to help limit hunters who wish to harvest an animal for its trophy value. Removing this discretionary authority could lead to increased competition as well as user conflicts in several of the areas where nullification of trophy value is required. Federally qualified subsistence users may be impacted if the discretionary authority is removed.

Federal Position/Recommended Action: The OSM recognizes that it is important to review discretionary authorities periodically; however, OSM would be **opposed** to the removal of the discretionary authority to require the nullification of trophy value from the Alaska Department of Fish and Game.

Rationale: The nullification of trophy value of animals taken is a valuable tool allowing managers to limit harvest in areas without initiating alternative hunt management strategies such as Tier II permits or drawing hunts when a wildlife population cannot support harvest from all user groups. Removing this discretionary authority could lead to increased competition as well as user conflicts in several of the areas where nullification of trophy value is required. Additionally, this tool has been used as the foundation of certain management plans (i.e. the Koyukuk River Moose Management Plan) and if eliminated, could invalidate these joint planning efforts.

Comments on Proposal #23

The following comments concern Proposal #23 specific to Musk Ox management in Unit 22, and further **specific to subunits 22E and 22D Remainder:**

Lack of current management plan:

There is no current overall management goal concerning musk ox management. The 1994 document simply directed to manage ox for a general increase in population and range expansion, both goals of which have been met.

Concerning subunits 22E and 22D Remainder, what is the carrying capacity? What is the ideal locally supported population density, within a sustainable level? Musk ox, caribou and reindeer all sustain themselves on the same lichen for their primary nutrition source. Caribou and reindeer tend to feed on the move and unless they are overpopulated, tend to create minimal damage to the lichen and surrounding berry producing plants. Musk oxen tend to congregate in feeding areas for extended periods of time and cause damage to the lichen and collateral damage to the surrounding berry plants.

It is undeniable that local hunters prefer caribou over musk oxen. They regularly travel 100 miles by snow machine to harvest caribou, with gas currently at $7.50 per gallon, while ignoring the opportunity to harvest musk ox 7 miles from town while loading ice for drinking water, or while berry picking in the fall.

It is unlikely there would ever be local support to see ox populations sufficiently dense to replace caribou and reindeer. In areas of northern Canada musk ox populations have grown so large, the effect has been to displace caribou. On the other extreme, it is unlikely the general public would accept eliminating all oxen from 22E, a concept which has strong support from the local residents.

It is imperative that the BOG creates a long term management plan for each subunit, balancing local and statewide interests in the resource. Once in place, allocating harvest opportunity in a fair and inclusive manner becomes more focused.

Temporary Management Goal:

Until such a long term plan is finalized, each subunit needs an interim plan with stated goals. There are distinct differences in issues between 22E and 22D Remainder and the other subunits with current musk ox hunting seasons.

The ox population in these two subunits remains stable, the biggest issue of concern is the bull:cow ratio. Assuming the BOG were to direct the ADF&G to manage these subunits for the overall health and stability of the current population until a long term plan is created, the following issues and suggested solutions are presented. It is also assumed the BOG would seek allocation of harvest opportunity within the goal of maintaining a stable and healthy population to remain as inclusive as possible.

ANS:

The numbers that are set for the current ANS (amount necessary for subsistence) were set with virtually no hard data on hand to justify the decision. Musk oxen are an introduced species and not integral in the local culture as are sea mammals, caribou and reindeer. In fact, very strong and factually based arguments can be made to determine that there is no basis for a subsistence priority for this species on the Seward Peninsula.

Since the commencement of a harvestable surplus in the resource in 22E and 22D Remainder, factual, hard and indisputable local hunter interest and harvest trends have been documented. The primary harvest opportunity offered to local hunters through the State is the RX104 registration hunt.

1) Open to all Alaska residents
2) Lengthy season open August 1st through March 15th.
3) Legal bag limit defined as any bull for the entire season and cows for the January 1st through closing of the season.
4) Simple registration form available in the local villages and online, no tag required, no additional cost above a hunting license to the hunter.

Aside from the ease in obtaining a permit, the oxen are available to harvest easily for the local hunters. In the course of daily life, with no additional expense needed to plan and conduct a hunt, oxen can be harvested for 7 ½ months of the year by local hunters.
And yet the harvest level of the RX104 by local hunters has always been very low. There simply is not the need or interest as there is for sea mammals, fish, caribou and moose. Locals do wish to see the oxen harvested, but by and large they are not the ones interested in doing so.

(Graph created from data obtained from the ADF&G website for harvest statistics compiled with notes of our operational bookings and harvests.)
:

RX 104 Musk Ox Harvests

YEAR	# of Hunters	Bull	Cow	Total Harvest	Wittrock Total	
2010	65	33	04	37	03	08% of harvest
2009	69	41	05	46	10	22% of harvest
2008	26	19	01	20	08	40% of harvest
2007	36	24	06	30	09	30% of harvest
2006	12	10	00	10	03	30% of harvest
Total	208	127	16	143	33	23% of harvest

143 harvested RX104 oxen minus 33 = 110 divided by 5 years = 22 "subsistence" oxen harvested annually in sub-units 22E and 22D Remainder combined. The 23% of the harvest is reflected by 33 hunters and are deducted from the total participation because they are hunters from our operations and I can document are not "subsistence" local hunters. This is a minimal number to deduct, because a high percentage of the RX104 hunters who do not hunt with our services are also primarily hunting large bulls, and non local. It would be a safe conclusion that the percentage of mature bull oxen harvested in 22E and 22D Remainder with the RX104 permit for trophy purposes is over 50% of the total.
ANS should be calculated on factual, documented harvests by local hunters and using this standard the ANS number is closer to 15 – 22.
In addition to the RX104 there are also federal permits open only to rural residents which also have a low harvest rate history, and remain available to local hunters, valid for federal lands in close proximity to the village.

RX104:

The Registration permit hunt for 22E and 22D remainder should be retained and refined. The main problem facing the ADF&G in managing the herds in 22E and 22D Remainder is the focus of most hunters harvesting large, mature bulls and ignoring the remainder of animals available. The long term effect is the possibility of lowering the bull:cow ratios to unhealthy levels.
As demonstrated earlier, there is little local subsistence use of the resource. Most hunters utilizing the RX104 permits in 22E and 22D Remainder are seeking large bulls and unable to draw the DX097 or DX102 permits. They are Alaska residents from all over the state.
Maintaining the maximum opportunity for as many hunters as possible should remain a priority for the BOG.
This can be accomplished by changing the definition of the legal bag limit for the RX104 permit to any musk ox except mature bulls.
This action should be followed with removing the trophy nullification requirement.
Restricting animals to be hunted for management goals is already an accepted practice, as 50" antler spread on moose. It is much simpler to field determine if an ox is a mature bull or not, than to determine if a moose is 50" or 49".
To further the safety net for hunters judging a legal animal in the field, there remains an open cow season.
The safety net could be further augmented by some common sense provisions, such as a three inch rule, if there are three or more inches of fur between the base of the horns, it is legal.
The penalty for harvesting the wrong animal could be limited to confiscating the entire head, and allow the hunter to keep the meat and hide. This may be more appropriate than levying large fines, loss of hunting privileges and consequences out of proportion to an honest mistake.

Use of aircraft within the RX104:

The main problems with the RX104 permit is the concentrated harvest focus on large bulls and the trophy nullification and subsequent waste of the resource. Unless the BOG solves these two issues, it should not allow the use of aircraft. This would simply exacerbate the existing problems.
If the BOG opens the use of aircraft without removing mature bulls from the bag limit and eliminating the trophy nullification requirement it would create a unique and unacceptable situation. In this scenario, sport hunters from Nome would hunt trophy bulls in subunit 22E under a subsistence priority and be able to keep the trophy(s), enter the trophy(s) in record books, ect.
All other resident hunters would continue to have their trophy(s) subject to trophy nullification upon removing them from unit 22. Including the use of aircraft to increase the RX104 harvest without solving the current problems is nonsensical.

DX 097

The DX097 drawing permit hunt has been very successful. Mature bull ox are a very popular species, and the interest far supersedes the available resource. It remains a fair manner to award harvest opportunity to all hunters. The ADF&G harvest goals for mature bull ox have been met precisely with the use of this permit.

(Graph created from data obtained from the ADF&G website for harvest statistics compiled with notes of our operational harvests and the data includes two Governor's tags not included on the ADF&G website totals.)

DX 097 Musk Ox Harvests

YEAR	# of Permits	# of No Use	# of Harvests
2010	18	07	11
2009	21	05	16
2008	20	05	15
2007	21	07	14
2006	11	03	08
Total	91	27	64

64 harvested DX097 oxen divided by 5 years (2006 to 2010) = an average of 12.8 mature bulls harvested annually, which meets exactly the current 13 bull ADF&G management goal. Eliminating the drawing permits in 22E will do nothing to affect bull:cow ratios, it will simply shift all the harvest of mature bulls to the registration permits, further exasperating the actual problems, decreasing hunting opportunity to the entire public and continuing to waste the resource.
The BOG should direct the ADF&G to continue the DX097 and DX102 permit hunts and solve the issues with actions refining the RX104 permit requirements. Properly managed, the DX097, DX102 combined with the RX104 permits provide the tools for the ADF&G to manage the resource for sustainable stability and provide the maximum hunting opportunity to the public.

Advisory Committee Resolutions:
The BOG values Advisory Committee findings, but it must weigh the interests of the entire State in the balance of judgment. A unanimous vote to oppose removing mature bulls from the legal bag limit for the RX104 permit does not solve the problems facing ox management in subunits 22E and 22D. The main issues of a disproportionate number of mature bulls harvested under the subsistence regulations and the subsequent waste of the resource through trophy nullification remain.

Opportunity to open new subunits to musk ox hunting:
Musk oxen have continued to expand their range and population. It is advisable the BOG consider opening new hunts in subunits 22A, 23, and 24 to reflect the current ox population trends.

Commercial services interest:
Economic Impact to Shishmaref: Elimination of the DX097 drawing permits and failure to amend the definition of the legal bag limit on the RX104 permits will have a negative economic impact to Shishmaref. Numerous local residents participate in providing big game commercial services, including guides, skinners, cooks, local artists and carvers, local stores and the local airlines. This is a unique resource in that there is no documentable conflict between local hunters and statewide and non-resident hunters at large over this resource, as currently managed.

Summary:

In addressing these issues I encourage the BOG to consider the guidelines set by the Alaska State Constitution: Wildlife is to be managed for the maximum public benefit, sustained yield of the resource, and managed for abundance.

The entire purpose of subdividing game management units is to provide ADF&G with latitude in creating regulations for resource management tools specific to each subunit to address the wide variance of factors.

In order to meet its' constitutional requirements the ADF&G must manage subunits 22E and 22D Remainder differently than the remainder of unit 22.

Defining the legal bag limit as any ox other than a mature bull and removing the trophy nullification requirement for the RX104 permit would solve the major issues facing the BOG. These two actions, combined with retaining the DX097 and DX102 permits would provide the maximum opportunity to the public and provide the management tools to the ADF&G to maintain a healthy, stable population and maintain the best bull:cow ratio balance.

Brian Simpson
Master Guide #152
P.O. Box 61210
Fairbanks, AK 99706
907-322-9841
Email: noainc@mosquitonet.com

Out of Session:
Legislative Information Office
P.O. Box 1630
Nome, AK 99762-1630
(907) 443-3707
(907) 443-2162 (Fax)

Alaska State Legislature

In Session:
State Capitol
Juneau, AK 99801-1182
(800) 597-3707
(907) 465- 3707
(907) 465-4821 (Fax)

SENATOR
DONALD C. OLSON

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Savoonga
Scammon Bay
Selawik
Shaktoolik
Shishmaref
Shungnak
Stebbins
Teller
Unalakleet
Wainwright
Wales
White Mountain

October 27, 2011

Attn: Kristy Tibbles, Exec. Dir.
DF&G Board of Game
PO Box 115526
Juneau, AK 99811-5526

Dear Kristy Tibbles and Members of the Board of Game:

Thank you for your service to the State of Alaska. I am writing this letter in support of the constitutional rights of my constituents. Recently, the Seward Peninsula Regional Advisory Council met in Nome and discussed several topics regarding game in the region, including musk oxen and bear.

I understand that the Advisory Council voted to oppose the exclusion of mature musk oxen in subsistence hunts. When addressing subsistence in rural Alaska, it is important to keep in mind that subsistence hunters are seeking food. Subsistence hunting is a multi-faceted undertaking that includes hunting and gathering food, culture and language preservation, family values preservation, and many other variables. For these reasons, I support the Advisory Council's stance to protect subsistence hunting by including mature musk oxen in subsistence hunting. Subsistence hunters should not be prevented from harvesting mature musk oxen, nor should they be required to destroy trophies.

Additionally, members of the Seward Peninsula Advisory Council seek to align the unit 22C bear season with the rest of the unit. This unit shows no indication of excessive harvesting of bears, and subsistence hunters would benefit from appropriate opportunity to harvest bears in unit 22C. Not only is the bear population problematic with increased human contact, but bears also impede subsistence activities by disturbing or destroying subsistence food stores or even preventing subsistence activities from occurring. For these reasons, I support the Advisory Council's stance to protect subsistence hunting by aligning the Unit 22C bear hunt with the rest of the unit and increasing the bag limit for bears.

Thank you again for your service.

Sincerely,

Senator Donald C. Olson
Sen_Donny_Olson@legis.state.ak.us

2030 Mary Allen Ave.
Homer, Alaska 99603
2 November 2011

Dear Board Members,

I'm a marine biologist who's studied predators – killer whales – for the last 24 years. I received my MS in marine biology at UAF in 1993. I am writing to oppose Proposals 35 and 36 to institute aerial wolf control in Units 15A and C on the Kenai Peninsula. My grounds for opposition are scientific. These measures appear to be a way to deal with "public pressure" rather than to address the real causes of lower moose numbers: declining moose habitat in Unit 15A due to lack of fire, and recent low bull-cow ratios in unit 15C,. Recently, state biologist Tony Kavalok told the *Peninsula Clarion* that a new study of predation on moose would likely confirm an earlier study showing that *black bears* kill far more moose than wolves do on the Kenai, but that in order to appease public pressure, wolf control would be instituted anyway, before the results of the new study were known. He was quoted saying that the control program was a way to show that "we are serious" and "we will do something." When I think of the term "serious" in terms of ADF&G, I like to think it's referring to serious science. But Kavalok's statement says something far different and disturbing. He admits that wolves are a convenient and "resilient' scapegoat, allowing the department to side-step better, perhaps more complex, management considerations. To avoid doing, in other words, the hard work of finding truly effective means to manage moose. Perhaps hunters are clamoring for more moose on the Kenai, but it seems to me, this approach insults their intelligence. Many hunters I know (my daughter and son-in-law included) rely on the expertise of state biologists to soundly manage game populations based on biology, not public relations, not putting on a show. Proposals 35 and 36 are biologically unsound, and are an embarrassment to ADF&G, which is supposed to manage via sound scientific practices.

Using aerial wolf control as part of intensive game management is not only a biological issue; it is a complex ethical issue that deserves continued public debate. The public, including the hunting public, as you know, is divided about this practice. When such a charged, controversial management tool is treated with flippancy by a state biologist, not to mention the Assistant Director of Wildlife Conservation, it belies understanding. I hope that you will act responsibly in this matter at your meeting, and vote down Proposals 35 and 36, and charge ADF&G with doing their job of investigating real measures to make sure that the Kenai Peninsula continues to provide habitat for moose and their predators, and to provide enjoyment of wildlife, consumptive and otherwise, for all citizens, through sound science. Thanks you.

Sincerely,

Eva Saulitis
North Gulf Oceanic Society
Homer, Alaska

To Whom It May Concern:

Ref: Proposals 24, 25 & 26 of the Nov. 2011 meeting in Barrow, Alaska

I'd like to add my comments to the Board of Game proposals #24, 25 & 26, in regards to extending the season for brown/grizzly bear in Unit 22C. All 3 proposals ask that the Board of Game extend the brown/grizzly bear season, and/or liberalize the harvest of brown/grizzly bears for many of the same reasons, that I am prompted to write.

I had the good fortune of being able to hunt bear in Unit 22C this past spring and fall. In the weeks that I spent there, I enjoyed the people, the culture and a great experience of being able to hunt in this unique part of the state. In several conversations with some of the locals, many were concerned about the ongoing human/bear conflicts that continue to affect their outdoor pursuits, sport and subsistence hunting and fishing, as well as berry picking. In addition to this, the bears prey heavily on the local reindeer population within the boundaries of Unit 22C.

In talking with one of the reindeer herders, he has watched his herd size decline, with one of the major reasons being predation by bears on his deer. Much of the predation occurs during the calving season, which is late April, early May. With the brown/grizzly bear season not yet opening until May 10th, he, nor any other eligible hunters are able to legally harvest a bear, as they prey heavily on the reindeer fawns. I'm not sure if Fish & Game has an accurate assessment of the bear population of Unit 22C, but from what I saw in the spring and the fall, there appears to be a very healthy population of bears in Unit 22C.

Another reason for extending the season for brown/grizzly bears, is the snow conditions in the current May 10th-25th opening for bears. From what I experienced this spring and what others have told me, the season opens too late, to take advantage of using a snowmachine for spring bear hunting in Unit 22C. Most of the snow is rotten by then and many of the creeks and rivers are breaking up, making it unsafe for travel, scouting or getting far enough afield to acquire a bear.

I do have plans on returning to hunt in the Nome area for bear, and would like to see the harvest quota for moose, for the local residents increased. Harvesting more bears would hopefully increase the amount of moose that would be available to the many that rely on this natural resource. The free-ranging reindeer would also benefit with reduced mortality from predation, as well as an economic boost for the local herders who market the deer.

My personal suggestion would be to open the brown/grizzly bear season to mirror the other sub-units of Unit 22, which would be Aug. 1st through May 31st, with a bag limit of one bear per regulatory year. These new seasons and harvests would be allowed for 5 yrs. unless Fish & Game saw a biological emergency that would necessitate an earlier closure.

Thank you for allowing me to voice my opinion, and being able to speak out on this subject.

Respectfully submitted,

Roy Smith
Kenai, Alaska

Carol Jensen
10821 Baronik Street
Anchorage, AK 99516
Phone: 907-562-3200 Ext 111
Cell: 907-244-1979
Email: vegas.girl@yahoo.com

FAX MESSAGE

P.S. Include in testimony for BOG Board meeting.

November 8, 2011

To: *Alaska Board of Game, Fax #907-465-6094*

RE: Wolf Control, Proposals 35 & 36 and any others that deal with this topic

Total number of pages including this cover sheet: 2

Once again we have proposals to expand unnecessary, unscientific and unsupported wolf control in Alaska.

I researched units 9, 12, 13, 16, 15, 17, 19, 20 and 25, areas with predator control programs and other very liberal wolf and bear hunting and trapping regulations to see if moose and caribou hunting had been closed in these areas, since apparently the Department thinks there is an emergency shortage of "food".

I noticed:

1. All areas except for a very few had no closed season for black bears with a limit of 3 (if there is no closed season how is it determined when "3" is reached?)

2. Brown bear seasons in most of the GMU's have been liberalized to one bear every regulatory year instead of one per 4 regulatory years. In some units, such as 16B, there is no closed season. In other parts of 16, the season has been extended.

3. There is caribou and moose hunting IN ALL OF THE ABOVE REFERENCED UNITS. Many units have a restriction of one bull per fall season for moose. However, others, such as 15C, 20B, 20A (starting in 2012) allow bull and anterless moose seasons. Units 9A, B, and C, 17 A&B allow 2 caribou per season.

4. Residents and non residents alike of the respective GMUs are allowed to hunt and trap. You would think that if there is such a shortage (and many of these areas have road service, stores, etc.) that only residents of the respective GMU would be allowed hunting. Actually, you'd think that if there really IS a shortage, NO ONE would be allowed to hunt.

In these units, trapping of wolves is unlimited and the seasons, for the most part, run from October through the end of April, although some run August through June. Wolf bag limits for hunting run from as "low" as 5 per season, with 9 month long seasons, to 10 per day with 10 month seasons. These are excessively high limits and seasons. The Department claims it wants to maintain a sustainable wolf/bear population, but with these seasons and bag limits, that is impossible.

Predator control is being done, at the Department's own admission, without population, scientific or biological data. Aerial hunting is completely unwarranted, unjustified, illogical, immoral, and unreasonable. It has always been this way and always will be. Many of these GMUs have had predator control going on since the l970's!! Isn't it clear it doesn't work? Why isn't it obvious to all of you that human hunting (much of which goes unreported), habitat, weather, disease, drownings, natural cyclic population fluxes, etc. all are higher contributing factors to any ALLEGED moose/caribou population "downturns"? The Department is aware of all of these factors and have openly admitted that predators play a small part in this. Yet, they continue to push predator control, coupled with limitless hunting and trapping of predators.

For decades the Department has been unable to kill nearly as many wolves as they have set their sites on. The reason is so clear—THE NUMBER OF WOLVES THEY CLAIM EXIST ARE ACTUALLY FAR FEWER!

I have lived in this state for 38 years. I have NEVER heard of anyone starving to death or even going hungry because they were unable to kill moose and caribou each year. However, I have heard from many people who have lived out in the Bush that wanton waste and illegal hunting is and always has been rampant.

Certainly the hunters and trappers who live in non-rural parts of Alaska are not going to starve without a trophy moose or caribou on their wall.

So please get rid of these unnecessary wolf control programs that have no basis in game management. Stop trying to sell the public on "We have to kill these predators so that rural Alaskans won't starve to death". You definitely should reject any proposal for predator control on the Kenai.

Sincerely,

Carol Jensen

Matkin Fisheries/Research
2030 Mary Allen Ave
Homer, Alaska 99603
(907) 235-6295

Alaska Department of Fish and Game
Boards Support Section
P.O. Box 11526, Juneau, AK 99811-5526

Dear sirs, 31 October 2011

I am a 38 year Alaska resident, have hunted since I've been in Alaska, although I eat more fish than meat as I get older! I am also a marine biologist and have worked in recent years extensively as a consultant to the National Marine Fisheries Service regarding marine mammal studies. I would like to address proposals 35 and 36 that would initiate wolf control on the Kenai Penninsula and both of which I OPPOSE. Although in principle, I can understand the use of predator control to encourage rebound of prey populations, this type of action on the Kenai Peninsula is unwarranted at this time.

In Unit 15A the Department as well as the Kenai Wildlife Refuge managers admit that reduction of habitat due to lack of fire and regrowth of moose browse is the culprit in the moose population decline. Only a small part of the Unit is even available for predator control, as the Refuge will not allow it. To kill predators that are acknowledged not to be the big issue in population decline is simply wrongheaded and only seeks appease some members of the public that simply see wolves as competitors and a problem no matter what the situation.

In Unit 15C it is acknowledged that moose numbers are not the issue. The moose are not declining. The issue is lack of sufficient harvest to satisfy the public due to new restrictions on bulls. How this justifies wolf control is beyond my understanding. Especially when it is freely acknowledged that bears may be a much bigger issue in regards predation, and this predation would be primarily on calves and young. The older, stronger bulls that ADF&G is trying to protect with regulations are unlikely to be the targets of wolf predation. The wolf control proposal is counterintuitive to providing a strong population of breeding bulls, and, again, simply seeks to appease elements of the public that are upset because of the changes in regulations to protect bulls. This is the poorest kind of game management, to scapegoat predators to appease folks upset with managers who are simply managing hunting responsibly.

These are proposals as they show an unsettling lack of respect for the non human predators in the system. These proposals do not even wait for the results of new studies that may very well indicate bears to be the primary moose predators (the last study showed 34% of calves that died were killed by black bears and 6% were killed by wolves). These are proposals to appease certain types of hunters and are not biologically founded, nor rational at this point.

Thank you for your attention.

Craig Matkin

Cooper Landing Fish and Game Advisory Committee
Meeting Minutes of November 1, 2011

Members Present: Robert Gibson, John Pearson, Erick Fish, William Coulliette, Ed Holsten, Erick Fish, George Heim, Mike Adams, Kyle Kolodziejski, James Givens and from the public, Bill Stockwell,

Attn: Scott Crass
BOG-Western Arctic
AC comments

Quorum Present: Yes

Agency Present: Stephen Miller, Jeff Selinger

Meeting Called to Order: 7:00 pm

Old Business: None

New Business

Board of Game Arctic/Western Region Proposals

Proposal 35: 3 favor, may allow for more moose harvest; 6 opposed, non-effective when habitat is the issue, potential down-fall, money would be better spent on improving habitat

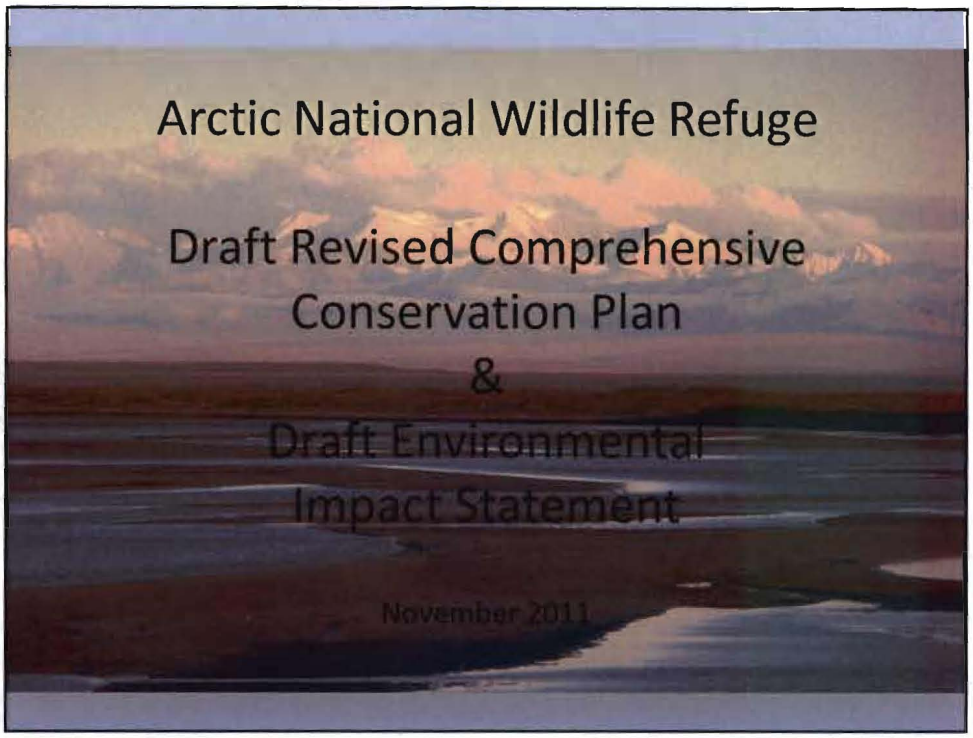
Proposal 36: 2 favor; 7 opposed, wolves don't seem to be the limiting factor

Elections: postponed until next meeting 1/26/2011

Kenai River Collaborative Public Process: All support leaving/putting carcasses back into the river and opposed removing them from the system. Grinders aren't the answer, due to issues with anglers not using them, abusing them with other items, and the expense of manning and maintaining them. Night closures may work but not below the mainstem Russian. We support leaving the carcass biomass in the ecosystem and education of coexisting with bears.

Subsistence Hunt: All support Robert writing up a proposal to extend the late October/November Moose hunt to include unit 15C for qualified rural residents of Cooper Landing and a second proposal to hunt the Kenai Caribou herd.

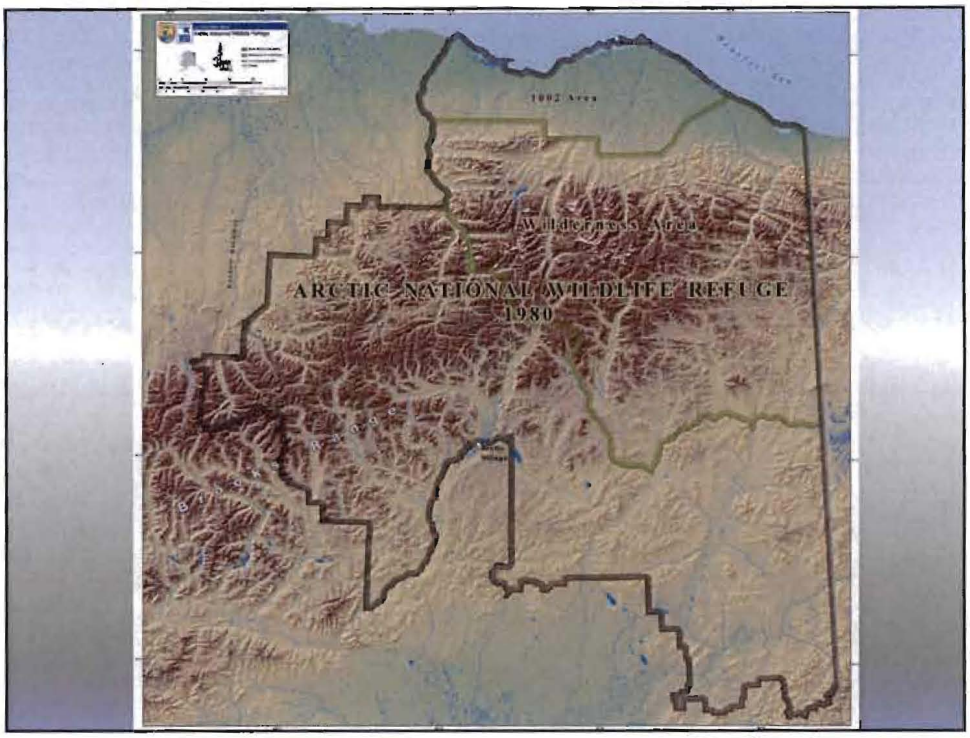
Meeting Adjourned 9:22pm



History

- Arctic National Wildlife Range – 1960
  - Wildlife, wilderness, recreation
- Arctic National Wildlife Refuge – 1980
  - Wildlife & habitat, treaties, subsistence, water
- Wilderness designation – 1980
- Comprehensive conservation plan - 1988
- Began revising plan - 2010

+ USF&WS



What is in the Plan?

- Vision, Goals, & Objectives
  - Explain proposed management approach
  - Provide specific steps/commitments for Refuge management
- Revised Management Guidelines
  - No active manipulation of fish/wildlife populations or habitats except in emergency
  - Observe and monitor climate change without intervention
  - Public uses continue
  - No public use facilities on Refuge lands
- Draft Compatibility Determinations

What is in the Plan?

- Wilderness Review
  - Required by policy
  - Alternatives range from no new wilderness to all wilderness study areas recommended
- Wild & Scenic River Review
  - Required by law and policy
  - Alternatives range from no new wild rivers to four new rivers recommended

What is in the Plan?

- Six alternatives
- Each alternative includes:
  - Management guidelines (except Alternative A)
  - Goals and objectives (except Alternative A)
  - A range of approaches to three issues:
    - Wilderness
    - Wild rivers
    - Kongakut River visitor use
- An analysis of the effects of each alternative

Management guidelines

- Safety and **management emergencies**
- Land exchanges & acquisitions
- Appropriate use & compatibility
- Cooperation with others
- **Ecosystem, fish & wildlife habitat & population management**
- **Subsistence management**

Management guidelines

- Access & transportation
- Recreation & other public uses
- Outreach and education
- Commercial use management
- Environmental contaminants
- Wilderness management
- Administration

Goals & Objectives

Goal: Ecological processes shape the Refuge

- Objective: Ecological inventory and monitoring plan
- Objective: Update fire management plan
- Objective: Identify stressors for species

Goal: Provide continued subsistence opportunities

- Objective: work with local communities
- Objective: seek funding for harvest monitoring programs
- Objective: continue Refuge Information Technician program

Goals & Objectives

Goal: Provide wilderness-dependent recreation

- Objective: Visitor services plan
- Objective: Least intrusive management

Goal: Evaluate effects of climate change

- Objective: evaluate effects on refuge resources
- Objective: monitor vulnerable resources
- Objective: collaborate with others

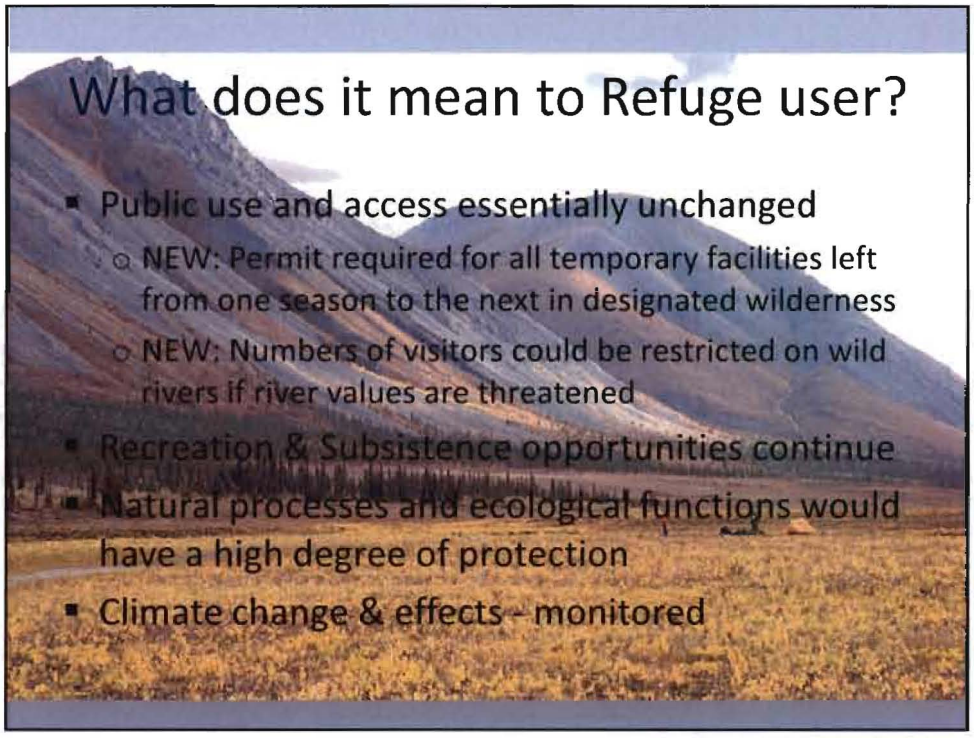
Goal: Research/monitor refuge as benchmark of natural arctic and subarctic ecosystems

Compatibility Determinations

- State management activities
- Transporting & guiding (4)
- Commercial filming
- General Recreation, hunting & fishing (3)
- Trapping
- Research
- Subsistence & house logs (2)
- Wildlife observation, photography, education

What's Not in the Plan?

- No oil and gas development scenarios
  - Only Congress can open the Refuge to oil and gas
- No wilderness designation
  - Only Congress can designate wilderness
- No preferred alternative
  - To be developed after public comments
- Most visitor use issues to be addressed in a separate plan – to be started after the CCP



What's Next?

- Provide comments
  - ArcticRefugeCCP@fws.gov
  - http://arctic.fws.gov/ccp.htm
  - Comment period open until November 15, 2011
  - Be specific – what do you like/dislike and why
- Your comments will help shape the Final Plan
  - Final Plan in fall 2012
  - Record of Decision by end of year 2012


Thank You!
Your participation will help improve the Plan

11/9/11 RC12

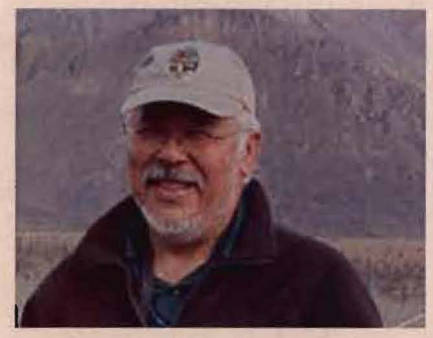
U.S. Fish & Wildlife Service

Arctic National Wildlife Refuge

Summary of Draft CCP

Planning Update 3 / June 2011
Revised August 2011

A Message from the Refuge Manager



A year ago, I invited input from the public when Arctic Refuge began the planning process that will revise our Comprehensive Conservation Plan (CCP)—the document that guides overall Refuge management.

Since you heard from me in the last planning update, a lot has happened. Refuge staff received many thoughtful ideas that have helped guide the content of the draft revised plan. We've also incorporated new scientific information, and changes in laws, policies, and Refuge conditions that have occurred since the original Arctic Refuge CCP was completed in 1988.

For day-to-day public use and management of the Refuge, the CCP "fine tunes" existing management. Refuge uses and our on-the-ground management would not incur any major changes. Our proposed goals, objectives, management policies and guidelines provide the details of how we plan to manage over the next 15-20 years.

Our alternatives focus on potential wilderness and wild river recommendations, and management of the Kongakut River. The draft plan does not include a preferred alternative.

We encourage you to read over this summary booklet or look at the full text. We welcome your comments.

Richard Voss
Refuge Manager

Public Input

The CCP and Environmental Impact Statement (EIS) process includes two formal opportunities for public input. The first occurred in the spring of 2010, when the Fish and Wildlife Service introduced the planning process to the public and asked what concerns or issues the public thought the revised CCP should address (in first booklet at **http://arctic.fws.gov/pdf/ccp1b.pdf**).

During that first comment period, we received about 1,500 original responses and 92,500 form letters. Commenters shared their concerns about protecting wilderness qualities on the Refuge, the nation's need for oil development, recreational use, rivers, subsistence and Native issues, and biological resources (in second booklet at **http://arctic.fws.gov/pdf/ccp2b.pdf**).

Refuge staff worked diligently since then to complete the draft revised CCP, which is now available for review. Publication of this draft has set in motion the second opportunity for public comment, which extends for 90 days until November 15, 2011. Information about submitting comments is on page 20 of this booklet.

We encourage you to share your thoughts with us. The most useful comments will be about specific content in the CCP. Please tell us what you do or do not like about the vision or a particular goal, alternative, etc. We are also looking for important points we may have missed. Also keep in mind that comments do not constitute a vote—we are looking for quality not quantity. We will consider your comments as we write the final plan, scheduled for release in 2012.

The Draft Revised CCP

This booklet contains a summary of key parts of the draft text, including Refuge goals and objectives, management guidelines, issues, and alternatives. The full draft text, along with all maps and appendices, is available in two volumes linked from **http://arctic.fws.gov/ccp.htm**.

The full draft revised CCP includes:

Chapter 1: Introduction, Refuge Overview, Purpose and Need for Action, Vision Statement
Chapter 2: Goals and Objectives, Management Guidelines
Chapter 3: Issues and Alternatives
Chapter 4: Description of the Refuge Environment
Chapter 5: Effects of Proposed Alternatives
Appendix H: Wilderness Review
Appendix I: Wild and Scenic River Review

Semipalmated Plover - USFWS

Refuge Purposes

The Arctic Refuge was established in 1960 as the 9 million acre Arctic National Wildlife Range

> "for the purpose of preserving unique wildlife, wilderness, and recreational values..."

These purposes continue to apply to all lands in the original Arctic Range.

In 1980, the Alaska National Interest Lands Conservation Act (ANILCA) enlarged the area to over 19 million acres, renamed it the Arctic National Wildlife Refuge, designated 8 million acres of it as Wilderness, designated three Wild Rivers, and added four purposes to the entire Refuge:

(i) To conserve fish and wildlife populations and habitats in their natural diversity;

(ii) To fulfill the international fish and wildlife treaty obligations of the United States;

(iii)To provide the opportunity for continued subsistence uses by local residents, and

(iv)To ensure water quality and necessary water quantity within the Refuge.

Mission Statements

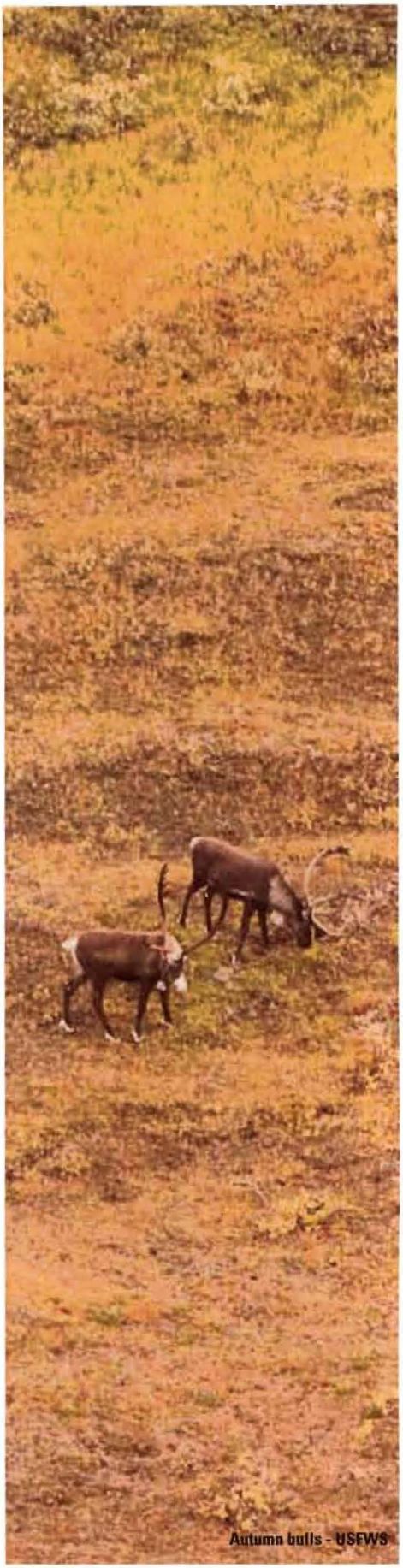
The Arctic National Wildlife Refuge is part of the National Wildlife Refuge System within the U.S. Fish and Wildlife Service.

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

U.S. Fish and Wildlife Service Mission

Working with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.



Autumn bulls - USFWS

Refuge Vision

Comprehensive Conservation Plans incorporate a vision statement—an inspiring expression of the Refuge's special character. Rooted in the Refuge's purposes, the vision statement describes those qualities that should endure to be passed on to future generations.

The Arctic Refuge Vision

This untamed arctic landscape continues to sustain the ecological diversity and special values that inspired the Refuge's establishment. Natural processes continue and traditional cultures thrive with the seasons and changing times; physical and mental challenges test our bodies, minds and spirit; and we honor the land, the wildlife and the native people with respect and restraint. Through responsible stewardship this vast wilderness is passed on, undiminished, to future generations.


Mountain peak - USFWS

Planning Terms

Comprehensive Conservation Plans (CCP):

Comprehensive conservation plans (CCP) for National Wildlife Refuges guide overall Refuge management. Plans ensure management actions comply with all appropriate laws, regulations, and policies, and keep Refuges focused on the purposes for which they were established. CCPs provide frameworks for management decisions and ensure consistency in those decisions through time. They are an opportunity for the public to be involved in setting future directions for Refuge management. The CCP planning process follows National Environmental Policy Act (NEPA) guidelines, which require either an Environmental Assessment (EA), or an Environmental Impact Statement (EIS). In the case of the Arctic CCP, we are completing an EIS.

Step-Down Plans:

Step-down plans "step down" from general goals and objectives identified in a CCP. A step-down plan provides more detailed strategies to achieve Refuge goals. A step-down plan may be necessary where more information is required to take action and/or where the issue is highly complex. The CCP indicates which step-down plans are necessary and provides a schedule for their completion. Step-down plans follow NEPA requirements, including appropriate public involvement.

Management Policies and Guidelines:

Management policies and guidelines are primarily derived from the laws governing the National Wildlife Refuge System (Refuge System) and national and regional regulations, policies, and guidance developed to implement these laws. The policies and guidelines were also developed in cooperation with the State of Alaska. Although Arctic Refuge is unique, it is only one piece of the Refuge System. The management direction presented in the draft CCP was developed for Arctic Refuge from the common management base for all Refuges in Alaska. Regional management policies and guidelines allow flexibility in each CCP. Because the Service intends to manage Arctic Refuge at the far end of the unaltered spectrum, the Arctic Refuge plan calls for a more hands-off approach to management and allows less manipulation of the environment than other Alaska Refuge CCPs.

Management Categories:

ANILCA requires the Fish and Wildlife Service to designate areas according to their resources and values, and to specify programs and uses within those areas. To meet this requirement, five management categories were established as part of the Alaska-wide Refuge comprehensive planning effort: Minimal, Moderate, Intensive, Wilderness and Wild River Management. Note that Wilderness and Wild River Management can only be designated by Congress; while the other management categories are designated by the Service. For each category, appropriate activities and types of facilities have been identified. Lands within the Arctic Refuge currently fall into three management categories: Minimal, Wilderness, and Wild River.

Issues:

Issues in a CCP are any unsettled matters requiring management decisions. Issues can be opportunities or public concerns, such as resource threats or use conflicts.

Alternatives:

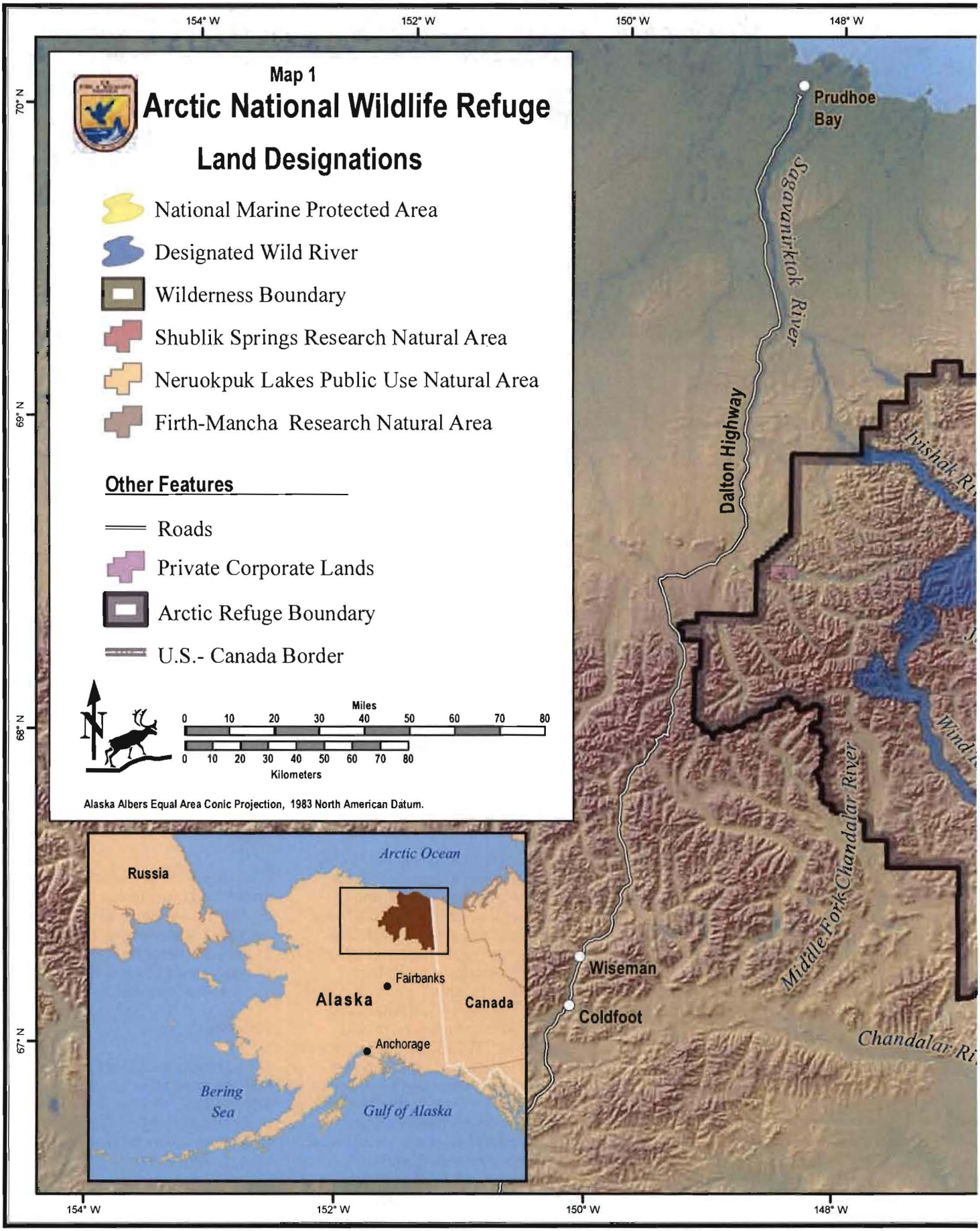
NEPA requires the Fish and Wildlife Service to present a reasonable range of management approaches in each CCP. This range must include a "no action" alternative which would retain current Refuge management and which serves as a baseline for comparison with other alternatives. All alternatives in a CCP aim to achieve Refuge purposes, vision, and goals, help fulfill the Refuge system mission, and resolve issues.

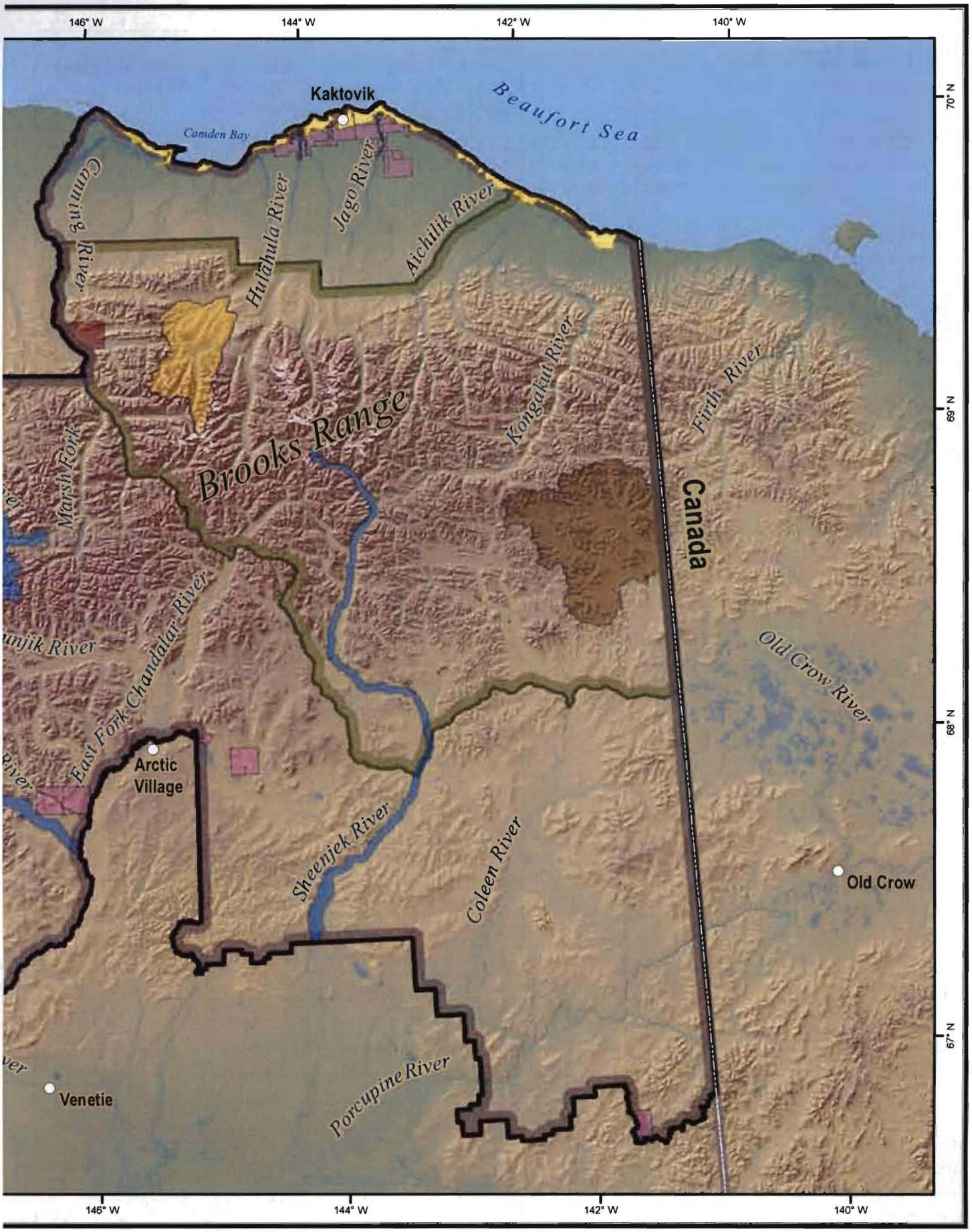
Goals:

Goals in a CCP are descriptive, open-ended, and often broad statements of desired future conditions that convey a purpose but do not define measurable units. They describe how Refuge management will meet Refuge purposes and achieve the vision.

Objectives:

Objectives in a CCP are more concise statements of what the Refuge wants to achieve; how, when, and where to achieve it; and who is responsible for the work. Objectives derive from goals and may vary by alternative.


Map 1
Arctic National Wildlife Refuge
Land Designations
National Marine Protected Area
Designated Wild River
Wilderness Boundary
Shublik Springs Research Natural Area
Neruokpuk Lakes Public Use Natural Area
Firth-Mancha Research Natural Area
Other Features
Roads
Private Corporate Lands
Arctic Refuge Boundary
U.S.- Canada Border
Miles
0 10 20 30 40 50 60 70 80
0 10 20 30 40 50 60 70 80
Kilometers
Alaska Albers Equal Area Conic Projection, 1983 North American Datum.
154° W
152° W
150° W
148° W
70° N
69° N
68° N
67° N
Prudhoe Bay
Sagavanirktok River
Dalton Highway
Ivishak Ri
Middle Fork Chandalar River
Chandalar Ri
Wiseman
Coldfoot
Arctic Ocean
Russia
Fairbanks
Alaska
Canada
Anchorage
Bering Sea
Gulf of Alaska


146° W
144° W
142° W
140° W
70° N
69° N
68° N
67° N
Kaktovik
Beaufort Sea
Camden Bay
Canning River
Hulahula River
Jago River
Aichilik River
Brooks Range
Marsh Fork
Kongakut River
Firth River
Canada
East Fork Chandalar River
Old Crow River
Arctic Village
Sheenjek River
Coleen River
Old Crow
Porcupine River
Venetie

Identified Issues (Article about Issues is on page 7.)	addressed through management guidelines[1]	included in objectives[1]	deferred to step-down plans	carried into alternatives	other[2]
Ecological issues					
Introduction of diseases, organisms, and invasive species	X	X			
Hunting effects on population structures and genetics			X		
Climate change	X	X			
Fire activity			X		
Water quality and quantity		X	X		
Air quality and pollution			X		
Management issues					
Wilderness recommendation				X	
Wild and scenic river recommendation				X	
Conflict between wilderness values and science-related technologies			X		
Management of the Refuge's three designated wild rivers			X		
Management of the Refuge's research and public use natural areas	X				
Management of the Refuge's marine protected area	X				
Designate an area free of commercial use and mechanization			X		
Visitor use issues					
Kongakut River overuse				X	
Dispersed or concentrated visitor use			X		
Increased permits and recreational uses			X		
Implement different standards for different user groups			X		
Public interaction			X		
Crowding			X		
Group size			X		
Guided and non-guided visitor use allocation			X		
Human waste			X		
Erosion of hunt quality			X		
Conflicts among and between commercial and private users					X
Conflicts between general hunters and subsistence hunters					X
Polar bear viewing in Kaktovik					X
Monitoring commercial activities			X		
Regulation of air transporters			X		X
Environmental impacts of fixed-wing aircraft		X	X		
Prohibiting competitive events					X
Development issues					
Oil and gas development					X
Updating seismic data on the coastal plain					X
Policy issues					
ANILCA "no more" clauses					X
Other issues					
Removal of administrative buildings		X			
Archeological excavations and wilderness values			X		X
Impact of adjacent land uses and inholdings					X
Refraining from naming of features					X

Issues

We identified 37 issues from public comments and from within the Service. The issues raised included concerns about development, policy, ecology, management, visitor use, and administration. Staff carefully considered each issue, determining if the issue would best be addressed through management alternatives in the CCP, goals and objectives, or further step-down planning. The table on page 6 shows an overview of all the issues identified and how they are addressed through the CCP effort. CCP issues not addressed in the alternatives are outlined in Appendix D of the full CCP document. Issues carried into the alternatives are discussed on page 14.

The purpose of a CCP is to broadly outline management guidelines for a Refuge. However, many of the issues raised by the public for the Arctic Refuge CCP will require detailed planning. These issues deserve to be focused on in step-down plans which address specific topics. The Refuge is committed to developing several step-down plans, including an Ecological Inventory and Monitoring Plan, a Wilderness Stewardship Plan, a Visitor Use Management Plan, and Comprehensive River Management Plans. These plans will be initiated within two years of completion of the CCP and, depending on the plan, will take from three to seven years to complete.

Numerous issues were raised about visitor use of the Refuge and the impacts such use is having on Refuge resources and visitor experiences. Most of the issues identified are major and important planning issues that could be addressed through the CCP's alternatives. Refuge staff decided, however, that more public involvement and study are needed, so the most appropriate way to deal with these complex and often interrelated concerns will be through a step-down planning effort focused on these issues. Thus, these issues will be addressed in a Visitor Use Management Plan.

Climate change is expected to continue to affect Refuge resources and the associated human environment for the foreseeable future. There are few actions the Refuge can take to manage the effects of climate change. Rather than incorporating climate change into the alternatives, the Refuge established several objectives to evaluate climate change through scientific research and monitoring, and the sharing of traditional knowledge in local communities. Concerns were also expressed about changes in fire behavior, the Service's response to fires, and smoke impacts. These concerns are best addressed through our fire management planning process.

Some commenters expressed concern over the administrative facility at Lake Peters and asked the Refuge to remove it. The Refuge will take action to modify or remove the facility's buildings by conducting an environmental analysis separate from the CCP process.

Other people wanted the Refuge to establish one or more commercial-free zones and/or an area free from mechanization where solitude and natural quiet are protected. The Refuge gave strong consideration to this issue and developed a range of options for the alternatives. However, the Refuge did not have the necessary data to adequately describe effects on access, private aircraft use, big-game hunting, and scientific research. Further, there were unresolved questions about specific requirements for establishment of such an area. These questions will be deferred to a Wilderness Stewardship Plan where they can be more fully explored.

The draft CCP does not provide a range of management alternatives for the Refuge's Public Use Natural Area, two Research Natural Areas, or the Marine Protected Area. We determined that existing management, in combination with Refuge purposes, afford a high degree of protection for the features and values in these specially designated

(Continued on page 15)

Footnotes to "Identified Issues" table on page 6:

[1] not in Alternative A

[2] Issues addressed through existing Refuge administrative or management tools such as Special Use Permits, through permit conditions, or through engaging with affected parties and interests; issue resolved on a case-by-case basis; issue is question of policy-level or legal interpretation.

What about the "No More" Clause?

The Alaska National Interest Lands Conservation Act (ANILCA) contains several provisions that are collectively referred to by some as "no more" clauses. These provisions include sections 101(d), 1326(a), and 1326(b). Section 101(d) states that Congress believes there should be no future legislation designating new conservation system units, national conservation areas, or national recreation areas. Section 1326(b) limits new withdrawals of public lands and disallows further studies of Federal lands in the State of Alaska for the single purpose of establishing a conservation system unit, national recreation area, national conservation area, or other similar purpose unless authorized by Congress.

For Arctic Refuge, a wilderness review is a tool the Fish and Wildlife Service can use to evaluate whether we are effectively managing the Refuge according to the Refuge's purposes and other legal requirements, including ANILCA Section 1004, which requires the Refuge to maintain the wilderness character of the coastal plain and its suitability for inclusion in the National Wilderness Preservation System.

Section 5(d) of the Wild and Scenic Rivers Act and Service planning policy require the Service to conduct a review of rivers for their potential inclusion in the National Wild and Scenic Rivers System as part of each CCP. These reviews are administrative actions and a means by which the Refuge can assess the efficacy of its management in meeting Refuge purposes and other legal requirements.

These wilderness and wild and scenic river reviews are required of the Refuge and do not violate the "no more" clauses of ANILCA because they are not a withdrawal and are not being conducted for the sole purpose of establishing a new conservation system unit.

Bog rosemary - USFWS

Goals and Objectives

Refuge staff developed the following management goals for the Refuge. Each goal has numerous objectives that specify how it is to be achieved. The objectives listed here are not a complete list. See chapter 2 of the full plan to read the complete set of objectives, along with detailed descriptions and rationales.

Goal 1:

Ecological processes shape the Refuge, and its management remains essentially free of the intent to alter the natural order, including natural population densities and dynamics, and levels of variation of native fish, wildlife, and plants.

Objectives include:

- revise the Ecological Inventory and Monitoring Plan;
- prepare a Research Plan;
- conduct an Ecological Review of the Refuge's biological program;
- revise the Refuge's fire management plan;
- prepare a land protection plan;
- identify stressors for species and ecosystems;
- identify and determine the status of rare species;
- conduct long-term ecological monitoring.

Goal 2:

The Refuge retains its exceptional wilderness values without loss of natural condition and wild character and manages designated wilderness consistent with the intent of the Wilderness Act and ANILCA.

Objectives include:

- complete a Minimum Requirements Analysis for administrative activities in designated wilderness;
- provide wilderness training for staff;
- initiate a Wilderness Stewardship Plan;
- remove at least one of the buildings at Peter's Lake.

Goal 3:

The Refuge's designated wild rivers flow freely through unaltered corridors; their ecological functions, character, and values are protected; and opportunities for recreation and traditional uses are consistent with the Wild and Scenic Rivers Act and ANILCA.

Objectives include:

- complete a comprehensive river management plan for each designated Wild River;
- provide Wild River information to the public.

Goal 4:

The Refuge provides continued subsistence opportunities to federally qualified rural residents, consistent with ANILCA.

Objectives include:

- work with local communities and advisory groups to address subsistence issues;
- compile existing and historical subsistence use data;
- continue the Refuge Information Technician program with local employees;
- conduct a traditional access study;
- develop harvest monitoring programs in partnership with local communities.

Goal 5:

The Refuge provides a place for wildlife-dependent and wilderness-associated recreational activities that emphasize adventure, independence, self-reliance, exploration, and solitude while protecting the biological and physical environments.

Objectives include:

- employ least intrusive means of managing public use;
- develop a Visitor Use Management Plan;

- coordinate with partners to improve the effectiveness and efficiency of law enforcement;
- maintain a long-term dataset about visitor experience;
- implement aircraft management strategies to address impacts to sensitive vegetation and the land.

Goal 6:

The effects of climate change on Refuge resources are evaluated through scientific research and monitoring, the sharing of traditional knowledge in local communities, and are considered in Refuge management.

Objectives include:

- evaluate potential effects of climate change on Refuge resources;
- monitor biological components vulnerable to climate change;
- consider non-climate change stressors to Refuge resources;
- collaborate with others.

Goal 7:

The Refuge and its partners conduct research and monitoring in support of the Refuge's role as an internationally recognized benchmark for naturally functioning arctic and subarctic ecosystems.

Objectives include:

- develop research protocols;
- participate in collaborative research;
- work with international partners;
- repeat 1990 water quality study.

Goal 8:

The Refuge's cultural resources, historic and prehistoric, are conserved to allow visitors and community members to appreciate the interconnectedness of the people of the region and their environment.

Objectives include:

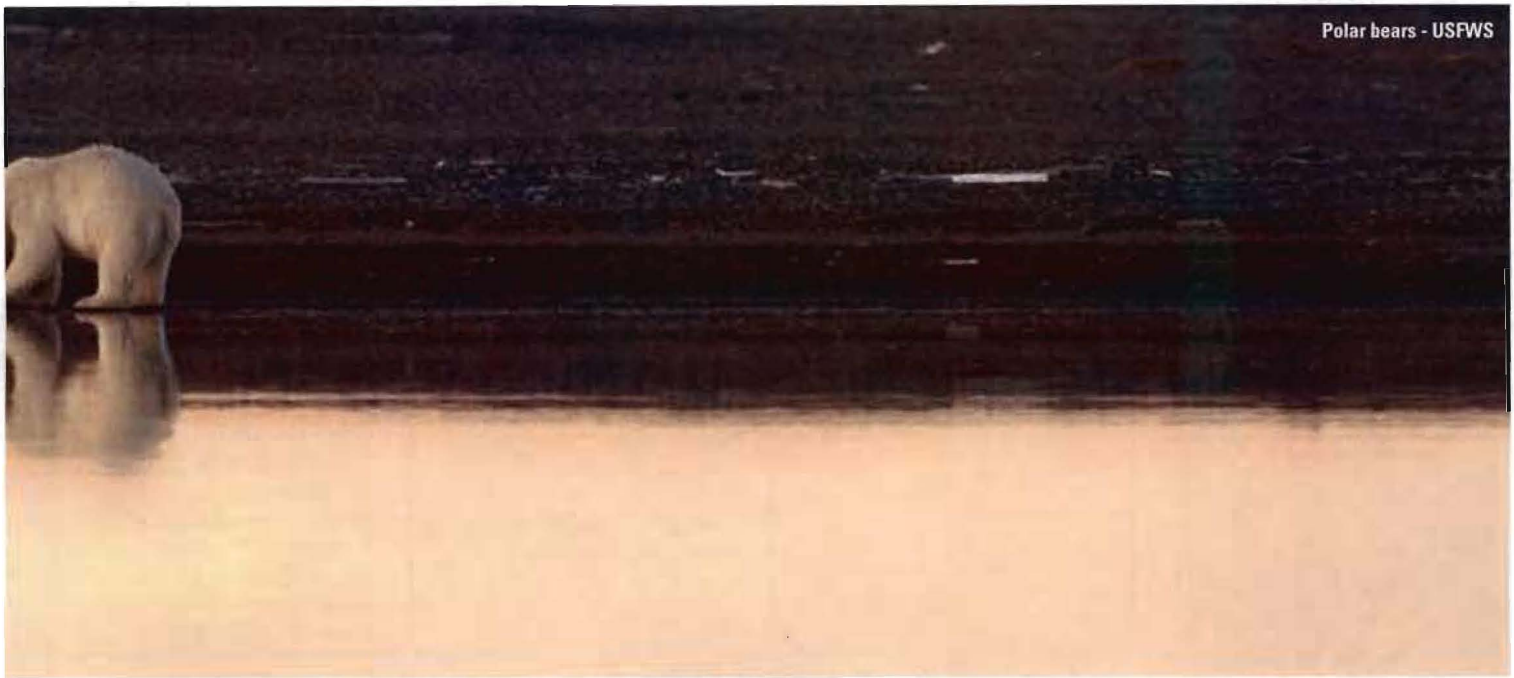
- develop a cultural resources management plan;
- cooperate with others to define projects;
- collect traditional ecological knowledge;
- consult with tribes, Alaska Native groups and other local entities;
- provide cultural resource training for staff;
- monitor at risk sites;
- create a cultural inventory;
- compile a place name directory and atlas of cultural and historic sites.

Goal 9:

The Refuge provides information to diverse audiences, near and far, to enhance their understanding, appreciation, and stewardship of the Refuge and its resources, and reflecting the nation's interest in this place.

Objectives include:

- provide information and programs to the public about traveling to and in the Refuge;
- work with gateway communities on collaborative projects;
- use modern media technologies to provide information to the public;
- partner with Federal agencies and communities to support visitor centers;
- present educational materials and programs to students;
- provide opportunities for volunteers;
- continue the Arctic Refuge National Interest Study.



Polar bears - USFWS

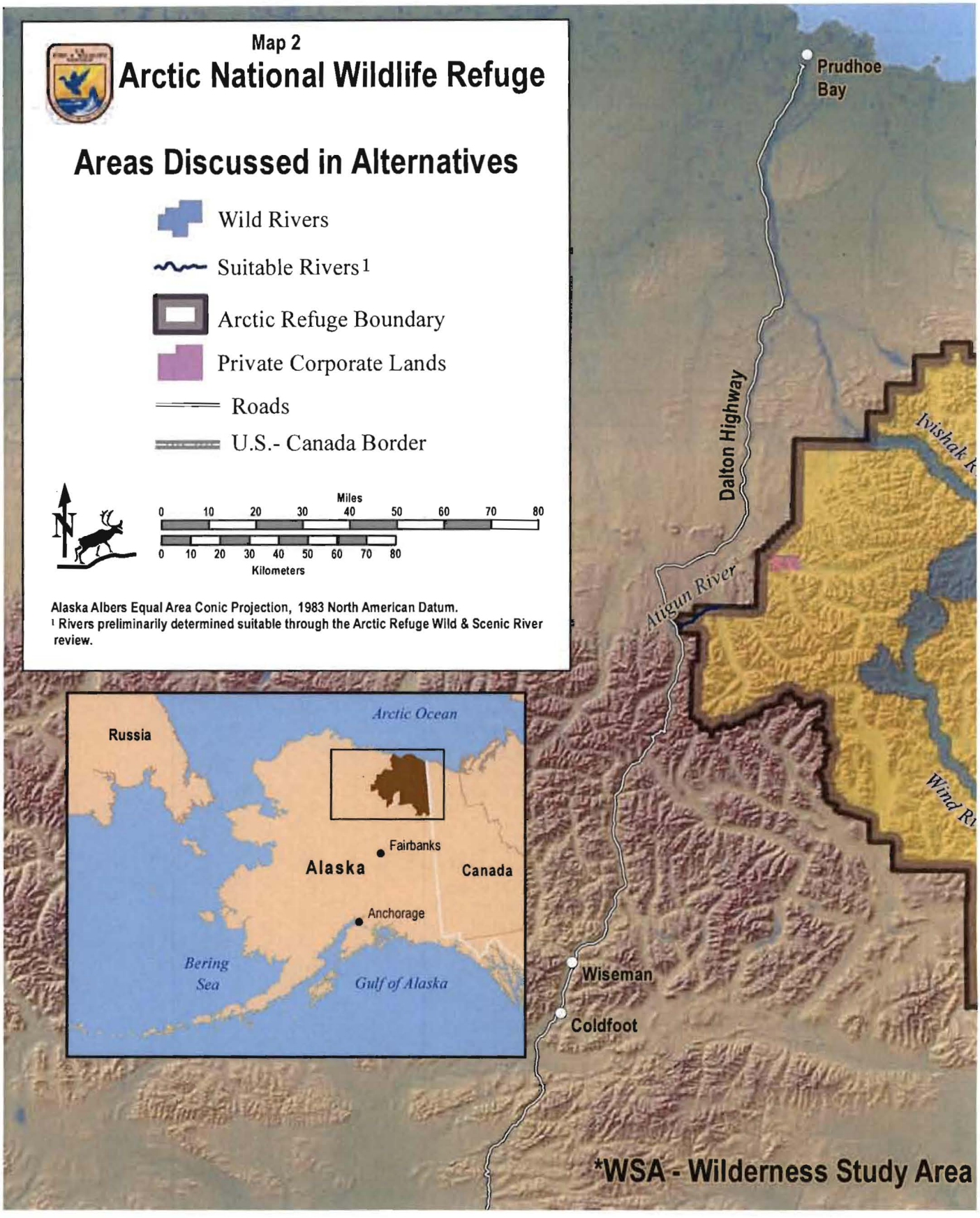
Management Alternatives

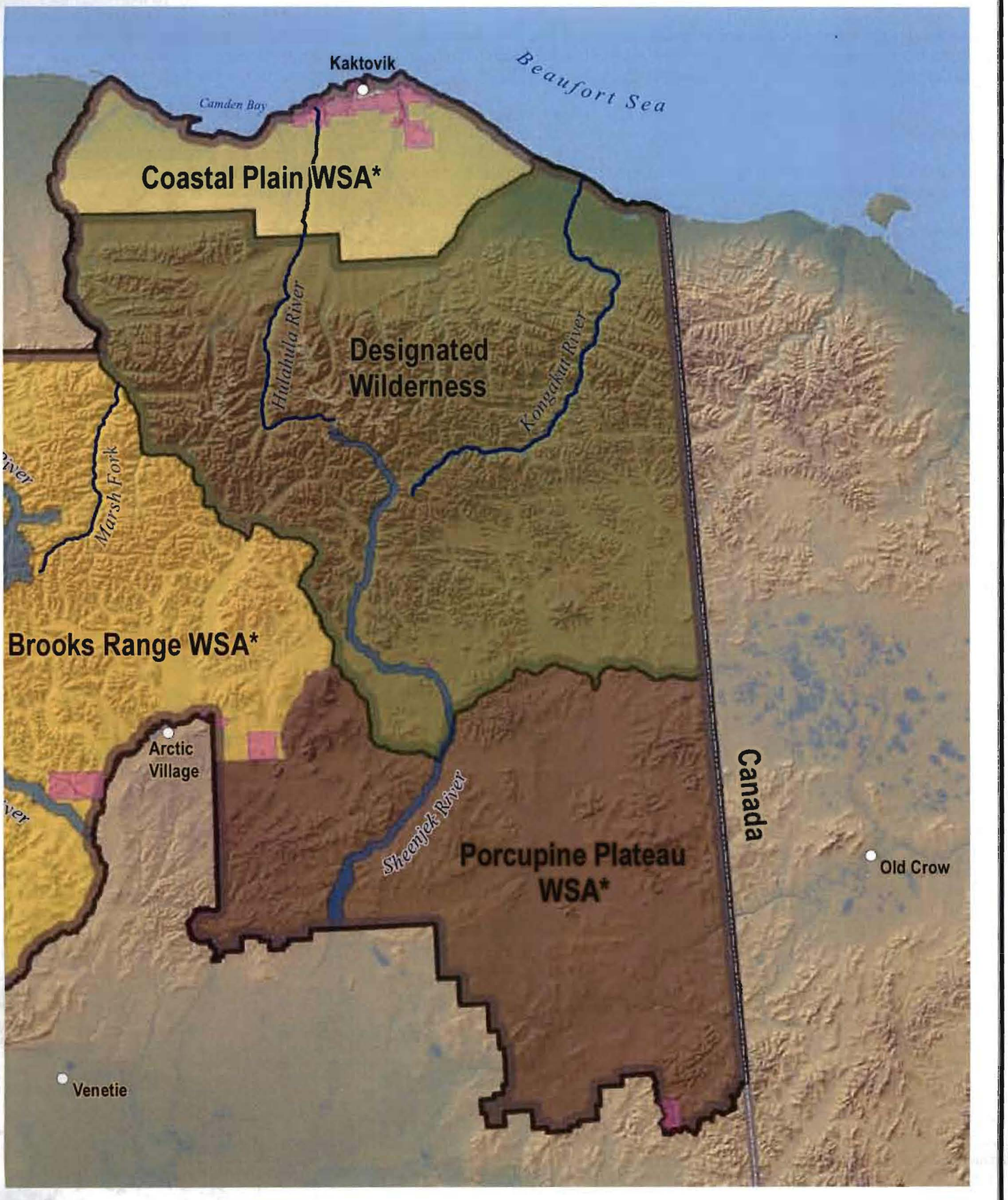
(Article about Alternatives is on page 14. Map is on pages 12-13.)


River valley - Bill Brody

Issues	Alternative A (No Action)	Alternative B
Issue 1: Wilderness		
Should additional Wilderness Study Areas be recommended for inclusion in the National Wilderness Preservation System, and if so, which areas?	No new Wilderness recommended.	Recommend the Brooks Range Wilderness Study Area.
Issue 2: Wild and Scenic Rivers		
Should additional rivers be recommended for inclusion in the National Wild and Scenic River System (NWSRS), and if so, which rivers?	No rivers recommended. Use existing management tools to maintain values on the Atigun, Hulahula, Kongakut, and Marsh Fork Canning rivers.	Recommend the Hulahula, Kongakut, and Marsh Fork Canning rivers. Use existing management tools to maintain values on the Atigun River.
Issue 3: Kongakut River Visitor Use		
How will the Refuge manage Kongakut River visitor use to protect natural resources and visitor experience?	• Group size limits exist for commercially guided groups (7 hikers, 10 floaters). There are no group size limits for non-guided visitors, just recommendations. • Guides limited to one group on a river at one time. • Commercial service providers have Special Use permits with occasional compliance checks. • In the Kongakut Valley, air taxi Special Use Permits are conditioned to limit landing to non-vegetated surfaces only; subject to safety and weather, they must maintain minimum 2,000 feet above ground level flight operations with no intentional low flights over camps or people; aircraft operations cannot harass wildlife or interfere with Refuge visitors or subsistence users. • Visitor use monitoring occurs every other year or less frequently. • Campsite conditions are monitored periodically.	Same as Alternative A, except: • Revise the interim monitoring program of physical and social conditions to evaluate the effectiveness of management actions. Plus: • Develop educational materials for the public with targeted messages explaining preferred practices and strategies for minimizing impacts, such as proper waste disposal practices, avoiding wildlife impacts, and alleviating crowding among groups. • Publish schedules of proposed guided launch dates and past visitor use activity patterns. • Conduct site-specific rehabilitation of impaired and impacted areas. • Address Kongakut River management issues in step-down planning (e.g., Visitor Use Management Plan or Wilderness Stewardship Plan), to be initiated within 2 years of Plan approval. The step-down plan(s) would include long-term monitoring protocols.

Alternative C	Alternative D	Alternative E	Alternative F
Recommend the Coastal Plain Wilderness Study Area.	Recommend the Brooks Range and Porcupine Plateau Wilderness Study Areas.	Recommend the Brooks Range, Porcupine Plateau, and Coastal Plain Wilderness Study Areas.	Same as Alternative A.
Recommend the Atigun River. Use existing management tools to maintain values on the Hulahula, Kongakut, and Marsh Fork Canning rivers.	Recommend the Atigun, Kongakut, and Marsh Fork Canning rivers, and those portions of the Hulahula River managed by the Refuge.	Recommend the Atigun, Hulahula, Kongakut, and Marsh Fork Canning rivers.	Same as Alternative A.
Same as Alternative B.	Same as Alternative B, except: • Increase efforts to educate about compliance and then enforce compliance of Special Use Permit conditions and existing visitor use regulations. Plus: • Redistribute the number of groups on the river during heavy use periods (late June and mid-August) by working with commercial guides to voluntarily modify their use of the river basin throughout the season. • Work with commercial air taxi operators to avoid flight-seeing activities and to disperse commuting flight paths in and out of the Kongakut Valley, subject to safe aircraft operation, inclement weather conditions, and takeoff and landing approach requirements.	Same as Alternative D.	Same as Alternative B, except: • A Visitor Use Management step-down plan would decide how to enforce compliance of Special Use Permit conditions and existing visitor use regulations.


Map 2
Arctic National Wildlife Refuge
Areas Discussed in Alternatives
Wild Rivers
Suitable Rivers 1
Arctic Refuge Boundary
Private Corporate Lands
Roads
U.S.- Canada Border
Miles
0 10 20 30 40 50 60 70 80
0 10 20 30 40 50 60 70 80
Kilometers
Alaska Albers Equal Area Conic Projection, 1983 North American Datum.
1 Rivers preliminarily determined suitable through the Arctic Refuge Wild & Scenic River review.
Arctic Ocean
Russia
Fairbanks
Alaska
Canada
Anchorage
Bering Sea
Gulf of Alaska
Prudhoe Bay
Dalton Highway
Ivishak R
Atigun River
Wind R
Wiseman
Coldfoot
*WSA - Wilderness Study Area


Kaktovik
Beaufort Sea
Camden Bay
Coastal Plain WSA*
Hulahula River
Designated Wilderness
Kongakut River
Marsh Fork
Brooks Range WSA*
Arctic Village
Sheenjek River
Porcupine Plateau WSA*
Canada
Old Crow
Venetie

Alternatives (Table of Alternatives is on pages 10-11. Map is on pages 12-13.)

Multiple elements combine to create each of the alternatives (see chapters 2 and 3 of the full document):

1) goals and objectives (except for Alternative A);

2) management categories (which are the same across all alternatives);

3) management policies and guidelines;

4) different strategies to respond to issues, public concerns, and opportunities identified during the planning process.

Three issues were carried forward into the Alternatives of the CCP. We developed a range of six management alternatives to address these issues (see table of Alternatives on pages 10-11). Alternative A represents the current management situation at Arctic Refuge; it is also called the "no action" alternative. Alternative A would not adopt any new management goals or objectives, and it would maintain the management policies and guidelines identified in the 1988 CCP, except where they conflict with more recent legislation, regulations, or national policies.

Alternative F is similar to Alternative A, but it would adopt all the proposed objectives and updated regional management policies and guidelines. Alternatives B through E would adopt the Refuge management objectives, management policies, and guidelines, but differ in how they would address the three significant planning issues.

All six alternatives would maintain three management categories for Refuge lands: Minimal, Wilderness, and Wild River. The draft plan does not include a preferred alternative.

The following issues are being addressed through alternatives in the CCP:

Wilderness

In the wilderness review all three Wilderness Study Areas were determined to meet the minimum criteria for wilderness. The CCP will decide whether one, two, three, or none of the units will be recommended as wilderness. Only Congress can designate wilderness. Until Congress makes a decision, lands are managed in the Minimal Management category.

Nearly all commenters addressed this issue, most of them focusing on the coastal plain and the effect wilderness designation might have on potential oil and gas development there. There were relatively few comments specific to either the Brooks Range or the Porcupine Plateau Wilderness Study Area. Most wilderness comments not focused on the coastal plain stated that either all or none of the Refuge's non wilderness areas should be recommended for designation.

Wild and Scenic Rivers

The wild and scenic river review found four of the ten eligible rivers to be preliminarily suitable for wild and scenic river designation. Only Congress can designate rivers for inclusion in the National Wild and Scenic River System. Until Congress makes a decision, rivers are managed in their current management category (Wilderness or Minimal Management).

Comments received that addressed wild and scenic rivers were generally in favor of the Service conducting a review, although some comments expressed opposition.

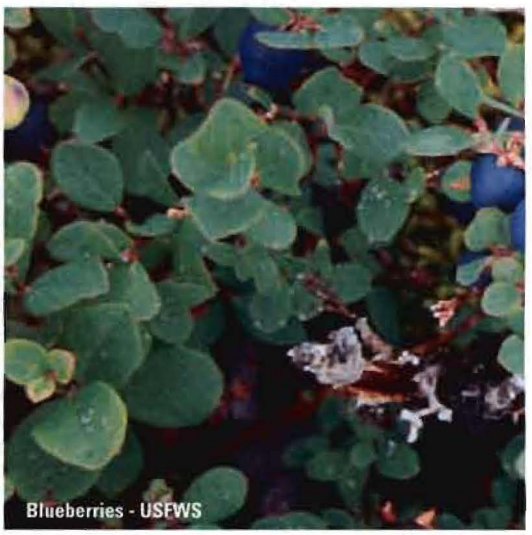
Kongakut River Visitor Management

The Kongakut River, on the north side of the Brooks Range, offers spectacular views from the mountains to the coastal plain; contains a variety of unique geologic features; receives nearly one-quarter (24%) of the documented visitors to the Refuge; and its entire extent is in designated wilderness.

Visitation patterns, such as numerous groups launching on the same day during peak use periods and larger groups staying for longer periods, are threatening the wilderness experience on the Kongakut River. Poor camping practices and weather-related transportation backlogs have further impacted visitors' experiences. Refuge staff have received visitor reports of group crowding; user conflicts; excessive over-flights; fire rings, tent rings, and human waste accumulations at concentrated access points and popular camp areas; hardening or impairment of fragile riparian and tundra habitats; and increased footprint of aircraft landing areas. All of these negatively impact the Refuge's wilderness character and biological resources.

The Kongakut River visitor use management issue focuses on: developing targeted messages to inform visitors about preferred camping and hiking practices; increasing rehabilitation efforts at impaired and impacted sites; working with commercial operators to spread out visitor use and the number of groups during peak use periods, and to disperse commuter aircraft over-flights in the Kongakut valley; initiating an adaptive management framework for monitoring recreation impacts; and, upon completion of the CCP, expanding Kongakut River visitor management strategies into a comprehensive step-down plan for managing visitor use Refuge-wide.

The vast majority of public comments we received specific to the Kongakut River suggested a need for greater management efforts along the river corridor. Requests for increased management efforts for the Kongakut River focused on retaining—or restoring—quality of visitor experience. Many comments suggested specific ways to improve visitor experiences, particularly by addressing crowding. Some specific suggestions included modifying group size limits, implementing a lottery system for float trips, and spreading out launch days. Other concerns raised by the public included the need to designate the Kongakut as a wild river and to address potential impacts to river access landing areas.



Blueberries - USFWS

New Management Guidelines

Chapter 2, Sections 2.2 through 2.5 of the full draft revised CCP contains the complete text of the management guidelines. This summary highlights a few key provisions of the draft revised CCP, especially those management activities, public uses, or facilities that would be managed differently under the revised CCP. If you would like more information about the new management guidelines, please refer to the full CCP for additional narrative description and the full table of activities, public uses, commercial activities or uses, and facilities by management categories.

The following section summarizes key provisions of the new Management Guidelines for the three management categories that apply to Arctic Refuge. The Refuge is proposing to change a number of the Management Guidelines from the original plan to reflect current laws, regulations, and policies and the Refuge's unique purposes and management's vision to maintain the ecological function and wilderness characteristics of the Refuge's lands and waters.

Six key changes are:

1) ***Fish and Wildlife Habitat Management:*** Fish and wildlife habitat would not be actively managed, or altered. Rather, management would seek to sustain the highest degree of natural diversity and biological integrity. Activities such as crushing, chemical, or mechanical treatments or the construction of structures would not be allowed unless necessary to address invasive species or management emergencies.

2) ***Fish and Wildlife Control:*** All native species are an integral part of the Refuge, and management will allow native fish and wildlife populations to continue without control or manipulation, subject to management emergencies.

3) ***Fishery Restoration and Enhancement:*** The Refuge will maintain undisturbed habitat conditions and no fish restoration or enhancement structures would be allowed unless necessary to address invasive species or management emergencies.

4) ***Public Use Facilities:*** Public use facilities will be maintained at communities near the Refuge that provide gateways for visitors and at developed sites along the Dalton Highway. Facilities such as boat launches, signs, and kiosks will not be developed on Refuge lands.

5) ***Recreation and Other Public Uses:*** The Refuge will remain a place where people experience self-reliance, solitude, and adventure. We will manage existing public uses to ensure they remain compatible with the purposes for which the Refuge was established.

6) ***Climate Change:*** The Refuge added a climate change component to the Management Guidelines. Refuge staff will monitor and study climate change, but will follow a process of non-intervention with the exception of invasive species or management emergencies such as public safety, threatened or endangered species, or subsistence resources.

Also, off-road vehicles/all terrain vehicles (ORV/ATVs) continue to be prohibited, by regulation, for recreational access. Helicopters will not be allowed for recreational access. Other components of the management guidelines such as research, inventory and monitoring; control of non-native and pest plants, management of subsistence, recreation, and commercial uses do not vary substantially from current management direction.

These new Guidelines apply to all alternatives (see table of Alternatives on pages 10-11) except the "no action" Alternative A. In Alternative A, management would follow the guidelines in the 1988 Arctic CCP, except where they conflict with more recent legislation, regulations, or national policies.

The table on pages 16-17 summarizes key provisions of Table 2.1 from the draft revised CCP. If you would like to view the complete table, refer to Chapter 2, section 2.5 of the full draft revised CCP.

(Issues: Continued from page 7)

areas and that no additional management guidance is needed. Similarly, the draft CCP does not provide a range of management options for the Refuge's three Wild Rivers. Their management will be addressed through step-down management plans called Comprehensive River Management Plans.

We did not address developmental issues such as oil and gas development or updating seismic data on the coastal plain in the draft CCP. An overwhelming majority of the almost 95,000 comments received from the public pertained to the Refuge's coastal plain (also known as the 1002 Area). There was support for and opposition to wilderness designation and oil and gas development. However, according to the National Environmental Policy Act (NEPA), the alternatives considered in an Environmental Impact Statement (EIS) must meet the purpose and need for the proposed action. The purpose and need for the CCP is to ensure that activities, actions and alternatives fulfill the legal purposes for which the Refuge was established. The CCP also must fulfill the mission of the National Wildlife Refuge System and provide direction on how the U.S. Fish and Wildlife Service will meet these purposes. It is outside the Refuge's and Service's administrative authority to consider or propose oil and gas development alternatives. Congress has reserved the authority to make final decisions on oil and gas development in Arctic Refuge.

Summary of Selected Management Provisions

Activity or Use	Wilderness	Wild Rivers	Minimal Management
Ecosystem and Landscape Management			
Habitat Management - Mechanical Treatment	Not allowed; with exceptions. Minimum Requirements Analysis (MRA) required	Not allowed; with exceptions	Not allowed; with exceptions
Habitat Management - Chemical and Manual Treatment	May be allowed; MRA required	May be allowed	May be allowed
Fire Management - Prescribed Fires and Wildland Fire Use	Allowed; MRA required	Allowed	Allowed
Fish and Wildlife Control	May be allowed; MRA required	May be allowed	May be allowed
Subsistence			
Hunting, Fishing, Trapping, and Berry Picking	Allowed	Allowed	Allowed
Collection of House Logs and Firewood Harvesting live standing timber greater than 6 inches diameter at breast height for personal or extended family use.	May be authorized	May be authorized	May be authorized
Collection of House Logs and Firewood Harvesting live standing timber between 3 and 6 inches diameter at breast height for personal or extended family use.	20 trees or fewer per year allowed; more than 20 trees per year may be authorized	20 trees or fewer per year allowed; more than 20 trees per year may be authorized	20 trees or fewer per year allowed; more than 20 trees per year may be authorized
Collection of Plant Materials Includes harvesting trees less than 3 inches diameter at breast height.	Allowed	Allowed	Allowed
Temporary Facilities Includes tent platforms, shelters, caches, and other temporary facilities and equipment.	May be authorized	May be allowed	May be allowed
Subsistence Access Snowmobiles, motorboats, and other means of surface transportation traditionally used for subsistence purposes.	Allowed	Allowed	Allowed
Subsistence Cabins	Existing cabins allowed to remain; new cabins may be authorized	Existing cabins allowed to remain; new cabins may be authorized	Existing cabins allowed to remain; new cabins may be authorized

Activity or Use	Wilderness	Wild Rivers	Minimal Management
Public Access, Public Use, and Recreation			
Access on Foot, by Dog Team, or with other Domestic Animals. Includes horses, mules, llamas, etc. (certified weed-free feed required).	Allowed	Allowed	Allowed
Motorized / Traditional Access Use of snowmobiles, motorboats, airplanes, and non-motorized surface transportation methods including non-motorized boats for traditional activities and for travel to and from villages and home sites.	Allowed	Allowed	Allowed
Off-Road Vehicles (All -Terrain Vehicles) Includes air boats and air-cushion vehicles.	Not allowed	Not allowed	Not allowed
Helicopters	Not allowed	Not allowed	Not allowed
Hunting, Fishing, Wildlife Observation, Wildlife Photography, Interpretation, and Environmental Education	Allowed	Allowed	Allowed
Trapping, Hiking, and Camping	Allowed	Allowed	Allowed
Cleared Landing Areas	Existing areas allowed to remain, MRA required; new areas not allowed	May be allowed	May be allowed
Guiding and Outfitting, Transporting, and Fixed-Wing Air Taxis	May be authorized	May be authorized	May be authorized
Commercial Activities or Uses			
Oil and Gas Leasing	Can only be authorized by Congress, under Section 1003 of Alaska National Interest Lands Conservation Act (ANILCA)	Can only be authorized by Congress, under Section 1003 of ANILCA	Can only be authorized by Congress, under Section 1003 of ANILCA
Commercial Timber and Firewood Harvest	Not allowed	May be authorized	May be authorized
Transportation and Utility Systems	May be authorized by Congress	May be authorized	May be authorized

NOTE: May be allowed = Subject to site-specific NEPA analysis, appropriate use finding (when required), and compatibility determination (when required).

May be authorized = Requires a special use permit or other authorization.

Wilderness Review

By Refuge System policy, wilderness reviews are elements of comprehensive conservation plans, and we are directed to conduct wilderness reviews during the planning process. For Arctic Refuge, a wilderness review is a tool we use to evaluate whether we are effectively managing the Refuge according to its purposes and Section 1004 of ANILCA, which requires the Refuge to maintain the wilderness character of the coastal plain.

The current wilderness review incorporates recent information on the Refuge's resources, uses, and management concerns. For the entire review refer to Appendix H of the full revised draft CCP.

About 41 percent (8 million acres) of Arctic Refuge was designated as wilderness by ANILCA in 1980. Arctic Refuge has now completed a wilderness review of the remaining lands as part of this revision of the CCP.

A wilderness review process has three phases, all of which consider public input:

1) ***Inventory:*** Identify lands and waters that meet the minimum criteria for wilderness according to the Wilderness Act. These are called Wilderness Study Areas (WSA). Criteria for wilderness include size, natural condition, and opportunities for solitude or primitive recreation.

2) ***Study:*** Evaluate WSAs to determine if they are suitable for wilderness designation. In this phase, values, resources, public uses, and Refuge management activities are considered to compare the benefits and impacts of managing an entire WSA, a portion of the WSA, or none of the WSA as a designated wilderness. The study also evaluates how designation would achieve Refuge purposes and purposes of the National Wilderness Preservation System.

3) ***Recommendation:*** Findings of each WSA study are used to determine if the Fish and Wildlife Service will make a wilderness recommendation. Any recommendation(s) included in the final revised CCP will be forwarded by the Director of the Fish and Wildlife Service to the Secretary of the Interior. The Secretary may forward the recommendation(s) to the President who may transmit them to Congress. Only Congress can designate an area as wilderness. Lands recommended for wilderness status are managed in the Minimal Management category until Congress makes a decision regarding their designation.

The Arctic Refuge wilderness review divides the Refuge's non-wilderness lands into three WSAs: the Brooks Range; the Porcupine Plateau; and the Coastal Plain (see map on pages 12-13). Each WSA is included in two or more of the draft CCP alternatives (see table of Alternatives on pages 10-11).

Brooks Range WSA

This is a large area of rugged relief that straddles the continental divide on the western side of the Refuge. It encompasses 5.4 million acres, comprising 28 percent of the Refuge. Mountain peaks and elongated ridges reach up to elevations between 6,000 and 7,500 feet. Small glaciers are found along the divide, and the headwaters of the majority of rivers occurring in the western half of the Refuge originate in this WSA.

Wildlife and fish species occurring here include brown bear, wolf, wolverine, Dall's sheep, moose, gyrfalcon, chum and Chinook salmon, lake trout, Dolly Varden, and Arctic char. Much of the Central Arctic Caribou herd seasonally inhabits the area north of the continental divide, while the valleys south of the divide provide important wintering habitat for both the Porcupine Caribou herd and the Central Arctic herd.

With the exception of a 39,549 acre area in the vicinity of Arctic Village, Old John Lake, and a travel corridor between them, all Refuge lands and waters within the Brooks Range WSA meet the Wilderness Act criteria. Using the more detailed suitability criteria, an additional 181,077 acre area around Arctic Village has been determined to be not suitable for wilderness designation. The area is non-suitable because it is a high-use area for Arctic Village residents, motorized activity is frequent, and the area contains a number of privately owned parcels.

Porcupine Plateau WSA

This is an area of scattered mountains and rolling hills south of the Brooks Range. It is approximately 4.4 million acres in size and comprises 23 percent of the Refuge. The WSA is dominated by broad valleys with extensive stands of spruce and broadleaf forest and riverine communities dotted with shallow lakes and wetlands.

This area provides vast, unaltered habitat for brown and black bears, moose, and many species of furbearers, including wolf, wolverine, and marten. It is particularly important to the Porcupine Caribou herd as a wintering area and as a spring and fall migratory route. This WSA provides some of the best nesting areas for the American peregrine falcon in Alaska. Fish species include chum, coho and Chinook salmon.

All Refuge lands and waters within the Porcupine Plateau WSA meet the Wilderness Act criteria and have been found suitable for wilderness designation.

Coastal Plain WSA

This WSA is sometimes called the "1002 Area" after the section of ANILCA in which it is described. It is approximately 1.4 million acres in size and comprises 7 percent of the Refuge. It includes 121 miles or 79 percent of the Refuge's coastal habitat and encompasses shallow lakes and ponds; bluffs, lagoons, and salt marshes; and barrier islands, spits and river deltas.

This WSA is the biologically most productive part of the Refuge and contains important habitats for a great diversity and abundance of life including calving grounds for the Porcupine Caribou herd, post-calving habitats for the Porcupine and Central Arctic Caribou herds, nesting habitats for hundreds of thousands of migratory birds, overwintering habitats for six common resident and anadromous species of fish, and feeding and denning habitats for polar bears. Other species occurring here are muskox, grizzly bear, moose, wolf, wolverine, seals, beluga whale, and occasionally bowhead whale.

With the exception of a 9,978 acre area within two miles of Kaktovik, all Refuge lands and waters within the Coastal Plain


Ground squirrel - USFWS

WSA meet the Wilderness Act criteria. This lagoon area is so close to the sights and sounds of the community that no real sense of solitude or primitive recreation is possible. Additionally, a 29,160 acre area of lagoon waters near Kaktovik has been determined to be not suitable for wilderness designation. This area is non-suitable because it is a high-use area for Kaktovik and receives frequent use by motorized vehicles.

Recommendations

A preliminary recommendation for the Brooks Range WSA is included in three of the draft CCP alternatives, while recommendations for the Porcupine Plateau WSA and the Coastal Plain WSA are each included in two of the alternatives. In one of the alternatives, all three WSAs are preliminarily recommended for wilderness designation.

Any recommendations included in the final CCP will be forwarded by the Director of the Fish and Wildlife Service to the Secretary of the Interior. The Secretary may forward the recommendation(s) to the President who may transmit them to Congress. Only Congress can designate wilderness.

Until Congress makes a decision regarding designation, the wilderness characteristics of the WSAs will be maintained through management in the Minimal Management category. If Congress designates any of the WSAs, they will be managed in the Wilderness Management category and according to the provisions of the Wilderness Act, ANILCA, and the Fish and Wildlife Service's wilderness stewardship policy.

How would management be different in designated wilderness?

The currently applied Minimal Management category includes many of the same protections for wilderness characteristics as designated wilderness, and it includes most of the same limitations on public uses and Refuge management activities (see the table on pages 16-17). There would be no additional restrictions to public use, access, or subsistence compared to the present situation.

With only a few exceptions, lands under Minimal Management and those in designated wilderness have been managed in much the same manner. The major difference between Minimal Management and the management of designated wilderness is that wilderness designation confers statutory protection. This protection could only be changed by an act of Congress. Because provisions of the Wilderness Act are rooted in law, they are more binding upon the Service than those prescribed by administrative management categories adopted through CCPs. Minimal Management is an administrative category. Guidelines for Minimal Management could become less protective through future revisions to the CCP or a with a CCP amendment.

Designated wilderness is managed to a higher standard of wilderness character and requires more restraint on the part of managers than lands managed under the Minimal Management category. Service policy requires a Minimal Requirement Analysis (MRA) for all management and research activities in designated wilderness. An MRA is a written decision-making process consisting of two steps. During the first step it is determined if an administrative activity proposed for designated wilderness is necessary to manage the area as wilderness. If the activity is found acceptable, then, in a second step, tools or techniques are selected to minimize impacts.

Wild and Scenic River Review

The Wild and Scenic Rivers Act of 1968 established the National Wild and Scenic Rivers System (NWSRS), classifying rivers as either wild, scenic, or recreational. It authorized the Secretary of the Interior to study areas and submit proposals to the President and Congress for additions to the system. The act requires that a Wild and Scenic River review be completed whenever Federal agencies revise their land use plans. The process consists of two steps:

1) ***Eligibility:*** During the first phase of the review the Fish and Wildlife Service determines which rivers and river systems on Service lands within the Refuge meet the criteria to be eligible for designation. Potential rivers must be free-flowing and possess one or more outstandingly remarkable values. These values include: scenic, recreational, geologic, fish, wildlife, historic, cultural. To be considered outstandingly remarkable, a value must be river-related or river-dependent and rare, unique, or exemplary in a regional or national context. Outstandingly remarkable values are generally recorded if they are within half a mile on each side of the river.

Refuge staff began by inventorying all potential rivers. We identified 160 named rivers and creeks, all of which are free-flowing. Due to the general lack of information about most of these waterways, staff focused on a subset of these rivers at this time. Nothing in this review precludes other waters from being reviewed in the future.

Visitor use is currently the greatest management concern on Refuge rivers. For this reason, the focus was on waters with visitor use and reliable flow. Twenty waters were identified as having river-related visitor use and were evaluated for eligibility. Of these rivers, ten were identified as free flowing and possessing at least one outstandingly remarkable value.

Rivers determined eligible are classified in one of three categories—wild, scenic, recreational—depending on the level of development in the river corridor. All eligible rivers within the Refuge were classified as wild. **(Continued on page 20)**

(River Review: Continued from page 19)

2) ***Suitability:*** The purpose of the second phase of the review is to determine whether eligible segments would be appropriate additions to the NWSRS by considering tradeoffs between development and protection. Suitability factors include the physical, social and political environments; the economic consequences; and the manageability of rivers if they are designated.

For each eligible waterbody, we considered eleven suitability factors. Stakeholders had the opportunity to provide input about eligible waters and their values during a 30-day comment period in October 2010. The responses from this inquiry have been incorporated into the suitability study.

Two factors heavily influenced the suitability determinations. First, we considered whether designation would result in a suite of management tools that would help better manage the river corridor. Second, we considered whether designation might create new management issues, such as displacing visitor use to other rivers or areas of the Refuge.

Four Refuge rivers were preliminarily determined suitable: Atigun, Marsh Fork Canning, Hulahula, and Kongakut (see map on pages 12-13). The final decision on the suitability of each of these rivers will be made in the Record of Decision for the CCP. Only Congress can designate a Wild and Scenic River. In keeping with NWSRS requirements, rivers determined suitable must be managed to maintain their free-flowing character and outstandingly remarkable values until Congress makes a decision about their designation.

What happens if a river is designated?

Refuge rivers designated by Congress under the Wild and Scenic River Act are protected and managed as Wild Rivers to maintain their free-flowing character and the outstandingly remarkable values that led to their designation. The Wild and Scenic River Act also requires that a detailed river corridor boundary be established and that a specific management plan be created based on the characteristics of the river.

Until Congress makes a decision regarding their designation, recommended rivers would continue to be managed according to their existing management categories: Wilderness Management for the Kongakut and upper Hulahula rivers, and Minimal Management for all other river segments. If designated, the rivers would be managed via the Wild River Management category and according to the provisions of Fish and Wildlife Service policy, ANILCA, and the Wild and Scenic Rivers Act. Public use and access would continue, consistent with provisions of the Wild and Scenic River Act. The numbers of visitors could be restricted if river values were to be threatened.

Moss (USFWS)

How to get involved

We are looking for comments specific to the content of the draft revised CCP. Comments should be well-founded and avoid general statements. We encourage you to read this summary booklet, and any parts of the complete draft revised CCP that interest you, before submitting your comments.

This booklet contains a summary of key parts of the draft text. The full draft text, along with all maps and appendices, is available on the web at **http://arctic.fws.gov/ccp.htm** and on CD. We also have a limited number of copies of the complete plan printed in two volumes totalling 1,200 pages. Contact us if you'd like us to mail you a CD or the printed volumes.

Comments will be accepted until November 15, 2011. You can submit comments in a number of ways:

Online at **http://arctic.fws.gov/ccp.htm**

Email to **ArcticRefugeCCP@fws.gov**

Mail to U.S. Fish and Wildlife Service
Arctic NWR - Sharon Seim
101 12th Ave, Rm 236
Fairbanks AK 99701-6237

Fax to 907-456-0428

Additional copies of this planning booklet:

Additional copies of this summary booklet are available on the web at **http://arctic.fws.gov/ccp.htm.**

Public meetings:

Meeting dates are planned for the following communities. Visit the web at **http://arctic.fws.gov/ccp.htm** for the most current information.

2011 Meeting Dates

Anchorage	Open House Sept. 20 Public Hearing Sept. 21
Fairbanks	Open House Aug. 24 Public Hearing Oct. 19
Fort Yukon	October 28
Kaktovik	October 25
Arctic Village	October 4
Venetie	September 1

Learn more:

Information about the Arctic Refuge is available at **http://arctic.fws.gov.**

Information about the CCP process, and all CCP-related materials, are available at **http://arctic.fws.gov/ccp.htm.** This page will be periodically updated to provide the most recent information on the planning process.

We look forward to receiving your comments about the draft revised CCP. They are critical to making this plan the best it can be.

RC 13

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Commentary

Trends in Intensive Management of Alaska's Grizzly Bears, 1980–2010

STERLING D. MILLER,[1] *National Wildlife Federation, 240 N. Higgins, Suite #2, Missoula, MT 59802, USA*
JOHN W. SCHOEN,[2] *Audubon Alaska, 441 West Fifth Ave., Suite 300, Anchorage, AK 99501, USA*
JIM FARO, *P.O. Box 2151, Sitka, AK 99835, USA*
DAVID R. KLEIN, *University of Alaska Fairbanks, Institute of Arctic Biology, Wildlife, P.O. Box 757000, Fairbanks, AK 99775, USA*

ABSTRACT Hunting regulations for grizzly bears (*Ursus arctos*) in much of Alaska since 1980 increasingly were designed to reduce bear abundance in the expectation such regulations would lead to increased harvests by hunters of moose (*Alces alces*) and caribou (*Rangifer tarandus*). Regulations were liberalized during 1980–2010 primarily in the area we termed the Liberal Grizzly Bear Hunting Area (hereafter Liberal Hunt Area) which encompassed 76.2% of Alaska. By 2010, these changes resulted in longer hunting seasons (100% of Liberal Hunt Area had seasons > 100 days, 99.7% > 200 days, and 67.8% > 300 days), more liberal bag limits (99.1% of the Liberal Hunt Area with a bag limit ≥ 1/yr and 10.1% with a bag limit ≥ 2/yr), and widespread waiver of resident tag fees (waived in 95.7% of the Liberal Hunt Area). During 1995–2010, there were 124 changes that made grizzly bear hunting regulations more liberal and two making them more conservative. The 4-year mean for grizzly bear kills by hunters increased 213% between 1976–1980 (387 grizzly bears) and 2005–2008 (823 grizzly bears). Since 2000, long-term research studies on grizzly populations in the Liberal Hunt Area have been terminated without replacement. Management of large predators by the State of Alaska is constrained by a 1994 state statute mandating "intensive management" in areas classified as important for human consumptive use of ungulates. Current grizzly bear management in the Liberal Hunt Area is inconsistent with the recommendations of the National Research Council's 1997 report on predator management in Alaska. Current attitudes, policies and absence of science-based management of grizzly bears in Alaska are increasingly similar to those that resulted in the near extirpation of grizzly bears south of Canada in the 19th and 20th centuries. If current trends continue, they increase risks to portions of the largest and most intact population of grizzly bears in North America. © 2011 The Wildlife Society.

KEY WORDS Alaska, brown bears, grizzly bears, hunting, intensive management, moose, predation, predator control, *Ursus arctos*.

During the 19th and 20th centuries, Alaska—unlike the lower 48 states—largely avoided declines in grizzly bear (*Ursus arctos*) populations that were both permanent and widespread because of Alaska's remoteness, low density of humans, and persistence of intact habitat (Miller and Schoen 1999). These circumstances still exist in most places in Alaska although there are localized areas where grizzly bear habitat is being developed and fragmented.

Severe winters in the late 1960s and early 1970s in interior Alaska combined with high hunter harvests of ungulates and high predator numbers were suspected of playing a role in reduced availability of moose (*Alces alces*) and caribou (*Rangifer tarandus*) available for hunter harvest (Gasaway et al. 1983, Van Ballenberghe 1987, Ballard 1992*a*). In some but not all of these areas, high rates of grizzly bear predation on neonatal moose were reported (Ballard et al. 1981, 1990; Boertje et al. 1988; Ballard and Miller 1990; Gasaway et al. 1992). In response to these findings, grizzly bear management in most of Alaska shifted from conservative management toward management designed to reduce grizzly bear abundance even though a causal link between bear predation and ungulate abundance remained unestablished (Miller and Ballard 1992). The Alaska Department of Fish and Game (ADFG) recently acknowledged this link remains unestablished: "... it might be possible to harvest more moose by reducing bear predation. [but this possibility has] not been adequately tested in Alaska, and programs of this nature need to be viewed as experiments" (ADFG 2007*d*:3). Regardless, there has been a dramatic trend toward increasingly liberal general bear hunting regulations in the 76% of Alaska that we identified as the Liberal Hunt Area (Fig. 1).

These trends of increasingly liberal bear hunting regulations accelerated following passage of an "Intensive

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Additional Supporting Information may be found in the online version of this article.

[1]*E-mail: millerS@nwf.org*
[2]*Present Address: 13240 Mountain Place, Anchorage, AK 99516, USA.*

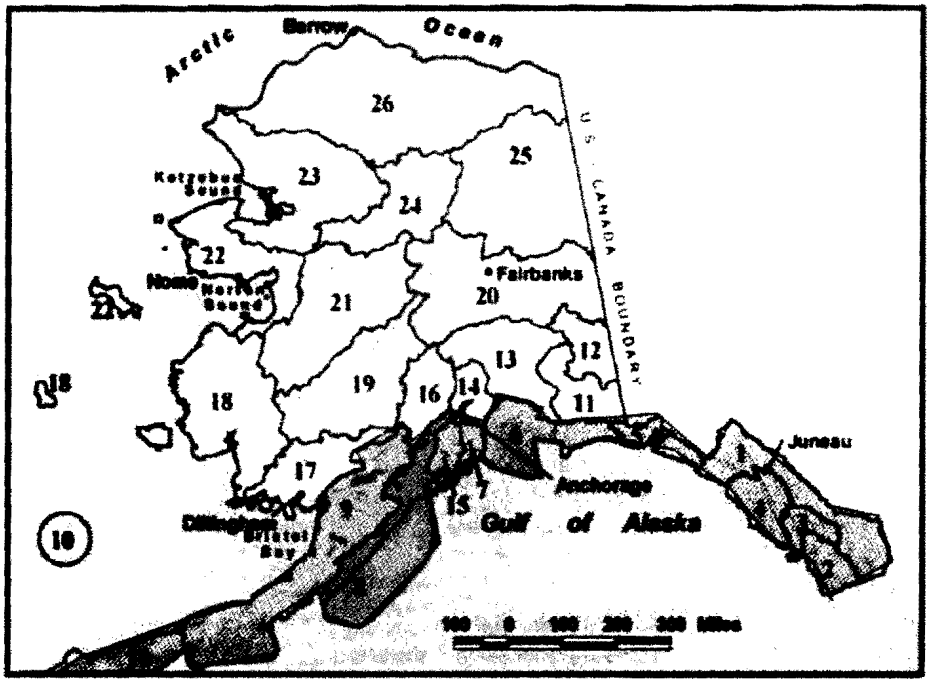

Figure 1. Alaskan game management units. Unshaded area includes game management units classified as part of a Liberal Hunt Area for regulations reported during 1975–2011 (totaling 76.2% of Alaska's area). The grizzly bear population in the Liberal Hunt Area includes about 44% of Alaska's grizzly bears based on an estimate made in 1992 (Miller 1993).

Management" Law by the Alaska Legislature in 1994. This statute is a legal mandate which prioritizes consumptive use of ungulates by hunters over other resource values. The intensive management statute mandated that:

> "The Board of Game shall adopt regulations ... to restore abundance or productivity of ... big game populations [that are identified as important for human consumptive use] as necessary to achieve human consumptive use goals [in areas where]:
>
> 1. Consumptive use of game is a preferred use;
> 2. Depletion of big game or reduced productivity has occurred that may cause reduced human harvest;
> 3. Enhancement is feasible using recognized and prudent active management techniques" (Alaska Statutes 16.05.255e)."

The Intensive Management Law further specifies that:

> "[The Alaska Board of Game] may not significantly reduce the taking of an identified big game prey population [by adopting restrictive regulations] unless [it] has adopted regulations ... that provide for intensive management to increase [the human harvest of that prey population, e.g. moose]" (Alaska Statutes 16.05.255e).

The term "consumptive use" in the Intensive Management Law was intended and is interpreted to mean use of wild ungulate meat for human food (see Titus 2007). Many of the periodic grizzly bear management reports also acknowledge that production of wild ungulate meat is the intent of the Intensive Management Law (e.g., Gross 2007, Tobey and Kelleyhouse 2007). The Alaska Board of Game (BOG) is a citizens' committee appointed by the Governor that sets hunting regulations in Alaska based on input from the ADFG, the public, and other agencies and organizations.

There is confusion about the geographic extent of predator reduction efforts in Alaska because predator reduction efforts via liberalization of the general hunting regulations were not defined by ADFG or the BOG as being part of an active predator reduction program. Only efforts in small, specially designated Predation Control Areas (PCAs) were defined as being predator control efforts. Boertje et al. (2010), Titus (2007), and ADFG (2007*a*, *b*), for example, confined their description of the extent of predator control programs in Alaska to these small PCAs that they reported constituted <10% of Alaska. Although not defined as control efforts, ADFG (2007*a*:3) acknowledged that "Take of predators by conventional hunting and trapping may be increased through liberalized seasons and bag limits to reduce the effects of predation on prey populations." One distinction between the predator reduction efforts in PCAs and via liberalization of general hunting regulations is that in the PCAs, "... fair chase ethics are not applied" (2007*a*:3).

In 1995, controversies surrounding the extent of predator reduction efforts led the Alaska Governor to ask the National Research Council (NRC) to undertake a scientific and economic review of management of wolves (*Canis lupus*) and grizzly bears in Alaska. The NRC report reached 17 conclusions and associated recommendations, most of which urged that predator management efforts have a more

cautious, research-based, conservative, experimental, and adaptive approach that included public involvement and economic evaluations (NRC 1997).

The recommendations of the NRC (1997) are inconsistent with Alaska's 1994 Intensive Management Law. Under this law, grizzly bears, black bears, and wolves were, and remain, viewed as species that in many areas must be reduced in abundance to reduce competition with humans for wild ungulates (Van Ballenberghe 2006; ADFG 2007*a*, *b*, *c*). Some of the concerns raised by the NRC were shared by the Alaska Chapter of The Wildlife Society. The Chapter found that "The restrictions on Board of Game authority to regulate taking of identified big game prey populations embodied in AS 16.05.255(e–g) are unnecessary and inappropriate for progressive wildlife management ... [and] ... may be counterproductive ..." and that "[In the absence of appropriate objectives and techniques] legislatively mandated prescriptions for management, such as AS 16.05.255(e–g) seldom benefit wildlife or wildlife users in the long run" (Alaska Chapter of the Wildlife Society 1995:2).

Our objectives were: 1) to report on trends in the general season hunting regulations for grizzly bears during the period 1975–2010, 2) to report on increases in grizzly bear harvests by hunters in response to more liberal grizzly hunting regulations, 3) to document the predator reduction rationale for most of the regulatory changes, 4) to describe the 1994 Intensive Management Law that has accelerated predator reduction efforts, and 5) to report on Alaska's non-compliance with the NRC's (1997) recommendations. We did not report declines in grizzly bear populations as a consequence of the trends we documented. Such trends, if they occurred, would be difficult to document because of declines in research and inadequacies in the way monitoring efforts were conducted and reported in the Liberal Hunt Area. Additionally, trends in bear abundance are technically difficult and expensive to document (Miller et al. 1997, Schwartz et al. 2003*a*, Reynolds et al. 2011).

We have a long history with grizzly bear research and management in Alaska. S. Miller, J. Schoen, and J. Faro retired following full careers with ADFG totaling 72 years; our jobs with the department largely focused on bear research and management. D. Klein worked for ADFG early in his career and worked during the bulk of his career as a professor of wildlife management at the University of Alaska Fairbanks.

STUDY AREA

We confined our analysis of the pattern of liberalized hunting regulations to the portion of Alaska we defined as the Liberal Hunt Area (Fig. 1). We excluded the area outside of the Liberal Hunt Area from our analysis, as moose and caribou were uncommon or non-existent (caribou, however, were abundant on the Alaska Peninsula, Unit 9, and intensive management of wolves is ongoing in Unit 9). Deer (*Odocoileus hemionus sitkensis*) were the most common ungulates outside of the Liberal Hunt Area but, so far, predator reduction efforts in Alaska have not focused on reducing predation on deer.

Outside of the Liberal Hunt Area in the more southern coastal areas of Alaska, grizzly bear densities were typically 5–10 times higher than densities in the Liberal Hunt Area (Miller et al. 1997). Outside of the Liberal Hunt Area, grizzly bears had access to runs of multiple species of Pacific salmon (*Oncorhynchus* spp.) as a food source. As a consequence, grizzly bears in southeastern Alaska and coastal areas of southcentral Alaska including Kodiak Island had higher densities and individuals were much larger than more northern and interior grizzly bears, which generally did not have access to abundant salmon (Miller et al. 1997, Hilderbrand et al. 1999). The larger grizzly bears living in salmon-rich habitats were commonly referred to as brown bears and had higher value as trophies especially to non-resident hunters who pay high tag fees and are required to hunt with registered big game guides. These circumstances ensured that there was an invested constituency for conservative management of the larger bears living in the salmon-rich habitats of outside of the Liberal Hunt Area. The 76% of Alaska in the Liberal Hunt Area supported about 43% of Alaska's total population of grizzly bears (Miller 1993).

We did not include the area of 5 national parks and preserves (including Denali Park) totaling 93,029 km^2 in the denominator (1,157,489 km^2) for percentage calculations of area impacted by hunting regulations in the Liberal Hunt Area.

METHODS

Hunting regulations applied to game management units (Fig. 1) and to game management subunits (e.g., A, B, C). There were 40 subunits in the Liberal Hunt Area. We reported trends for each regulation as a percentage of the area of subunits in the Liberal Hunt Area. In the infrequent cases where a regulation applied only to a portion of a subunit, such as a specific watershed, we calculated area affected as if the regulation extant in the largest portion of the subunit applied to the whole subunit.

We determined the geographic extent of various hunting regulations from ADFG's Alaska Hunting Regulations booklet for selected years. We selected regulatory years 1975–1976, 1985–1986, 1995–1996, 2005–2006, and 2010–2011 as snapshot years to illustrate trends. A regulatory year extends from 1 July of one year to 30 June of the following year.

Alaska has a subunit-specific long-term database on known grizzly bears kills since the late 1960s. We used these ADFG data to illustrate trends in numbers of bears taken by hunters. The most recent year for which hunter kill data were available was regulatory year 2008–2009. Efforts to reduce grizzly abundance by liberalized regulations largely began in 1980. We reported trends since 1975–1976 to permit meaningful comparisons of recent grizzly harvests and regulations with a pre-1980 baseline.

We calculated the ratio between regulatory changes making hunting more liberal (designed to increase harvest) and more conservative (designed to reduce harvest). To calculate this

ratio, we used data from a page in the regulation book that listed major changes in regulations from the preceding year. This page was available beginning in regulatory year 1995–1996. By state law, continuation of waivers of resident grizzly bear tag fees must be done annually but we tabulated only the initial waiver of this fee.

RESULTS

Trends in Regulations and Harvests

Between 1995 and 2010, grizzly bear hunting regulations in game management subunits in the Liberal Hunt Area were liberalized 124 times and only twice were made more conservative during the same period. The most frequent liberalization ($n = 55$) was to increase the resident bag limit. Season extensions ($n = 40$) and waiver of the $25 tag fee for resident hunters ($n = 28$) were the next most common regulations changes.

Period open for grizzly bear hunting has expanded greatly in the Liberal Hunt Area. Liberalized seasons for grizzly bear hunting began with addition of spring hunting opportunities. During 1975–1976, 71% of the Liberal Hunt Area subunits had spring seasons. The proportion of subunits with spring seasons increased to 99% during 1985–1986 and to 100% during 1995–1996 through 2010–2011. In 1975–76, no place in the Liberal Hunt Area had a grizzly bear hunting season >100 days. By 2010–2011, 100% of the Liberal Hunt Area subunits had seasons >100 days, 67.8% had seasons >300 days, and 15.9% had seasons >350 days (Fig. 2). The number of subunits in the Liberal Hunt Area where regulations were adopted extending season length exceeded the number where reductions occurred for all the intervals we examined (Table 1). After the Intensive Management Law was passed in 1994, there was a decline in the proportion of subunits where season lengths were reduced and an increase in the proportion where seasons were liberalized (Table 1). Prior to this, the proportion of subunits with increases and decreases in season length was more equivalent (Table 1).

Number of grizzly bears that hunters could harvest annually increased in the Liberal Hunt Area. Prior to 1980, everywhere in Alaska had a bag limit of 1 grizzly bear every 4 years. By 2007, 99.6% of the Liberal Hunt Area had bag limits ≥1 bear/year. In 1995, no portion of the Liberal Hunt Area had a bag limit of 2 bears/year. By 2007, 10.2% of the Liberal Hunt Area had an annual bag limit ≥2 bears/year. In Unit 13, the bag limit briefly reverted to 1 bear per 4 years during 1989–1994 but this reversion was reversed in 1995 (Tobey and Kelleyhouse 2007).

Grizzly bears taken in areas with a bag limit of 1 bear/year did not count against the 1 bear per 4-year bag limit that remained in most areas outside of the Liberal Hunt Area (Fig. 1). This exemption was designed to encourage harvests of grizzly bears in areas in the Liberal Hunt Area (where there were 1-bear-per-year bag limits) by not constraining hunters' ability to also take large trophy bears in the coastal areas outside of the Liberal Hunt Area such as during the drawing permit hunt for Kodiak Island (Unit 8).

Requirements that resident hunters purchase special tags to hunt grizzly bears were also greatly reduced in the Liberal Hunt Area. All resident hunters were required to purchase a $25 tag in advance of hunting for grizzly bears in 1980. To encourage more grizzly bear kills by Alaska residents (e.g., for Unit 13 see Tobey and Kelleyhouse 2007), this requirement was waived in 21% and 95% of the Liberal Hunt Area by 1985 and 2010, respectively. During its 26 February–7 March 2010 meeting, the BOG waived resident tag fees in 14 additional subunits. This action increased the area with waivers from 42% of the Liberalized Hunt Area during 2009–2010 to 95% during 2010–2011.

Corresponding with the liberalizations in hunting regulations, hunter harvests of grizzly bears in the Liberal Hunt Area increased during 1975–2008 (Fig. 3). The mean annual harvest during 1976–1980 was 387 bears compared to 827 during 2004–2008. The slope of a regression line plotted

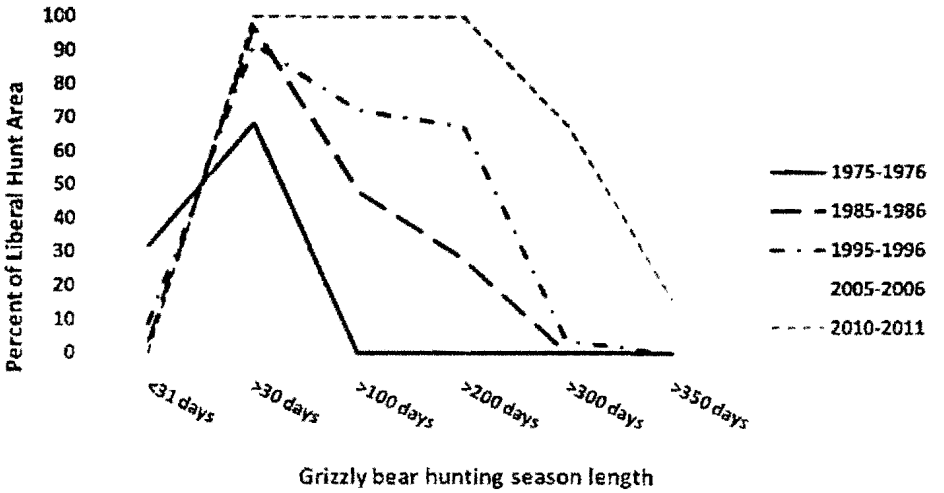

Figure 2. Trends in general hunting season length for Alaskan grizzly bears in the Liberal Hunt Area shown as season lengths during the snapshot regulatory years of 1975–1976, 1985–1986, 1995–1996, and 2010–2011.

Table 1. Comparisons of changes (increase, decrease, no change) in grizzly bear hunting season length between regulatory years 1975–1976 and 1985–1986, 1985–1986 and 1995–1996, 1995–1996 and 2005–2006, and 2005–2006 and 2010–2011 in the portion of Alaska classified as the Liberal Hunt Area.

	Regulatory years compared			
	1975–1976 and 1985–1986 (11 yr)	1985–1986 and 1995–1996 (11 yr)	1995–1996 and 2005–2006 (11 yr)	2005–2006 and 2010–2011 (6 yr)
Subunits with season increase (%)	57.50	57.50	82.50	32.50
Subunits with season decrease (%)	42.50	35.00	5.00	0
No change in season length (%)	0	7.50	12.50	67.50

through annual harvests ($R^2 = 0.82$) indicated an increase of 14.8 bears/year or an average increase of 4%/year (Fig. 3).

Trends in and Effectiveness of Research and Monitoring Efforts

Research on grizzly bears in the Liberal Hunt Area was greatly reduced after 2000. Prior to 2000 there were numerous research projects conducted by ADFG focused on grizzly bears in the Liberal Hunt Area (e.g., Reynolds 1980, 1992, 1999; Boertje et al. 1987; Miller et al. 1987, 1997, 2003; Miller and Miller 1988; Ballard et al. 1993; Miller and Nelson 1993; Miller 1997; Testa et al. 1998). There was also one federal study in a National Wildlife Refuge based on data collected before 2000 (Van Daele et al. 2001, Kovach et al. 2006) and one federal study in Denali National Park also based on pre-2000 data (Keay 2001).

In contrast, subsequent to 2000 there was only one ADFG-sponsored grizzly bear study in the Liberal Hunt Area that had a focus on grizzly bear demographics or density. This study in a small PCA for grizzly bears in Unit 20E was designed to estimate grizzly bear density using DNA hair snaring techniques (C. Gardner, ADFG, unpublished data). Our tabulation of grizzly bear research studies was similar to another ADFG tabulation that listed 6 grizzly bear studies only one of which occurred after 2000 (Boertje et al. 2010). After 2000, there was one grizzly bear demographic study on the Togiak National Wildlife Refuge conducted by federal biologists; this study (Walsh et al. 2010) established a baseline density from which possible impacts of increased hunting pressure potentially could be determined.

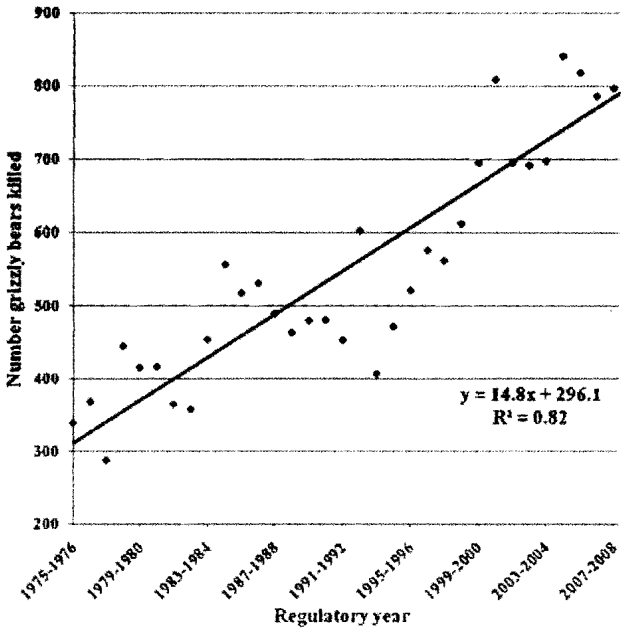

Figure 3. Trend in number of grizzly bears taken annually by hunters in the Liberal Hunt Area from regulatory years 1975–1976 through 2008–2009.

Monitoring trends in bear abundance is a difficult, expensive and imprecise undertaking with all available techniques (Garshelis 1990; Miller 1990*a*, *b*; Miller et al. 1997; Reynolds et al. 2011). Subsequent to 2000, grizzly bear abundance monitoring in Alaska including the Liberal Hunt Area was conducted using an approach based on aerial observation of bears using double blind techniques combined with distance sampling along a transect line (Quang and Becker 1997, 1999; Becker and Quang 2009). This double-blind monitoring work resulted in a density estimate (26.3 bears/1,000 km^2; SE = 3.59) (Becker and Quang 2009) in one portion of the Liberal Hunt Area. However, the management utility of this work was unclear as the area encompassed by the density estimate included 4 subunits (13E, 14B, 16A, and 16B) that were parts of 3 different management units. These different units were managed independently. These management units also differed in the abundance of salmon available for bears so the density estimate reported by Becker and Quang (2009) likely incorporated a significant range of grizzly bear densities. If the Becker and Quang (2009) estimate was replicated in the same area, a trend in density might be detectable but it would not be possible to determine which portions (Unit or Subunit) of the area was responsible for the trend. Reflecting this problem, density and population estimates based on the results reported by Becker and Quang (2009) were reported in Unit and Subunit management reports without confidence intervals (e.g., Kavalok 2007, Tobey and Kelleyhouse 2007, Peltier 2008) because no confidence intervals were available for the individual units. Federal biologists used the Becker and Quang (2009) approach to estimate density and population size in one well-defined area managed as a unit (the Togiak National Wildlife Refuge) (Walsh et al. 2010). A subsequent analysis indicated the power to detect grizzly bear density trends in this refuge was low (Reynolds et al. 2011). Bear population trends cannot reliably be determined based on the sex and age composition of harvested bears (discussed below).

DISCUSSION

There was widespread liberalization of grizzly bear hunting regulations during the period 1980–2010 in the Liberal Hunt Area. There also was a corresponding large increase

in grizzly bear harvests by hunters during this period. Since 2000, these changes in regulations and harvest occurred simultaneous with declines in grizzly bear research efforts and inadequate reporting of monitoring results. Correspondingly, the liberalizations of grizzly hunting regulations and the resulting increased harvest have occurred in an environment where impacts on the abundance of grizzly bears, if they have occurred, would be difficult to detect. All of the Liberal Hunt Area is in the portion of Alaska where grizzly bear densities were low (<40/1,000 km^2 [Miller et al. 1997]). The low density in the Liberal Hunt Area increased the likelihood of failing to detect declines in grizzly bear abundance because smaller sample sizes would make significant declines more difficult to document.

The reliance by Alaskan managers on detecting trends in bear populations based on sex and age composition of bear harvests (see Harper 2007) was an inappropriate substitute for well-designed and executed research and monitoring programs. No theoretical or empirical basis exists for interpreting trend based on these harvest composition data (Harris 1984, Harris and Metzgar 1987, Miller and Miller 1988, Garshelis 1990). Available studies show that sex and age composition of harvest reflected vulnerability to harvest of different cohorts. Correspondingly, trends that might exist in these data likely would reflect changes in seasons, bag limits, tag fees, and other factors that affect vulnerability rather than trend in population size (Harris and Metzgar 1987, Miller and Miller 1988, Garshelis 1990). Geographically patchy distribution of harvest caused by differences in accessibility further complicated interpretation of harvest data (Miller and Miller 1988, Garshelis 1990). Declines in mean age of harvested bears, for example, resulted in completely opposite inferences about population trend (Garshelis 1990, Miller 1990*b*). Dramatic changes in grizzly bear hunting regulations occurred in the Alaskan Liberal Hunt Area during 1975–2010 so vulnerability to harvest also must have changed. This change in vulnerabilities would make it impossible to detect population trends based on any model that assumed temporal stability in vulnerability to harvest of different sex–age cohorts (Garshelis 1990), except possibly in circumstances where most bears ultimately occur in the harvest (Fieberg et al. 2010).

Although ADFG (2007*a*, *b*, *c*), Titus (2007), and Boertje et al. (2010) defined as predator control only the regulations existing in small Predator Control Areas, efforts to reduce predator abundance by liberalization of general hunting regulations were much more widespread in Alaska. Unit 13 is an example of an area not designated as a Bear PCA where efforts to reduce grizzly bears have nevertheless been ongoing since 1980 (Tobey and Kelleyhouse 2007). Unit 13 is a popular moose and caribou hunting area between the population centers of Fairbanks and Anchorage. In Unit 13, there is no closed season for hunting grizzly bears, no grizzly bear tag is required for resident hunters (except in Denali State Park), the bag limit is 1 bear/year, and annual harvests have increased from 61 (mean for 1975–1978) to 139 (mean for 2005–2008). The current management objective for grizzly bears in this unit is to maintain a minimum population of 350 bears (Tobey and Kelleyhouse 2007). Based on the range of population estimates available for this unit (Tobey and Kelleyhouse 2007), this minimum would represent a reduction of >70%. Unit 13 is a designated PCA for wolves.

An independent review of the science and policy for predator management in Alaska made numerous conclusions and recommendations (NRC 1997). We asked the chairman of the NRC panel to evaluate whether Alaska has complied with the NRC (1997:10–12) recommendations. After consulting with ADFG, the panel's Chairman provided the following statement (G. Orians, University of Washington, personal communication):

> "Despite the range of viewpoints represented among [the NRC panel's] members, the committee unanimously concluded that all previous predator reduction and control operations in Alaska were so poorly designed that the results, even if they had been adequately monitored, could not have assessed the relative contributions of various factors to any observed changes in populations of either predators or their prey. Specifically, all previous predator reduction operations were deficient in one or more (usually more) of the following essential features of a well-designed program: Clear articulation of the hypotheses to be tested, determination of pre-experimental baseline conditions, manipulation of variables one at a time, establishment of appropriate controls, and adequate monitoring of the results. Moreover, the committee noted that insufficient research had been conducted to determine the range and nature of potential social and economic impacts of low population densities of moose and caribou, whatever their causes. The unanimous consensus report offered a set of recommendations that, if followed, would improve the scientific basis for wolf, bear, and prey management in Alaska. Enactment of the recommendations would enable Alaskans to know if the expenditures of valuable state financial and intellectual resources on predator reductions were really yielding benefits to the State that exceeded the costs.
>
> Evidence provided to me at my request, from the ADFG's Division of Wildlife Conservation in December 2007 and other sources leads me to conclude that most of the recommendations of the NRC committee have not been followed by the State of Alaska in its predator control activities since our report (NRC 1997). Basic research on predators, design of experiments, pre-and post-manipulation monitoring, and socioeconomic research all fall short of the standards recommended by the NRC committee. Indeed, recent predator control efforts have not been designed to test whether predators are actually controlling prey populations. Rather, control efforts have been initiated under the assumption (or conviction) that predators are the cause and that the solution to the "problem" is intensive predator control."

D. Klein (University of Alaska Fairbanks, personal observation), who was on the NRC panel, concurred with Chairman Orians' statement.

There may be circumstances in which grizzly bear predation on neonatal moose calves may inhibit moose population growth or cause population declines as concluded by Testa (2004). However, there are no studies demonstrating that increased grizzly bear hunting or reduced grizzly bear

abundance resulted in more harvestable moose (Ballard 1992*b*; Miller and Ballard 1992, Ballard and Van Ballenberghe 1998) or caribou. Boertje et al. (2009, 2010) reported that "predator" (a term they used to implicate both wolves and grizzly bears) reductions in an area south of Fairbanks (Subunit 20A) resulted in a recovered moose population. However, Boertje et al. (2009, 2010) documented no change in grizzly bear abundance and reported low rates of grizzly predation on moose neonates in Unit 20A. Regardless, Boertje et al. (2010) infer from the 20A study that in areas where bear predation is higher, it would be limiting to moose population growth. Fifteen years following the initiation of grizzly bear population reduction efforts through regulation liberalization in Unit 13, Testa (2004) concluded that the moose population began declining primarily because of bear predation on neonatal moose; he also reported adverse nutritional impacts on moose parturition rates. Keech et al. (2011) documented increases in moose abundance following reductions in wolf and black bear populations but did not document any change in grizzly bear abundance correlated with the reported increase in moose. Ballard and Van Ballenberghe (1998:93) concluded "We simply do not know whether bear predation is density-dependent or density-independent nor do we know anything about possible compensatory relationships among individuals within a bear population, between bear species, or between wolf and bear populations." This situation persists and was recently acknowledged by Boertje et al. (2010:924): "... where bear habitat is contiguous and access is poor, no data are available to evaluate whether private take of bears can be a successful, long-term management tool to decrease bear numbers and to elevate sustained yield of moose."

Regardless of whether it is good public policy to reduce grizzly bears to increase ungulate harvests, there is no evidence in Alaska that efforts to date have accomplished the objectives desired by the Intensive Management Law. Conclusion 7 of the NRC panel was "The design of most past experiments and the data collected do not allow firm conclusions about whether wolf and bear reductions caused an increase in prey populations that lasted long after predator control ceased" (NRC 1997:11). With respect to grizzly bear reduction efforts, this statement remains true although numerous studies have shown that grizzly and black bears can be effective predators on moose calves (Ballard et al. 1981, Boertje et al. 1988, Ballard 1992*a*, Keech et al. 2011). Although grizzly bear reduction efforts through liberalization of hunting regulations has been widespread in Alaska and ongoing for 30 years, there are no places where the regulation liberalizations have been reversed because ungulate objectives have been achieved. Liberal grizzly hunting regulations remain in place even in one area (Unit 20A) where managers are challenged to find ways to convince hunters to take a surplus of antlerless moose (Boertje et al. 2007).

The situation in the former grizzly bear PCA in Subunit 20E is instructive about the casual approach toward grizzly bear population reduction efforts in Alaska. In Subunit 20E, grizzly bear population reduction efforts were initiated in the early 1980s, but that area was eliminated as a PCA in 2009. In a report to the BOG that gave ADFG's rationale for eliminating the 20E PCA it was acknowledged,

> "... results of the recent brown bear population survey (C. Gardiner et al., ADFG, unpublished data) indicate bear density within burned portions of the control area is likely lower than initially thought which may benefit moose calf survival in those areas. The Department recommends that bear control be eliminated from the (20E Grizzly Bear Predation Control Area). Benefits to moose calf survival associated with the fires of 2004 and wolf control efforts appear to be adequate to make progress toward prey population objectives" (ADFG report to the BOG, 2009:6–7, Division of Wildlife Conservation Report to the BOG, March).

The conclusion in this report to the BOG was similar to other findings that habitat conditions influence ungulate abundance more than black or grizzly bear predation on calves (Schwartz and Franzmann 1991, Zager and Beecham 2006).

In addition to grizzly bears, black bears (*Ursus americanus*) were targeted for population reductions in large portions of Alaska. For the 2010–2011 season, the BOG reclassified black bears as furbearers in all of Alaska in all areas of the state. This reclassification allowed snaring of black bears and the sale of hides, skulls, and meat of snared bears taken anywhere in Alaska with a general trapping license. Because of procedural missteps by the BOG, implementation of black bear take as a furbearer has been delayed. Black bear snaring is currently allowed, however, in the Unit 16B PCA in an effort to reduce black bears by >50% and thereby help a moose population thought to be declining because of predation (Peltier 2008). In this PCA there is no limit to the number of black bears that can be taken by hunters with control permits, hunters can take females with cubs, bears can be taken over bait or other methods on the same day the permitee has flown, and sales of hides and skulls (tanned or untanned) are allowed (Peltier 2008). For the 2011–2012 season, snaring of grizzly bears was also authorized as a predator control measure to benefit moose populations in Unit 16B. Unit 16 is in the Liberal Hunt Area (Fig. 1).

The current Alaskan emphasis on widespread reductions of large carnivores is a familiar path for those who have studied the history of predator reduction efforts south of Canada in the late 19th and early 20th centuries (e.g., Leopold 1949, Schwartz et al. 2003*b*, Taber and Payne 2003). Whether because grizzly bear populations have not declined to date as a consequence of the increased harvests or whether undocumented declines have occurred, grizzly bears in the Liberal Hunt Area are potentially vulnerable to overharvest. This is because grizzly bears have reproductive rates among the lowest for North American mammals (Schwartz et al. 2003*a*) and monitoring methods are both expensive and imprecise (Miller et al. 1997, Schwartz et al. 2003*a*, Kendall et al. 2009, Walsh et al. 2010, Reynolds et al. 2011). South of Canada, human influences eliminated grizzly bears from 98% of their former range (Servheen 1999).

For a species with this sensitivity and history combined with these management limitations, a conservative and cautious approach toward human harvests of grizzly bears is appropriate (Bunnell and Tait 1980, Miller 1990*a*, Schwartz et al. 2003*a*, Kendall et al. 2009). The overall level of risk is further exacerbated when liberalizations of hunting regulations are as geographically widespread as is the case in the Liberal Hunt Area. In a state as large as Alaska, consequential management errors are unlikely if they are confined to small geographic areas. Fortunately, there is no evidence in Alaska or elsewhere in North America that heavy hunting pressure resulted in a dispensatory response in cub and subadult survival (Miller et al. 2003, Schwartz et al. 2003*a*, McLellan 2005, Czetwertynski et al. 2007) such as has been suggested for European grizzly bear populations (Swenson 2003).

We suggest that in the bulk of the Liberal Hunt Area that grizzly population management in Alaska be based on demographic data consistent with an overall objective of assuring that healthy and stable populations of grizzly bears are maintained. In small areas, such as the current bear PCAs, we suggest that grizzly bear reduction efforts should be designed and conducted as experiments as recommended by the NRC (1997). We suggest that such research could follow the design used by Keech et al. (2011) but modified to permit identification of which predator species was responsible for any ungulate responses observed.

MANAGEMENT IMPLICATIONS

Because predator reduction in Alaska has been mandated by a state statute since 1994, ADFG biologists who may be concerned about the widespread nature of efforts to reduce grizzly bear abundance have limited ability to change management direction or emphasis. This amounts to politically driven rather than scientifically supported management of Alaska's large predators. Statutes like Alaska's intensive management law constrain the ability of managers to restrict the hunting of ungulates in response to conditions, such as a severe winter, that reduce ungulate abundance. The ability to modify human hunting pressure on ungulates in response to stochastic events is an important tool for wildlife managers and constraints on this tool limits management responsiveness and effectiveness. Although predator reductions may be an appropriate tool in some circumstances, we recommend modifications of Alaska's Intensive Management Law to allow managers to use a wider array of tools to achieve management objectives.

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Associate Editor: Scott M. McCorquodale.

RC 14

United States Department of the Interior
KENAI NATIONAL WILDLIFE REFUGE
P.O. Box 2139
Soldotna, Alaska 99669-2139
(907) 262-7021

In reply refer to:
11067ajl

November 3, 2011

Mr. Cliff Judkins, Chairman
Alaska Board of Game
Boards Support Section
P.O. Box 115526
Juneau, Alaska 99811-5526

Dear Chairman Judkins:

The U.S. Fish and Wildlife Service (Service) thanks the Alaska Board of Game for this opportunity to comment on proposals to be considered during its November 11-14 meeting for the Western and Arctic Regions.

Proposal 35 and 36

The Service is opposed to Proposals 35 and 36, which would establish Intensive Management (IM) plans for Game Management Units (GMU) 15A and 15C. The proposed IM plans state that all lands with GMUs 15A and 15C would be designated as a "Wolf Predation Control Area," within which control of wolf populations would be authorized through: 1) hunting and trapping of wolves by the public under State regulations; 2) same day aerial shooting and land and shooting by the public under State-issued permits; and 3) aerial and land and shooting using any type of aircraft, and ground-based shooting, by agents of the State or department employees. The proposed IM plans establish wolf control objectives to remove 25-40 wolves in GMU 15A and 25-60 wolves in GMU 15C, and retain a minimum of 15 wolves post-control in each unit. The IM plans would be implemented for a five-year period from 2012 to 2017.

Lands within the Kenai National Wildlife Refuge (Kenai NWR) comprise approximately 60 percent of lands in Game Management Unit 15, including approximately 80 percent of all lands in GMU 15A and 30 percent of lands in GMU 15C. Predator control and other management activities proposed under State IM plans cannot be conducted on national wildlife refuges in Alaska unless authorized by the Service.

The Alaska National Interest Lands Conservation Act (ANILCA), the National Wildlife Refuge System Administration Act, as amended, and other laws that apply to administration of all

national wildlife refuges provide the legal framework for administering Alaska refuges. Under ANILCA, legally mandated purposes for the Kenai NWR related to fish and wildlife management include conserving all fish and wildlife species and habitats in their natural diversity, meeting international treaty obligations related to conservation of fish and wildlife, and providing opportunities for wildlife-oriented recreation including hunting, fishing, camping, hiking, and canoeing as long as they are consistent with meeting other refuge purposes.

ANILCA also designated 1.35 million acres of Wilderness within the Kenai NWR, making protection of the Wilderness resource a refuge purpose on those lands. The Service must also implement Title VIII of ANILCA and its provisions for providing subsistence opportunities and a meaningful preference for federally qualified subsistence users on the Kenai NWR. Lastly, the Service must manage all national wildlife refuges so as to conserve biological integrity, biological diversity and environment health. In consideration of its broad range of legal mandates, as well as the available biological information, the Service will not authorize predator control under State IM plans to increase moose populations on the Kenai NWR, including wolf control under Proposals 35 and 36.

The Service also provides the following specific input to the State IM plans for GMUs 15A and 15C.

Most wolves in GMU 15A are found on the Kenai NWR. The Service is opposed to the wolf control objectives of removing 25-40 wolves in this unit. While no scientifically rigorous surveys or studies to determine the population status, productivity and distribution of wolves have been conducted in GMU 15A since the 1990's, reductions of this magnitude on the Kenai NWR within this unit would be considered excessive by the Service based on historic data and the limited available information from a recent spring survey conducted by the Alaska Department of Fish and Game (ADFG). To our knowledge no wolf population surveys or studies whatsoever have been conducted in GMU 15C. The Service is very concerned that updated scientific information on the status, productivity and distribution of wolf populations is insufficient for GMU 15A, and entirely lacking for GMU 15C (such that putting the control objective of removing 25-60 wolves and the minimum post-control population objective of 15 wolves into context in this unit is not possible). Furthermore, we believe these post-control wolf population minimum objectives, if reached through control efforts, could pose a risk to the conservation of this important wildlife resource.

Similarly, little or no scientific information is available on the role of multiple predators (wolves, brown bears, black bears), habitat conditions, disease, weather and highway mortality, or on the complex interactions and relationships between all of these factors, in influencing moose population dynamics on the Kenai Peninsula. Lack of critical baseline information will preclude an adequate quantitative assessment of ecological consequences of predator control (as well as an adequate assessment of the program's effectiveness in meeting its stated objectives).

In the Service's professional opinion, available scientific information calls into question both the need for predator control on the Kenai Peninsula and certainly whether it would be effective in increasing moose populations:

- We concur with the ADFG that habitat is the major factor influencing moose populations on the northern Kenai Peninsula. This relationship has been well documented in the scientific literature, and the recent moose population decline in GMU 15A was predicted in the absence of fire. Forest succession in GMU 15A has proceeded to the point following large wildfires in 1947 (310,000 acres) and 1969 (80,000 acres) such that carrying capacity for moose is significantly less than it was 20-40 years ago when those burns were producing large amounts of high quality wintering habitat. Fires have burned less than 13,000 acres in GMU 15A in the last 42 years.
- Available information suggests that nutritional stress due to habitat conditions is currently adversely affecting moose productivity in GMU 15A through reduced twinning and pregnancy rates. In fact, reported twinning (16%) and pregnancy (73%) rates for moose in GMU 15A are below the IM plan's minimum objective levels (20% and 80%, respectively).
- The moose population in GMU 15C on the southern Kenai Peninsula is currently within the State's IM population objective range, and increased by approximately 29 percent from 1992 to present. Documented ongoing winter mortality in portions of this unit's moose wintering range suggests that this moose population is currently at or near carrying capacity.
- Extremely low bull:cow ratios are a significant conservation concern in both GMUs 15A and 15C. We concur with the ADFG that low bull:cow ratios are the result of excessive annual harvest of yearling bulls and potentially of illegal harvest. New harvest regulations, implemented in 2011, are now in place to improve bull:cow ratios in the short-term and are expected to preclude or reverse negative impacts of a skewed sex ratio on moose productivity over the 2011 and 2012 hunting seasons.
- Significant reductions in the annual harvest of bulls under the new regulations over this 2-year timeframe will add animals to the GMU 15C moose population. Given its current size, harvest reductions would be expected to result in a moose population in GMU 15C near the upper range of the State's IM population objective, without implementation of predator control. An average of 215 bulls per year were previously harvested (2006-2010) in GMU 15C; preliminary harvest data indicates bull harvest was reduced over 90 percent in 2011.

It is worth noting that even if calf and/or adult moose survival increases with predator control, unintended consequences such as damage to wintering habitats due to overbrowsing and more dramatic moose die-offs during severe winters are a distinct possibility.

In closing, the Service believes that there are several opportunities for collaboration with the ADFG and other agencies to address moose conservation issues on the Kenai Peninsula. These include: 1) coordination on long-term harvest management strategies which sustain productive moose populations in balance with available habitat and provide a wider range of opportunity once bull:cow ratios increase; 2) interagency efforts to develop and implement a strategic approach to treat habitats in or near the urban interface which have the dual benefit of protecting communities and enhancing moose habitat, such that we increase opportunities to safely manage backcountry fires for ecological benefits; 3) coordination with transportation agencies and others to reduce moose-vehicle collisions and enhance connectivity for all wildlife; 4) collaborative law enforcement efforts; 5) expanded surveys and studies, including collaborative research into new stressors on moose browse abundance and quality such as exotic insect defoliators. We look forward to these discussions with the ADFG and would welcome the Alaska Board of Game's support of these interagency efforts.

Thank you for this opportunity to provide comments. The Service remains committed to cooperation and coordination with the ADFG and other State and federal agencies, and to full public involvement, as we move forward with our shared management responsibilities on the Kenai Peninsula.

Sincerely,

Andy Loranger

Andy Loranger
Refuge Manager
Kenai National Wildlife Refuge

RC15

Western Interior Alaska Subsistence Regional Advisory Council
c/o U.S. Fish & Wildlife Service
1011 East Tudor Road, MS 121
Anchorage, Alaska 99503
Phone: (907) 787-3888, Fax: (907) 786-3898
Toll Free: 1-800-478-1456

RAC WI014.MH

Mr. Cliff Judkins, Chairman
Alaska Board of Game
Alaska Department of Fish and Game
P.O. Box 115526
Juneau, Alaska 99811-5526

Dear Mr. Judkins:

The Western Interior Subsistence Regional Advisory Council (Council) met on October 4-5, 2011, in Aniak, Alaska. The Council took public testimony and addressed various subsistence-related management issues and addressed Alaska State Board of Game Proposals 50, 92, 93, 94, 102, 103,and 104.

The Council provided an opportunity for public testimony on these proposals and deliberated and took final action by unanimously opposing Proposals 50, 92, 93, and 94. The Council supports Proposals 102, 103, and 104.

Proposal 50 - **Oppose**

An integral part of the Koyukuk Moose Management Plan is the requirement to destroy the trophy value of the moose. This proposal promulgated by the Alaska Board of Game, if adopted, could lead to an inundation of thousands of additional hunters and may cause certain hunts to exceed sustainability. The Council opposed the repeal of this discretionary power that has been granted to the Alaska Department of Fish & Game (Department) and feels that it needs to remain in place.

Proposal 92, 93 and 94 - **Oppose**

These proposals would unnecessarily restrict trappers in rural Alaska who have an opportunity to take a furbearer legally with a firearm; there is no biological rationale for these proposed restrictions.

Proposal 102 - **Support**

Disease, primarily pneumonia, has caused major (80% to 100% of the total herd in some cases) die-off in wild sheep. These are introduced diseases that are brought by domestic pack goats and llamas.

Proposal 103 - **Support**

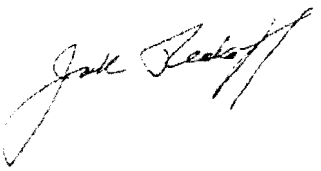
Felt-soled waders have been identified as the primary vector of transferring invasive species such as whirling disease, mud snails, and zebra mussels. Non-resident hunters come to Alaska from areas where these species exist and could transfer these species to local waterways. The introduction of these mussels and pathogens into our environment is a grave concern.

Proposal 104-**Support**

There is concern of Chronic Wasting Disease being vectored into wild populations within the Western Interior region. This disease would affect moose and caribou if it is extended from Kodiak and other areas of Alaska where ungulate urine is used in hunting. The Council is supportive of this proposal.

Thank you for the opportunity for this Council to assist the Department to meet its charge of protecting the resources and the opportunity to comment on the Department's proposals. We look forward for continuing discussions about the issues and concerns of subsistence users of the Western Interior Region. If you have questions about this correspondence, please contact me via Melinda Hernandez, Regional Council Coordinator, with the Office of Subsistence Management, at 1-800-478-1456 or (907) 786-3885.

Sincerely,



Jack Reakoff, Chair
Western Interior Subsistence
Regional Advisory Council

cc: Peter Probasco, ARD, OSM USFWS
Geoff Haskett, Regional Director, Region 7, USFWS
Federal Subsistence Board Members
Western Interior RAC members

RC 16

Eastern Interior Alaska Subsistence Regional Advisory Council
c/o U.S. Fish and Wildlife Service
1011 East Tudor Road, MS 121
Anchorage, Alaska 99503
Phone: (907) 786-3888, Fax: (907) 786-3898
Toll Free: 1-800-478-1456

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Mr. Cliff Judkins, Chair
Alaska Board of Game
Attention: BOG COMMENTS
Boards Support Section
Alaska Department of Fish and Game
Post Office Box 115526
Juneau, Alaska 99811-5526

Dear Mr. Judkins:

During the Eastern Interior Alaska Subsistence Regional Advisory Council's public meeting on October 11-13, 2011, the Council reviewed and acted upon pending State game proposals. Below are the recommendations of the Council.

PROPOSAL 170 – 5 AAC 85.045. Hunting seasons and bag limits for moose. Shorten the moose season in a portion of 25A.

COUNCIL ACTION:

The Council **supports** this proposal. The recent influx of hunters from outside the area are targeting moose during the time that moose have historically migrated from summer territory in Canada back to winter territory in the high valleys of the Brooks Range, posing a potential threat to moose populations as well as impacting the ability of area residents to harvest moose locally.

PROPOSAL 171 – 5 AAC 92.220. Salvage of game meat, furs, and hides. Require meat-on-bone salvage for moose in Unit 25A.

COUNCIL ACTION:

The Council submitted this proposal and **supports** its adoption by the Board. The Council does not find that the proposal places an undue burden on users and contributes to the quality of the salvaged meat.

PROPOSAL 172 – 5 AAC 92.220. Salvage of game meat, furs, and hides. Require meat-on-bone salvage for moose in Unit 25B.

COUNCIL ACTION:

The Council submitted this proposal and **supports** its adoption by the Board. The Council does not find that the proposal places an undue burden on users and contributes to the quality of the salvaged meat.

PROPOSAL 173 – 5 AAC 92.220. Salvage of game meat, furs, and hides. Require meat-on-bone salvage for moose in Unit 25D.

COUNCIL ACTION:

The Council submitted this proposal and **supports** its adoption by the Board. The Council does not find that the proposal places an undue burden on users and contributes to the quality of the salvaged meat.

PROPOSAL 178 – 5 AAC 85.055. Hunting seasons and bag limits for Dall sheep. Close Red Sheep Creek and Cane Creek drainages to hunting for sheep.

COUNCIL ACTION:

The Council submitted this proposal and **supports** its adoption by the Board. The Council finds that the proposal enhances the ability of the residents of Arctic Village to pursue subsistence opportunities and may reduce incidents of trespass and resource damage. The Council recognizes that the area is culturally important to the local residents for reasons including, but also beyond, sheep harvest.

PROPOSAL 180 – 5 AAC 84.270. Furbearer trapping. Open wolf trapping season in Unit 25A, B and C earlier, to start October 1.

COUNCIL ACTION:

The Council submitted this proposal and **supports** its adoption by the Board. The Council sees the benefit in aligning Federal and state seasons, especially for those federally qualified subsistence users with traplines that cross unit boundaries.

PROPOSAL 182 – 5 AAC 85.015. Hunting seasons and bag limits for black bear. Increase the annual bag limit for black bear in Unit 25D.

COUNCIL ACTION:

The Council **supports** this proposal. The Council finds no conservation concerns in liberalizing the bag limit for black bear.

PROPOSAL 183 – 5 AAC 85.020. Hunting seasons and bag limits for brown bear. Allow hunters to take more than one brown bear by community harvest permit in Unit 25D.

COUNCIL ACTION:

The Council submitted this proposal and **supports** its adoption by the Board. The Council finds no conservation concerns and feels that the proposal provides increased subsistence harvest opportunity to the relatively low number of users who utilize this resource.

PROPOSAL 186 – 5 AAC 85.045. Hunting seasons and bag limits for moose. Modify moose season in portion of Unit 12 and 11.

COUNCIL ACTION:

The Council **supports** this proposal. The Council feels that this proposal will benefit subsistence users by providing a more generous season, reducing the number of permits that they will need to obtain, and by aligning the seasons and harvest limits within the Nabesna Road area.

PROPOSAL 192 – 5 AAC 85.025 (a)(15)(20). Hunting seasons and bag limits for caribou. Combine Fortymile and White Mountains Caribou herd seasons under 1 registration permit, remove harvest limits, lengthen the winter season for residents, and allow a new limited registration permit hunt.

COUNCIL ACTION:

The Council submitted this proposal and **supports** its adoption by the Board. The Council finds the proposal supports the efforts of the Fortymile planning group. It will provide managers more options in controlling harvest – both to protect it when needed, as well as to allow for increased harvest when warranted, while ensuring improved reporting and better protection of the herd as it expands into the White Mountains area.

PROPOSAL 234 – 5 AAC 92.220. Salvage of game meat, furs, and hides. Require meat-on-bone salvage for moose in Unit 25C.

COUNCIL ACTION:

The Council submitted this proposal and **supports** its adoption by the Board. The Council does not find that the proposal places an undue burden on users and contributes to the quality of the salvaged meat.

Thank you for the opportunity to comment in support of these proposals. If you have any questions regarding this letter, please contact Tom Jennings at the Office of Subsistence Management at 907-786-3364.

Sincerely,

Sue Entsminger

Sue Entsminger, Chair

cc: Kristy Tibbles, Executive Director, Board of Fisheries
Nissa Pilcher, Regional Coordinator, Alaska Department of Fish and Game
Jenifer Yuhas, Federal Subsistence Liaison Team Leader
Eastern Interior Alaska Regional Advisory Council members
Pete Probasco, ARD, OSM USFWS

Comments on Proposal #23

The following comments concern Proposal #23 specific to Musk Ox management in Unit 22, and further **specific to subunits 22E and 22D Remainder:**

Lack of current management plan:

There is no current overall management goal concerning musk ox management. The 1994 document simply directed to manage ox for a general increase in population and range expansion, both goals of which have been met.

Concerning subunits 22E and 22D Remainder, what is the carrying capacity? What is the ideal locally supported population density, within a sustainable level? Musk ox, caribou and reindeer all sustain themselves on the same lichen for their primary nutrition source. Caribou and reindeer tend to feed on the move and unless they are overpopulated, tend to create minimal damage to the lichen and surrounding berry producing plants. Musk oxen tend to congregate in feeding areas for extended periods of time and cause damage to the lichen and collateral damage to the surrounding berry plants.

It is undeniable that local hunters prefer caribou over musk oxen. They regularly travel 100 miles by snow machine to harvest caribou, with gas currently at $7.50 per gallon, while ignoring the opportunity to harvest musk ox 7 miles from town while loading ice for drinking water, or while berry picking in the fall.

It is unlikely there would ever be local support to see ox populations sufficiently dense to replace caribou and reindeer. In areas of northern Canada musk ox populations have grown so large, the effect has been to displace caribou. On the other extreme, it is unlikely the general public would accept eliminating all oxen from 22E, a concept which has strong support from the local residents.

It is imperative that the BOG creates a long term management plan for each subunit, balancing local and statewide interests in the resource. Once in place, allocating harvest opportunity in a fair and inclusive manner becomes more focused.

Temporary Management Goal:

Until such a long term plan is finalized, each subunit needs an interim plan with stated goals. There are distinct differences in issues between 22E and 22D Remainder and the other subunits with current musk ox hunting seasons.

The ox population in these two subunits remains stable, the biggest issue of concern is the bull:cow ratio. Assuming the BOG were to direct the ADF&G to manage these subunits for the overall health and stability of the current population until a long term plan is created, the following issues and suggested solutions are presented. It is also assumed the BOG would seek allocation of harvest opportunity within the goal of maintaining a stable and healthy population to remain as inclusive as possible.

ANS:

The numbers that are set for the current ANS (amount necessary for subsistence) were set with virtually no hard data on hand to justify the decision. Musk oxen are an introduced species and not integral in the local culture as are sea mammals, caribou and reindeer. In fact, very strong and factually based arguments can be made to determine that there is no basis for a subsist- priority for this species on the Seward Peninsula.

Since the commencement of a harvestable surplus in the resource in 22E and 22D Remainder, factual, hard and indisputable local hunter interest and harvest trends have been documented. The primary harvest opportunity offered to local hunters through the State is the RX104 registration hunt.

1) Open to all Alaska residents
2) Lengthy season open August 1st through March 15th.
3) Legal bag limit defined as any bull for the entire season and cows for the January 1st through closing of the season.
4) Simple registration form available in the local villages and online, no tag required, no additional cost above a hunting license to the hunter.

Aside from the ease in obtaining a permit, the oxen are available to harvest easily for the local hunters. In the course of daily life, with no additional expense needed to plan and conduct a hunt, oxen can be harvested for 7 ½ months of the year by local hunters.
And yet the harvest level of the RX104 by local hunters has always been very low. There simply is not the need or interest as there is for sea mammals, fish, caribou and moose. Locals do wish to see the oxen harvested, but by and large they are not the ones interested in doing so.

(Graph created from data obtained from the ADF&G website for harvest statistics compiled with notes of our operational bookings and harvests.)
:

RX 104 Musk Ox Harvests

YEAR	# of Hunters	Bull	Cow	Total Harvest	Wittrock Total	
2010	65	33	04	37	03	08% of harvest
2009	69	41	05	46	10	22% of harvest
2008	26	19	01	20	08	40% of harvest
2007	36	24	06	30	09	30% of harvest
2006	12	10	00	10	03	30% of harvest
Total	208	127	16	143	33	23% of harvest

143 harvested RX104 oxen minus 33 = 110 divided by 5 years = 22 "subsistence" oxen harvested annually in sub-units 22E and 22D Remainder combined. The 23% of the harvest is reflected by 33 hunters and are deducted from the total participation because they are hunters from our operations and I can document are not "subsistence" local hunters. This is a minimal number to deduct, because a high percentage of the RX104 hunters who do not hunt with our services are also primarily hunting large bulls, and non local. It would be a safe conclusion that the percentage of mature bull oxen harvested in 22E and 22D Remainder with the RX104 permit for trophy purposes is over 50% of the total.
ANS should be calculated on factual, documented harvests by local hunters and using this standard the ANS number is closer to 15 – 22.
In addition to the RX104 there are also federal permits open only to rural residents which also have a low harvest rate history, and remain available to local hunters, valid for federal lands in close proximity to the village.

RX104:

The Registration permit hunt for 22E and 22D remainder should be retained and refined. The main problem facing the ADF&G in managing the herds in 22E and 22D Remainder is the focus of most hunters harvesting large, mature bulls and ignoring the remainder of animals available. The long term effect is the possibility of lowering the bull:cow ratios to unhealthy levels.
As demonstrated earlier, there is little local subsistence use of the resource. Most hunters utilizing the RX104 permits in 22E and 22D Remainder are seeking large bulls and unable to draw the DX097 or DX102 permits. They are Alaska residents from all over the state.
Maintaining the maximum opportunity for as many hunters as possible should remain a priority for the BOG.
This can be accomplished by changing the definition of the legal bag limit for the RX104 permit to any musk ox except mature bulls.
This action should be followed with removing the trophy nullification requirement.
Restricting animals to be hunted for management goals is already an accepted practice, as 50" antler spread on moose. It is much simpler to field determine if an ox is a mature bull or not, than to determine if a moose is 50" or 49".
To further the safety net for hunters judging a legal animal in the field, there remains an open cow season.
The safety net could be further augmented by some common sense provisions, such as a three inch rule, if there are three or more inches of fur between the base of the horns, it is legal.
The penalty for harvesting the wrong animal could be limited to confiscating the entire head, and allow the hunter to keep the meat and hide. This may be more appropriate than levying large fines, loss of hunting privileges and consequences out of proportion to an honest mistake.

Use of aircraft within the RX104:

The main problems with the RX104 permit is the concentrated harvest focus on large bulls and the trophy nullification and subsequent waste of the resource. Unless the BOG solves these two issues, it should not allow the use of aircraft. This would simply exacerbate the existing problems.
If the BOG opens the use of aircraft without removing mature bulls from the bag limit and eliminating the trophy nullification requirement it would create a unique and unacceptable situation. In this scenario, sport hunters from Nome would hunt trophy bulls in subunit 22E under a subsistence priority and be able to keep the trophy(s), enter the trophy(s) in record books, ect.
All other resident hunters would continue to have their trophy(s) subject to trophy nullification upon removing them from unit 22. Including the use of aircraft to increase the RX104 harvest without solving the current problems is nonsensical.

DX 097

The DX097 drawing permit hunt has been very successful. Mature bull ox are a very popular species, and the interest far supersedes the available resource. It remains a fair manner to award harvest opportunity to all hunters. The ADF&G harvest goals for mature bull ox have been met precisely with the use of this permit.

(Graph created from data obtained from the ADF&G website for harvest statistics compiled with notes of our operational harvests and the data includes two Governor's tags not included on the ADF&G website totals.)

DX 097 Musk Ox Harvests

YEAR	# of Permits	# of No Use	# of Harvests
2010	18	07	11
2009	21	05	16
2008	20	05	15
2007	21	07	14
2006	11	03	08
Total	91	27	64

64 harvested DX097 oxen divided by 5 years (2006 to 2010) = an average of 12.8 mature bulls harvested annually, which meets exactly the current 13 bull ADF&G management goal. Eliminating the drawing permits in 22E will do nothing to affect bull:cow ratios, it will simply shift all the harvest of mature bulls to the registration permits, further exasperating the actual problems, decreasing hunting opportunity to the entire public and continuing to waste the resource.
The BOG should direct the ADF&G to continue the DX097 and DX102 permit hunts and solve the issues with actions refining the RX104 permit requirements. Properly managed, the DX097, DX102 combined with the RX104 permits provide the tools for the ADF&G to manage the resource for sustainable stability and provide the maximum hunting opportunity to the public.

Advisory Committee Resolutions:
The BOG values Advisory Committee findings, but it must weigh the interests of the entire State in the balance of judgment. A unanimous vote to oppose removing mature bulls from the legal bag limit for the RX104 permit does not solve the problems facing ox management in subunits 22E and 22D. The main issues of a disproportionate number of mature bulls harvested under the subsistence regulations and the subsequent waste of the resource through trophy nullification remain.

Opportunity to open new subunits to musk ox hunting:
Musk oxen have continued to expand their range and population. It is advisable the BOG consider opening new hunts in subunits 22A, 23, and 24 to reflect the current ox population trends.

Commercial services interest:
Economic Impact to Shishmaref: Elimination of the DX097 drawing permits and failure to amend the definition of the legal bag limit on the RX104 permits will have a negative economic impact to Shishmaref. Numerous local residents participate in providing big game commercial services, including guides, skinners, cooks, local artists and carvers, local stores and the local airlines. This is a unique resource in that there is no documentable conflict between local hunters and statewide and non-resident hunters at large over this resource, as currently managed.

Summary:

In addressing these issues I encourage the BOG to consider the guidelines set by the Alaska State Constitution: Wildlife is to be managed for the maximum public benefit, sustained yield of the resource, and managed for abundance.

The entire purpose of subdividing game management units is to provide ADF&G with latitude in creating regulations for resource management tools specific to each subunit to address the wide variance of factors.

In order to meet its' constitutional requirements the ADF&G must manage subunits 22E and 22D Remainder differently than the remainder of unit 22.

Defining the legal bag limit as any ox other than a mature bull and removing the trophy nullification requirement for the RX104 permit would solve the major issues facing the BOG. These two actions, combined with retaining the DX097 and DX102 permits would provide the maximum opportunity to the public and provide the management tools to the ADF&G to maintain a healthy, stable population and maintain the best bull:cow ratio balance.

Brian Simpson
Master Guide #152
P.O. Box 61210
Fairbanks, AK 99706
907-322-9841
Email: noainc@mosquitonet.com